INCOMING PAYMENT PROCESSING METHOD, COLLECTION SYSTEM, AND STORAGE MEDIUM

TECHNICAL FIELD

[0001] This specification relates to the field of Internet technologies, and in particular, to an incoming payment processing method, a collection system, and a storage medium.

BACKGROUND

[0002] With development of the global economy, fund transactions between individuals and enterprises are more frequent. For a collection system, a large quantity of incoming payments are received all the time, and there are risky incoming payments in which unauthorized persons participate. The collection system needs to perform risk identification on each incoming payment, to prevent funds (illegally transferred funds, money laundering funds, etc.) corresponding to the risky incoming payment from entering the collection system, thereby exerting adverse impact on the collection system. Therefore, how to accurately identify risky incoming payments is a problem to be resolved urgently.

[0003] Content of the background part is merely information learned of by the inventor, and neither means that the information has entered a public domain before an application date of the present disclosure, nor means that the information can become a conventional technology of the present disclosure.

SUMMARY

[0004] This specification provides an incoming payment processing method, a collection system, and a storage medium, so that scattered risks of a single incoming payment can be accumulated and amplified, to identify a disintegrated anti-risk control method, and improve accuracy of identifying a risky incoming payment.

[0005] According to a first aspect, this specification provides an incoming payment processing

method, including: receiving a target incoming payment, where a receiving moment of the target incoming payment is a first moment; performing joint risk identification on the target incoming payment and at least some historical incoming payments in a buffer pool, to obtain a target risk identification result, where the target risk identification result represents a risk probability of the target incoming payment, and the buffer pool is used to store a historical incoming payment received in a historical period before the first moment; and processing the target incoming payment based on the target risk identification result.

[0006] According to a second aspect, this specification further provides a collection system, including: at least one storage medium, storing at least one instruction set, to perform incoming payment processing; and at least one processor, communicatively connected to the at least one storage medium, where when running, the at least one processor reads the at least one instruction set, and performs the following operations based on an indication of the at least one instruction set: receiving a target incoming payment, where a receiving moment of the target incoming payment is a first moment; performing joint risk identification on the target incoming payment and at least some historical incoming payments in a buffer pool, to obtain a target risk identification result, where the target risk identification result represents a risk probability of the target incoming payment, and the buffer pool is used to store a historical incoming payment received in a historical period before the first moment; and processing the target incoming payment based on the target risk identification result.

[0007] According to a third aspect, this specification provides a computer-readable non-transitory storage medium. The computer-readable non-transitory storage medium stores at least one instruction set, and when the at least one instruction set is executed by at least one processor, the incoming payment processing method according to the first aspect is implemented.

[0008] Other functions of the incoming payment processing method, the collection system, and the storage medium provided in this specification are partially listed in the following descriptions. Creative aspects of the incoming payment processing method, the collection system, and the storage medium provided in this specification can be fully explained by practice or by using the methods, apparatuses, and combinations described in the following detailed examples.

BRIEF DESCRIPTION OF DRAWINGS

[0009] To describe the technical solutions in the embodiments of this specification more clearly, the following briefly describes the accompanying drawings needed for describing the embodiments. Clearly, the accompanying drawings in the following descriptions show merely some embodiments of this specification, and a person of ordinary skill in the art can still derive other drawings from these accompanying drawings without creative efforts.

[0010] FIG. 1 is a schematic diagram of an application scenario of incoming payment processing according to an embodiment of this specification;

[0011] FIG. 2 is a hardware structure diagram of a collection system according to an embodiment of this specification;

[0012] FIG. 3 is a flowchart of an incoming payment processing method according to an embodiment of this specification;

[0013] FIG. 4 is a schematic diagram of determining a target risk identification result according to an embodiment of this specification;

[0014] FIG. 5 is another schematic diagram of determining a target risk identification result according to an embodiment of this specification;

[0015] FIG. 6 is still another schematic diagram of determining a target risk identification result according to an embodiment of this specification; and

[0016] FIG. 7 is a schematic diagram of processing a target incoming payment according to an embodiment of this specification.

DESCRIPTION OF EMBODIMENTS

[0017] Specific application scenarios and requirements of this specification are provided in the following descriptions, so that a person skilled in the art can manufacture and use content of this specification. For the person skilled in the art, various local modifications to the disclosed embodiments are clear, and the general principles defined herein can be applied to other embodiments and applications without departing from the spirit and scope of this specification. Therefore, this specification is not limited to the shown embodiments, but has a widest scope consistent with that of the claims.

[0018] The terms used herein are only intended to describe a particular example embodiment,

but do not impose a limitation. For example, unless otherwise specified in the context, the singular forms "one", "a", and "the" used herein can also include a plural form. When used in this specification, the terms "include", "comprise", and/or "have" indicate/indicates existence of an associated integer, step, operation, element, and/or component, but does not exclude existence of one or more other features, integers, steps, operations, elements, components, and/or groups, or another feature, integer, step, operation, element, component, and/or group can be added to the system/method.

[0019] In consideration of the following descriptions, these and other features of this specification, operations and functions of related components of the structure, and economy of combination and manufacturing of components can be significantly improved. With reference to the accompanying drawings, all of these form a part of this specification. However, it should be clearly understood that the accompanying drawings are merely used for the purpose of illustration and description, and are not intended to limit the scope of this specification. It should be further understood that the accompanying drawings are not drawn to scale.

[0020] The flowchart used in this specification illustrates operations implemented by a system in some embodiments of this specification. It should be clearly understood that operations in the flowchart can be implemented out of sequence. On the contrary, operations can be implemented reversely or simultaneously. In addition, one or more other operations can be added to the flowchart. One or more operations can be removed from the flowchart.

[0021] Before the embodiments of this specification are described, terms related to this specification are described.

[0022] An incoming payment is a transfer or payment from a source account to a destination account. It can be understood that the incoming payment is described from a perspective of a merchant or a collection system. The source account is an account of a payment party or payer, and the destination account is an account of a payee. For the collection system, the incoming payment can mean that an incoming payment packet sent by a payment institution (for example, a bank or an electronic wallet) to which the source account belongs is received. The incoming payment packet is, for example, an accounting request packet or a payment packet. The incoming payment packet can include the source account, an amount, and the destination account. The collection system can perform accounting processing based on the incoming payment packet, for example, increase funds corresponding to the incoming payment packet or record funds

corresponding to the incoming payment packet in the destination account. The incoming payment can originate from, for example, a payment of a transaction, or the incoming payment can originate from another case. The following mainly provides descriptions by using an example in which the incoming payment originates from the payment of the transaction. This specification is not limited thereto.

[0023] Usually, the collection system performs risk identification on each received incoming payment.

[0024] For example, after receiving the incoming payment, the collection system obtains information about the incoming payment and transaction information of a transaction corresponding to the incoming payment, and determines a risk identification result of the incoming payment based on the information about the incoming payment and the transaction information. The information about the incoming payment includes the source account, the amount, the destination account, etc. The transaction information includes but is not limited to transaction participants (a seller and a buyer), a transaction product, a transaction time, a transaction address, etc.

[0025] If a risk probability represented by the risk identification result is greater than a risk threshold, the collection system determines that the incoming payment has a risk, and an amount corresponding to the incoming payment is refunded to the source account; or if a risk probability represented by the risk identification result is less than or equal to a risk threshold, the collection system determines that the incoming payment has no risk, and an amount corresponding to the incoming payment is transferred to the destination account. A transfer to the destination account can be understood as that the collection system adds the amount corresponding to the incoming payment to the destination account, so that a balance of the destination account increases. A transfer to the destination account in the following is understood the same. Details are not described again.

[0026] In actual applications, some unauthorized persons may intentionally split an incoming payment of a large amount of funds into a plurality of small amounts of funds, to escape risk control. In the above-mentioned risk identification method for a single incoming payment, some incoming payments with a relatively small risk probability are uniformly identified as incoming payments without a risk based on a risk threshold. Therefore, the collection system can hardly identify a risk from related information of the single incoming payment by splitting the large

amount of funds into a plurality of incoming payments through disintegration by the unauthorized persons. Consequently, accuracy of the risk identification result is not high.

[0027] In view of this, this specification provides an incoming payment processing method, a collection system, and a storage medium. Joint risk identification is performed on a plurality of incoming payments, so that scattered risks of a single incoming payment can be accumulated and amplified, to improve accuracy of risk identification.

[0028] An application scenario of incoming payment processing provided in this specification is described below with reference to FIG. 1.

[0029] FIG. 1 is a schematic diagram of an application scenario of incoming payment processing according to an embodiment of this specification. As shown in FIG. 1, a scenario 001 can include a transaction system 100, a collection system 300, a first wallet system 410, and a second wallet system 420.

[0030] The transaction system 100 includes a user 110 and a merchant 120. A transaction can be generated between the user 110 and the merchant 120, and a payment request is initiated for the transaction. The payment request can be triggered by the user 110, or can be triggered by the merchant 120. The transaction between the user 110 and the merchant 120 can be an offline transaction, or can be an online transaction. This is not limited in this specification.

[0031] The online transaction is used as an example. The user 110 can execute a related event by using a terminal device. For example, the terminal device is installed with a client of one or more service platforms, and the client can provide the user 110 with a capability of executing the related event. The service platform includes but is not limited to a web browser platform, a search platform, a chat platform, a shopping platform, a service platform, a video platform, a financial management platform, a payment platform, etc.

[0032] In some embodiments, the terminal device displays, to the user 110, a transaction interface provided by the merchant 120, and the user 110 initiates a payment operation in the transaction interface, and specifies that a payment of the transaction is completed by using a source account (a payment account of the user 110) in the first wallet system 410. After the user 110 initiates the payment operation, the merchant 120 generates the payment request for the transaction, and sends the payment request to the collection system 300. The collection system 300 provides a collection service system to the merchant 120. Specifically, the collection system 300 can receive and process a payment request initiated by the user 110, and forward the payment request to a

corresponding wallet system based on a payment manner/payment channel specified by the payment request 110. For example, the collection system 300 can provide a front-end payment port (for example, a payment page, where one or more optional payment manners/payment channels are displayed to the user) to the merchant. The user 110 can select a payment manner from the front-end payment port. It is assumed that the user 110 selects a payment manner A for a payment. After receiving the payment request, the collection system 300 can forward the payment request to the first wallet system 410 corresponding to the payment manner A. After receiving the payment request, the first wallet system 410 can determine a source account of the user 110, perform, for example, accounting processing (for example, reducing a balance of the source account) on the source account, and send payment confirmation to the collection system 300 after accounting processing. After receiving the payment confirmation, the collection system 300 receives an incoming payment. The incoming payment originates from a payment from the source account to an account (which is denoted as a destination account in the following, where the destination account can be an account that is applied for or registered with in the second wallet system 420 by the merchant 120) of the merchant 120. The collection system 300 can perform corresponding processing on the incoming payment. For example, the collection system 300 can transfer an amount corresponding to the incoming payment to the destination account of the merchant 120, or the collection system 300 can refund an amount corresponding to the incoming payment to the source account when determining that the incoming payment has a risk. Alternatively, the collection system 300 can perform other processing on the incoming payment. For details, refer to the descriptions in the following method P100. Details are not described herein again.

[0033] It can be understood that the first wallet system 410 can be a wallet system in the collection system 300, or can be a wallet system that cooperates with the collection system 300. The second wallet system 420 can be a wallet system in the collection system 300, or can be a wallet system that cooperates with the collection system 300. The first wallet system 410 and the second wallet system 420 can be the same wallet system, or can be different wallet systems. The above-mentioned content is not limited in this specification. In addition, the wallet system (the first wallet system 410 and the second wallet system 420) described in this specification is usually a system configured to deposit and manage user assets. The wallet system can provide an asset service such as a payment, a transfer, recharging, and a withdrawal to the user. The wallet system

is both an electronic wallet or a digital wallet, or can be a bank system corresponding to a card issuing bank.

[0034] It can be further understood that the incoming payment received by the collection system 300 can be performed in real time with the payment of the transaction, or can be performed periodically. For example, after a payment of a transaction is completed, the collection system 300 can receive an incoming payment in real time. Alternatively, after a preset period, the collection system 300 can receive, at one time, incoming payments of a plurality of transactions generated in the period. This is not limited in this specification.

[0035] In some embodiments, the collection system 300 can perform an incoming payment processing method described in this specification. The collection system 300 can store data and instructions for implementing the incoming payment processing method, and can perform or be configured to perform the data and instructions. In some embodiments, the collection system 300 can include a hardware device with a data information processing function and a necessary program required for driving the hardware device to work.

[0036] For example, the collection system 300 receives a target incoming payment at a first moment, performs joint risk identification on the target incoming payment and at least some historical incoming payments in a buffer pool, to obtain a target risk identification result, and processes the target incoming payment based on the target risk identification result. The target risk identification result represents a risk probability of the target incoming payment, and the buffer pool is used to store a historical incoming payment received in a historical period before the first moment. Specific content is described in detail in the method P100. Details are not described again.

[0037] It should be noted that the collection system 300 can correspond to a device, or can correspond to a device cluster. This is not limited in this specification. When the collection system 300 corresponds to a device (for example, a server of the collection system), the incoming payment processing method can be completely performed on the device. When the collection system 300 corresponds to the device cluster, the incoming payment processing method can be performed on a plurality of devices corresponding to the device cluster, or the incoming payment processing method can be performed in another manner. This is not limited in this specification.

[0038] FIG. 2 is a hardware structure diagram of a collection system 300 according to an embodiment of this specification.

[0039] As shown in FIG. 2, the collection system 300 can include at least one storage medium

330 and at least one processor 320. In some embodiments, the collection system 300 can further include a communication port 350 and an internal communication bus 310. In addition, the collection system 300 can further include an I/O component 360.

[0040] The internal communication bus 310 can be connected to different system components. For example, the internal communication bus 310 can be connected to the storage medium 330, the processor 320, the communication port 350, and the I/O component 360.

[0041] The I/O component 360 supports an input/output between the collection system 300 and another component.

[0042] The communication port 350 is used for data communication between the collection system 300 and the outside. For example, the communication port 350 can be used for data communication between the collection system 300 and a network. The communication port 350 can be a wired communication port, or can be a wireless communication port.

[0043] In some embodiments, the network can be any type of wired or wireless network, or a combination thereof. For example, the network can include a cable network, a wired network, an optical fiber network, a telecommunication network, an intranet, the internet, a local area network (LAN), a wide area network (WAN), a wireless local area network (WLAN), a metropolitan area network (MAN), a public switched telephone network (PSTN), a Bluetooth networkTM, a short-range wireless network (ZigBeeTM), a near field communication (NFC) network, or a similar network.

[0044] In some embodiments, the network can include one or more network access points. For example, the network can include a wired or wireless network access point, for example, a base station or an Internet switching point. Through the access point, one or more components in each device corresponding to the collection system 300 can be connected to the network to exchange data or information.

[0045] The storage medium 330 can include a data storage apparatus. The data storage apparatus can be a non-transitory storage medium, or can be a transitory storage medium. For example, the data storage apparatus can include one or more of a disk 332, a read-only storage medium (ROM) 334, or a random access storage medium (RAM) 336. The storage medium 330 further includes at least one instruction set stored in the data storage apparatus. The instruction set can include computer program code, and the computer program code can include a program, a routine, an object, a component, a data structure, a process, a module, etc. for performing the

incoming payment processing method provided in this specification.

[0046] The processor 320 can be communicatively connected to the storage medium 330. The processor 320 is configured to execute the at least one instruction set. When the collection system 300 runs, the processor 320 reads the at least one instruction set, and performs, based on an indication of the at least one instruction set, the incoming payment processing method provided in this specification.

[0047] The processor 320 can be in a form of one or more processors. In some embodiments, the processor 320 can include one or more hardware processors, for example, a microcontroller, a microprocessor, a reduced instruction set computer (RISC), an application-specific integrated circuit (ASIC), an application-specific instruction set processor (ASIP), a central processing unit (CPU), a graphics processing unit (GPU), a physical processing unit (PPU), a microcontroller unit, a digital signal processor (DSP), a field programmable gate array (FPGA), an advanced RISC machine (ARM), a programmable logic device (PLD), any circuit or processor that can perform one or more functions, or any combination thereof.

[0048] To merely describe a problem, only one processor 320 is shown in the collection system 300 in the accompanying drawings. However, it should be noted that, the collection system 300 in this specification can further include a plurality of processors. Therefore, the operations and/or method steps disclosed in this specification can be performed by one processor, or can be jointly performed by a plurality of processors in this specification. For example, if the processor 320 in the collection system 300 in this specification performs step A and step B, it should be understood as that step A and step B can be jointly or separately performed by two different processors 320 (for example, a first processor performs step A, and a second processor performs step B, or a first processor and a second processor jointly perform step A and step B).

[0049] FIG. 3 is a flowchart of an incoming payment processing method P100 according to an embodiment of this specification. As described above, a collection system 300 can perform the incoming payment processing method P100. Specifically, a processor 320 in the collection system 300 can read an instruction set stored in a local storage medium of the collection system 300, and then perform the incoming payment processing method P100 based on a stipulation of the instruction set.

[0050] As shown in FIG. 3, the incoming payment processing method P100 can include the following steps.

[0051] S110: Receive a target incoming payment, where a receiving moment of the target incoming payment is a first moment.

[0052] The target incoming payment can be one or more incoming payments, and the collection system 300 can simultaneously or sequentially perform the method P100 for all incoming payments. In the following, the target incoming payment is an incoming payment, and a process in which the collection system 300 processes the target incoming payment is similar to a process of processing another incoming payment. Details are not described again.

[0053] For example, the target incoming payment is a payment paid by a user to a peer transaction party (for example, a merchant) for the target transaction by using a first source account. After the user pays successfully, with reference to FIG. 1, the collection system can receive the target incoming payment. The target incoming payment includes the first source account, an amount, and a first destination account. The first source account is an account for a payment by the user. The amount is a payment amount. The first destination account is a collection account of the peer transaction party.

[0054] S120: Perform joint risk identification on the target incoming payment and at least some historical incoming payments in a buffer pool, to obtain a target risk identification result. The target risk identification result represents a risk probability of the target incoming payment. The buffer pool is used to store a historical incoming payment received in a historical period before the first moment.

[0055] Joint risk identification can be understood as risk identification for a plurality of incoming payments. The target risk identification result can be understood as a result obtained after joint risk identification of the target incoming payment and the historical incoming payment is considered in a process in which the collection system 300 performs risk identification on the target incoming payment. It should be noted that the target risk identification result can further be obtained by referring to another risk identification result based on a result obtained through joint risk identification. This is not limited in this specification.

[0056] The risk probability of the target incoming payment is used to describe a probability that the target incoming payment is a risky incoming payment, or is used to describe risk severity of the target incoming payment. From a perspective of the target incoming payment, the buffer pool stores the historical incoming payment received by the collection system 300 in the historical period before the first moment. However, from a perspective of the buffer pool, the buffer pool

can store an incoming payment received by the collection system 300 at any moment.

[0057] The collection system 300 can obtain the target risk identification result in a plurality of manners. The following provides descriptions by using two examples.

[0058] Manner 1

[0059] As shown in FIG. 4, the collection system 300 performs joint risk identification on the target incoming payment and the at least some historical incoming payments selected from the buffer pool, to obtain a joint risk identification result P_C. The joint risk identification result P_C is the target risk identification result.

[0060] For example, each time the collection system 300 receives a new incoming payment, the collection system 300 adds the new incoming payment to the buffer pool, and stores an amount corresponding to the new incoming payment in a transition account of the collection system 300. After the new incoming payment is added to the buffer pool, joint risk identification of the new incoming payment and the historical incoming payment is triggered. A transition account (transit account or transition account) is an account used by the collection system 300 to temporarily deposit funds. These funds are transferred to the destination account or refunded to the source account in a short period of time. There can be one transition account in the collection system 300, or each destination account can correspond to one transition account. The following provides descriptions by using an example in which each destination account corresponds to one transition account. This specification is not limited thereto.

[0061] For example, in a time sequence, if the collection system 300 receives an incoming payment 1 at a moment #1, and the incoming payment 1 is a payment from a source account S_1 to a destination account D_1, the collection system 300 temporarily deposits an amount corresponding to the incoming payment 1 in a transition account corresponding to the destination account D_1; and if the collection system 300 receives an incoming payment 2 at a moment #2, and the incoming payment 2 is a payment from a source account S_2 to a destination account D_2, the collection system 300 temporarily deposits an amount corresponding to the incoming payment 2 in a transition account corresponding to the destination account D_2.

[0062] For example, each time the collection system 300 receives a new incoming payment, the collection system 300 does not need to immediately place the new incoming payment in the buffer pool to trigger joint risk identification of the new incoming payment and the historical incoming payment in the buffer pool.

[0063] In the following, the target incoming payment is used as an example to describe a joint risk identification process. Joint risk identification of other incoming payments is similar. Details are not described again.

[0064] In some embodiments, as shown in FIG. 5, the collection system 300 determines N_1 historical incoming payment sets from the buffer pool, and one historical incoming payment set includes at least one historical incoming payment. The N_1 historical incoming payment sets are associated with the target incoming payment in different risk dimensions, and N_1 is an integer greater than or equal to 1.

[0065] In this embodiment, the risk dimension can also be understood as an association dimension. The collection system 300 can aggregate historical incoming payments with a similarity in a historical incoming payment set in a plurality of risk dimensions, so that the collection system 300 can subsequently accumulate and amplify scattered risks of the target incoming payment in the plurality of risk dimensions, to improve accuracy of identifying the target incoming payment.

[0066] For example, the collection system 300 determines N_1 risk dimensions corresponding to the target incoming payment based on information about the target incoming payment. The information about the target incoming payment includes at least one of the following: the first source account and the first destination account. The collection system 300 can determine three risk dimensions based on the information about the target incoming payment, which are a destination account dimension, a source account dimension, and a destination account and source account dimension; and further, for each risk dimension, select, from the buffer pool, a historical incoming payment associated with the target incoming payment in the risk dimension, to form a historical incoming payment set.

[0067] For example, the collection system 300 selects a historical incoming payment corresponding to the same destination account as the target incoming payment from the buffer pool for the destination account dimension, to form a historical incoming payment set G_1; selects a historical incoming payment corresponding to the same source account as the target incoming payment from the buffer pool for the source account dimension, to form a historical incoming payment set G_2; and selects a historical incoming payment corresponding to the same source account and the same destination account as the target incoming payment from the buffer pool for the destination account and source account dimension, to form a historical incoming payment set

G_3.

[0068] In some embodiments, as shown in FIG. 5, after determining the N_1 historical incoming payment sets, the collection system 300 performs joint risk identification on the target incoming payment and the N_1 historical incoming payment sets, to obtain N_1 intermediate risk identification results.

[0069] For example, as shown in FIG. 5, for each historical incoming payment set, the collection system 300 determines an incoming payment feature based on the target incoming payment and the historical incoming payment set, inputs the incoming payment feature into a joint risk identification model corresponding to a target risk dimension, and performs joint risk identification on the target incoming payment and the historical incoming payment set by using the joint risk identification model, to obtain an intermediate risk identification result corresponding to the target risk dimension. The target risk dimension is a risk dimension corresponding to the historical incoming payment set. That is, the target incoming payment is associated with a historical incoming payment in the historical incoming payment set in the target risk dimension.

[0070] In this example, the collection system 300 can determine a partial incoming payment feature from related information of a single incoming payment, or can determine a partial incoming payment feature from associated information of a plurality of incoming payments. Therefore, risk depiction of the target incoming payment is more accurate and comprehensive, to provide a basis for accurately identifying the target incoming payment.

[0071] Now, the historical incoming payment set G_1 is used as an example to describe a process in which the collection system 300 performs joint risk identification on the target incoming payment and the historical incoming payment set G_1 to obtain an intermediate risk identification result #1. A process of performing joint risk identification on the target incoming payment and another historical incoming payment set is similar. Details are not described again.

[0072] The historical incoming payment set G_1 includes a historical incoming payment 1 and a historical incoming payment 2. Destination accounts corresponding to the historical incoming payment 1 and the historical incoming payment 2 are the first destination account. That is, a historical incoming payment in the historical incoming payment set G_1 is associated with the target incoming payment in the destination account dimension.

[0073] For example, an incoming payment feature F_1 corresponding to the target incoming payment and the historical incoming payment set G_1 is obtained based on at least one of the

following:

transaction information of a transaction corresponding to each of the target incoming payment, the historical incoming payment 1, and the historical incoming payment 2.

external information obtained by searching an external data source based on the target incoming payment, the historical incoming payment 1, and the historical incoming payment 2, where the external data source is an external data source of the collection system 300; and

internal information obtained by searching an internal data source based on the target incoming payment, the historical incoming payment 1, and the historical incoming payment 2, where the internal data source is an internal data source of the collection system 300.

[0074] In this example, the incoming payment feature is obtained in a plurality of ways, to avoid a case in which a way of obtaining the incoming payment feature is single, and consequently, depiction of the target incoming payment and a related historical incoming payment is biased, and also avoid a case in which information that is about the incoming payment feature and that is obtained based on only the related information of the single incoming payment is limited, so that the incoming payment feature depicts the target incoming payment and the related historical incoming payment relatively comprehensively, thereby improving accuracy of identifying the target incoming payment and the related historical incoming payment.

[0075] The following uses the target incoming payment as an example to describe the above-mentioned information. Information corresponding to related historical incoming payments (the historical incoming payment 1 and the historical incoming payment 2) is similar. Details are not described again.

[0076] Specifically, transaction information of a target transaction corresponding to the target incoming payment includes but is not limited to: a transaction participant (for example, a payer and a payee), a transaction product, a transaction time, a transaction address, etc.

[0077] The internal information obtained from the internal data source based on the target incoming payment includes but is not limited to: report information of the first source account and/or the first destination account in the collection system, historical risk control information for the first source account and/or the first destination account, a risky collection account list, etc.

[0078] The external information obtained from the external data source based on the target incoming payment includes but is not limited to payment institution (for example, a bank) information corresponding to the first source account, area information (a country or a region) corresponding to the first destination account, business information corresponding to the first

destination account (the first destination account is an enterprise account), etc. Alternatively, information that cannot be found by the collection system 300 from the internal data source can be obtained based on the external data source through supplementation. It can be understood that there can be one or more external data sources. This is not limited in this specification.

[0079] Still as shown in FIG. 5, after obtaining the incoming payment feature F_1, the collection system 300 inputs the incoming payment feature F_1 into a joint risk identification model U_1 corresponding to the destination account dimension, to obtain the intermediate risk identification result #1. The destination account dimension can correspond to one or more joint risk identification models. This is not limited in this specification.

[0080] For example, when the destination account dimension corresponds to one joint risk identification model, the intermediate risk identification result #1 is determined based on a result output by the joint risk identification model. When the destination account dimension corresponds to a plurality of joint risk identification models, the intermediate risk identification result #1 is determined based on results output by the plurality of joint risk identification models and weights respectively corresponding to the plurality of joint risk identification models.

[0081] It can be understood that for different historical incoming payment sets, target risk dimensions are different, and joint risk identification models corresponding to the target risk dimensions and a quantity of joint risk identification models can also be different. Examples are not listed one by one in this specification.

[0082] Still as shown in FIG. 5, after determining the N_1 intermediate risk identification results in the above-mentioned manner, the collection system 300 can determine the joint risk identification result P_C based on the N_1 intermediate risk identification results. The joint risk identification result P_C is the target risk identification result.

[0083] For example, the collection system 300 can determine P_C based on the N_1 intermediate risk identification results and weights respectively corresponding to the N_1 intermediate risk identification results.

[0084] Manner 2

[0085] As shown in FIG. 6, the collection system 300 performs joint risk identification on the target incoming payment and the at least some historical incoming payments selected from the buffer pool, to obtain a joint risk identification result P_C, and obtains an independent risk identification result P_D corresponding to the target incoming payment. The independent risk

identification result is obtained by performing independent risk identification on the target incoming payment. The collection system 300 obtains the target risk identification result based on P_C and P_D.

[0086] It should be noted that P_D can be obtained by performing one time of independent risk identification on the target incoming payment, or can be obtained by performing a plurality of times of independent risk identification on the target incoming payment. In a case of the plurality of times of independent risk identification, the plurality of times of independent risk identification can be discontinuous. For example, one time of independent risk identification is performed before joint risk identification is performed on the target incoming payment, and one time of independent risk identification is performed after joint risk identification is performed on the target incoming payment. This is not limited in this specification. In a solution of performing a plurality of times of independent risk identification, an independent risk identification model used in a process of a subsequent time of independent risk identification can be an optimized model, and an output result is more accurate.

[0087] In Manner 2, the buffer pool can be understood as follows: The collection system 300 is set to delay processing of each risky incoming payment after independent risk identification, and is configured to store some risky incoming payments after independent risk identification. Therefore, the collection system 300 can identify an associated risk of a plurality of risky incoming payments based on the buffer pool, and accumulate and amplify scattered risks of the risky incoming payments, to avoid a case in which an amount corresponding to the risky incoming payment enters the destination account.

[0088] That is, the collection system 300 does not perform the same joint risk identification on all incoming payments, but performs joint risk identification on an incoming payment with a specific risk after independent risk identification. In this way, the collection system 300 can quickly process an incoming payment with no risk and an incoming payment with a too large risk after independent risk identification, to improve processing efficiency of the incoming payment, thereby improving use experience of a collection party.

[0089] For example, the collection system 300 receives the target incoming payment, and performs independent risk identification on the target incoming payment. For example, the collection system 300 obtains the information about the target incoming payment and transaction information of a target transaction corresponding to the target incoming payment. The information

about the target incoming payment includes but is not limited to the first source account, the amount, the first destination account, etc. The transaction information includes but is not limited to: a transaction participant (for example, a payer and a payee), a transaction product, a transaction time, a transaction address, etc. The collection system 300 can determine the independent risk identification result of the target incoming payment based on the information about the target incoming payment and the transaction information.

[0090] For example, the collection system 300 can input the information about the target incoming payment and the transaction information into the independent risk identification model, to obtain the independent risk identification result. The independent risk identification model can be pre-trained to identify a risk of the single incoming payment. The collection system 300 can determine an independent risk probability of the target incoming payment based on the independent risk identification result. The independent risk identification result can include the independent risk probability of the target incoming payment; or the independent risk identification result can include one or more risk labels corresponding to the target incoming payment and a risk probability corresponding to each risk label; or the independent risk identification result can include the independent risk probability, one or more risk labels corresponding to the target incoming payment, and a risk probability corresponding to each risk label.

[0091] The risk label includes but is not limited to: a fraud risk, a money laundering risk, a compliance risk, a sale prohibition and restriction risk, a swindling risk, a collection account risk, a payment account risk, a card theft and account theft risk, a default risk, and a transaction authenticity risk.

[0092] It can be understood that the collection system 300 can determine the independent risk probability of the target incoming payment based on the risk probability corresponding to each risk label and a weight corresponding to each risk label.

[0093] It can be understood that, after receiving each incoming payment, the collection system 300 can temporarily deposit an amount corresponding to the incoming payment in a public account of the collection system 300, and perform independent risk identification on each incoming payment, to obtain an independent risk identification result. The public account can be understood as an account that is in the collection system 300 and that is used to process finance related affairs, and is not open to an external individual or enterprise user.

[0094] The following uses the target incoming payment as an example to describe processing

performed after the collection system 300 performs independent risk identification on the target incoming payment.

[0095] In some embodiments, after receiving the target incoming payment, the collection system 300 performs independent risk identification on the target incoming payment, to obtain the independent risk identification result, and processes an amount corresponding to the target incoming payment based on a risk level represented by the independent risk identification result.

[0096] For example, as shown in FIG. 7, the collection system 300 determines, based on the risk level represented by the independent risk identification result, whether the target incoming payment has a risk. If it is determined that there is no risk, the collection system 300 can transfer the amount corresponding to the target incoming payment from the public account to the first destination account; or if it is determined that there is a risk, the collection system 300 determines whether the risk level represented by the independent risk identification result is a preset level. If it is determined that the risk level is the preset level, the collection system 300 can deposit the target incoming payment in the buffer pool, and transfer the amount corresponding to the target incoming payment from the public account to a transition account corresponding to the first destination account; or if it is determined that the risk level is not the preset level, the collection system 300 refunds the amount corresponding to the target incoming payment from the public account to the first source account. Alternatively, the collection system 300 can have another determining sequence similar to that in FIG. 7. This is not listed in this specification.

[0097] Specifically, when the independent risk probability corresponding to the target incoming payment is less than a threshold T_1, the collection system 300 determines that the target incoming payment has no risk; or when the independent risk probability corresponding to the target incoming payment is greater than a threshold T_2, the collection system 300 determines that the target incoming payment is not at the preset level, and it can also be understood as that a risk of the target incoming payment is too large, or the target incoming payment is a high-risk incoming payment; or when the independent risk probability corresponding to the target incoming payment is greater than or equal to a threshold T_1 and less than or equal to a threshold T_2, the collection system 300 determines that the target incoming payment is at the preset level, and the preset level can understand as a middle/low risk level. The threshold T_2 is greater than the threshold T_1.

[0098] In some embodiments, when the risk level represented by the independent risk identification result of the target incoming payment is the preset level, or when the collection

system 300 determines, based on the independent risk identification result, to store the target incoming payment in the buffer pool, joint risk identification on the target incoming payment and the at least some historical incoming payments in the buffer pool can be triggered, to obtain the target risk identification result.

[0099] In this embodiment, the collection system 300 performs subsequent joint risk identification only when the risk level represented by the independent risk identification result is an incoming payment at the preset level, that is, performs targeted joint risk identification, to avoid wasting computing resources due to the same joint risk identification and poor experience of the payee.

[00100] For example, the collection system 300 determines N_2 risk dimensions corresponding to the target incoming payment based on the information about the target incoming payment. N2 is an integer greater than or equal to 1. The information about the target incoming payment includes at least one of the following: a risk label of the target incoming payment, a first source account corresponding to the target incoming payment, and a first destination account corresponding to the target incoming payment. The risk label is obtained by performing independent risk identification on the target incoming payment. Further, for each risk dimension, the collection system 300 selects, from the buffer pool, a historical incoming payment associated with the target incoming payment in the risk dimension, to form a historical incoming payment set.

[00101] Compared with manner 1, in this example, the information about the target incoming payment additionally has the risk label, so that the collection system 300 can mine the historical incoming payment set associated with the target incoming payment in more risk dimensions, and subsequently, can comprehensively and accurately identify an associated risk of the target incoming payment and the historical incoming payment set in more risk dimensions.

[00102] In some embodiments, after determining N_2 historical incoming payment sets, the collection system 300 performs joint risk identification on the target incoming payment and the N_2 historical incoming payment sets, to obtain N_2 intermediate risk identification results.

[00103] It should be noted that for specific content of determining the N_2 historical incoming payment sets by the collection system 300, refer to descriptions in Manner 1. Details are not described again. A difference lies in that the information about the target incoming payment in Manner 2 further includes the risk label. That is, when determining the historical incoming payment set, the collection system 300 needs to consider a risk dimension corresponding to the

risk label in addition to the risk dimension listed in Manner 1.

[00104] For example, the risk label corresponding to the target incoming payment includes a money laundering label and a fraud risk. In addition to determining the historical incoming payment set in Manner 1, the collection system 300 further needs to select one or more historical incoming payments corresponding to the money laundering risk from the buffer pool, to form a historical incoming payment set; and select one or more historical incoming payments corresponding to the fraud risk from the buffer pool, to form a historical incoming payment set. For a specific process of forming the historical incoming payment set, refer to related descriptions in Manner 1. Details are not described again.

[00105] After the N_2 historical incoming payment sets are determined, for a specific manner in which the collection system 300 performs joint risk identification on the target incoming payment and each historical incoming payment to obtain P_C, refer to descriptions in Manner 1. Details are not described again. A difference lies in that different joint risk identification models perform joint risk identification on a historical incoming payment set with a risk label and the target incoming payment.

[00106] For example, when joint risk identification is performed on a historical incoming payment set corresponding to a fraud risk dimension and the target incoming payment, a used joint risk identification model can be a model used to identify a fraud risk associated with a plurality of incoming payments, etc. In addition, incoming payment features input into the joint risk identification model can also be different. For example, in Manner 2, for each historical incoming payment set and the target incoming payment, the incoming payment feature input into the corresponding joint risk identification model can be obtained based on process information and result information that are generated for the target incoming payment and the historical incoming payment in an independent risk identification process, in addition to the transaction information, the external information, and the internal information in the example in Manner 1.

[00107] In this way, the collection system 300 obtains the target risk identification result corresponding to the target incoming payment in Manner 1 or Manner 2.

[00108] S130: Process the target incoming payment based on the target risk identification result.

[00109] In some embodiments, if the risk probability represented by the target risk identification result is greater than or equal to a first preset threshold, the collection system 300 refunds the amount corresponding to the target incoming payment from the transition account corresponding

to the first destination account to the first source account. If the risk probability represented by the target risk identification result is less than or equal to a second preset threshold, the collection system 300 transfers the amount corresponding to the target incoming payment from the transition account corresponding to the first destination account to the first destination account. A first preset threshold is greater than the second preset threshold. Alternatively, if the risk probability represented by the target risk identification result is less than a first preset threshold and greater than a second preset threshold, the collection system 300 retains the amount corresponding to the target incoming payment in the transition account corresponding to the first destination account, and retains the target incoming payment in the buffer pool.

[00110] The first preset threshold can be the same as or different from the threshold T_2. The second preset threshold can be the same as or different from the threshold T_1. This is not limited in this specification.

[00111] In this embodiment, the collection system 300 can process the amount corresponding to the target incoming payment to different degrees based on a risk degree of the target incoming payment, instead of simply and roughly refunding and transferring the amount to the destination account. This is relatively flexible.

[00112] For processing of retaining the target incoming payment in the buffer pool, the collection system 300 can subsequently continue to perform joint risk identification on the target incoming payment and another new incoming payment, until the amount corresponding to the target incoming payment can be transferred to the first destination account or refunded to the first source account. Certainly, time of retaining the target incoming payment in the buffer pool is limited. The following describes processing of the target incoming payment by the collection system 300 when retention duration of the target incoming payment in the buffer pool is greater than or equal to preset duration.

[00113] In some embodiments, the method P100 further includes:

[00114] The collection system 300 obtains transaction proof information corresponding to the target incoming payment if the retention duration of the target incoming payment in the buffer pool is greater than or equal to the preset duration; and performs supplementary risk identification on the target incoming payment based on the transaction proof information, to obtain a supplementary risk identification result, and processes the target incoming payment based on the supplementary risk identification result.

[00115] For example, if the retention duration of the target incoming payment in the buffer pool is greater than or equal to the preset duration, the collection system 300 can require both transaction parties corresponding to the target incoming payment to upload or submit transaction proof materials. The transaction proof material includes but is not limited to a related document that can prove authenticity or validity of a transaction corresponding to the target incoming payment. The collection system 300 can extract the transaction proof information from the transaction proof material, and perform supplementary risk identification on the target incoming payment based on the transaction proof information, to obtain the supplementary risk identification result. If the supplementary risk identification result is that there is a risk, the collection system 300 refunds the amount corresponding to the target incoming payment from the transition account corresponding to the first destination account to the first source account; or if the supplementary risk identification result is that there is no risk, the collection system 300 transfers the amount corresponding to the target incoming payment from the transition account corresponding to the first destination account to the first destination account.

[00116] In this example, there is a time limit for risk identification for each incoming payment, so that the amount corresponding to the incoming payment does not always fail to be transferred to the destination account or refunded to the source account, which affects collection experience of the payee.

[00117] In some embodiments, the intermediate risk identification result determined by the collection system 300 can further represent a risk probability of some historical incoming payments. When the collection system 300 determines one historical incoming payment set, and the target risk identification result corresponding to the target incoming payment is obtained based on an intermediate risk identification result corresponding to the historical incoming payment set, the target risk identification result can further represent a risk probability of a historical incoming payment in the historical incoming payment set.

[00118] For example, the target risk identification result further represents a risk probability of a first historical incoming payment. The first historical incoming payment is a transfer from a second source account to a second destination account, and an amount corresponding to the first historical incoming payment is temporarily deposited in a transition account corresponding to the second destination account. The collection system 300 can directly process the first historical incoming payment based on the target risk identification result (for example, the first historical

incoming payment has no accumulative risk identification result). Alternatively, if the first historical incoming payment has an accumulative risk identification result, the collection system 300 can update the accumulative risk identification result of the first historical incoming payment based on the target risk identification result, and process the first historical incoming payment based on the updated accumulative risk identification result.

[00119] The accumulative risk identification result can be obtained based on any one of the following: one or more independent risk identification results of the first historical incoming payment; one or more joint risk identification results of the first historical incoming payment and another incoming payment (an incoming payment other than the target incoming payment); one or more independent risk identification results of the first historical incoming payment, and one or more joint risk identification results of the first historical incoming payment and another incoming payment. The accumulative risk identification result can be an accumulative risk probability, or can be a risk probability corresponding to each of a plurality of risk identification results. This is not limited in this specification. The updated accumulative risk identification result is, for example, a final risk probability that is of the first historical incoming payment and that is obtained by the collection system 300 based on the accumulative risk identification result and the target risk identification result.

[00120] For a manner in which the collection system 300 directly processes the first historical incoming payment based on the target risk identification result, refer to the above-mentioned processing of the target incoming payment. Details are not described again. The following describes a manner in which the collection system 300 processes the first historical incoming payment based on the updated accumulative risk identification result.

[00121] For example, if a risk probability represented by the updated accumulative risk identification result is greater than or equal to a first preset threshold, the collection system 300 refunds the amount corresponding to the first historical incoming payment from the transition account corresponding to the second destination account to the second source account; or if a risk probability represented by the updated accumulative risk identification result is less than or equal to a second preset threshold, the collection system 300 transfers the amount corresponding to the first historical incoming payment from the transition account corresponding to the second destination account to the second destination account; or if a risk probability represented by the updated accumulative risk identification result is less than a first preset threshold and greater than

a second preset threshold, the collection system 300 retains the amount corresponding to the first historical incoming payment in the transition account corresponding to the second destination account, and continues to retain the first historical incoming payment in the buffer pool.

[00122] When retention duration of the first historical incoming payment in the buffer pool is greater than or equal to preset duration, for processing performed by the collection system 300 on the first historical incoming payment, refer to the above-mentioned descriptions. Details are not described again.

[00123] In the above-mentioned example, in a process in which the collection system 300 processes the target incoming payment, another historical incoming payment on which joint risk identification is performed with the target incoming payment can also be processed, to improve incoming payment processing efficiency.

[00124] In conclusion, according to the incoming payment processing method, the collection system, and the storage medium that are provided in this specification, joint risk identification can be performed on a plurality of incoming payments, to help find an associated risk of the plurality of incoming payments, perform risk accumulation and amplification on scattered risks of a single incoming payment, and improve accuracy of identifying a risky incoming payment. Especially, for a collection account of a small enterprise, the incoming payment has the following features: a small amount, a large quantity, wide sources, diversified payers, and relatively scattered incoming payments. Some similar risky incoming payments are easily mixed. The solution provided in this specification can identify the risky incoming payments with the above-mentioned features hidden in normal incoming payments. In addition, the solution provided in this specification can avoid a case in which an unauthorized person escapes from risk control of the collection system through disintegration, exerting adverse impact on the collection system. In addition, according to the solution provided in this specification, in a process of performing joint risk identification on the plurality of incoming payments, more features can be collected, to aggregate some potential risk features that are not easily found from a perspective of the single incoming payment, so that the risk features are more obvious, and risky incoming payments are more accurately identified.

[00125] It should be noted that, in the above-mentioned process of describing the method P100, for example, the incoming payment originates from a payment of a transaction. Therefore, some terms such as transaction information in the transaction are used in specific descriptions. If the incoming payment originates from another case, related terms in method P100 can be adjusted

adaptively. The terms are not enumerated one by one herein.

[00126] Another aspect of this specification provides a computer-readable non-transitory storage medium, storing at least one group of executable instructions used to perform incoming payment processing. When the executable instructions are executed by a processor, the executable instructions instruct the processor to implement the steps of the method P100 described in this specification. In some possible implementations, aspects of this specification can further be implemented in a form of a program product, including program code. When the program product runs in the collection system 300, the program code is used to enable the collection system 300 to perform the steps of the method P100 described in this specification. The program product used to implement the above-mentioned method can be a portable compact disk read-only memory (CD-ROM) including program code, and can run on the collection system 300. However, the program product in this specification is not limited thereto. In this specification, a readable storage medium can be any tangible medium that includes or stores a program, and the program can be used by or in combination with an instruction execution system. The program product can be any combination of one or more readable media. The readable medium can be a readable signal medium or a readable storage medium. The readable storage medium can be, for example, an electrical system, apparatus, or device, a magnetic system, apparatus, or device, an optical system, apparatus, or device, an electromagnetic system, apparatus, or device, an infrared system, apparatus, or device, or a semiconductor system, apparatus, or device, or any combination thereof. More specific examples of the readable storage medium include: an electrical connection including one or more conducting wires, a portable disk, a hard disk, a random access memory (RAM), a read-only memory (ROM), an erasable programmable read-only memory (EPROM or flash memory), an optical fiber, a portable compact disc read-only memory (CD-ROM), an optical storage component, a magnetic storage component, or any proper combination thereof. The computer-readable storage medium can include a data signal propagated in a baseband or as part of a carrier, and carries readable program code. The propagated data signal can be in a plurality of forms, and includes but is not limited to an electromagnetic signal, an optical signal, or any proper combination thereof. The readable storage medium can further be any readable medium other than the readable storage medium, and the readable medium can be used to send, propagate, or transmit a program used by or in combination with an instruction execution system, apparatus, or component. The program code included in the readable storage medium can be transmitted in any proper medium, including

but not limited to a wireless medium, a wired medium, optical cable, an RF medium, or any proper combination thereof. Program code for performing an operation of this specification can be written in any combination of one or more program design languages. The program design language includes an object-oriented program design language, for example, Java or C++, and further includes a conventional procedural program design language, for example, "C" language, or a similar program design language. The program code can be completely executed on the collection system 300, partially executed on the collection system 300, executed as an independent software package, partially executed on the collection system 300 and partially executed on a remote computing device, or completely executed on a remote computing device.

[00127] In the embodiments of this specification, the term "and/or" describes an association relationship between associated objects and indicates that three relationships may exist. For example, "A and/or B" may indicate the following three cases: Only A exists, both A and B exist, and only B exists. The character "/" usually indicates an "or" relationship between the associated objects.

[00128] The terms such as "first" and "second" in this specification are intended to distinguish between similar or same types of objects or entities, but do not necessarily indicate a specific order or sequence.

[00129] "Plurality of" mentioned in this specification shall be understood as two or more unless otherwise specified.

[00130] Specific embodiments of this specification are described above. Other embodiments fall within the scope of the appended claims. In some cases, the actions or steps described in the claims can be performed in an order different from that in the embodiments, and the desired results can still be achieved. In addition, the process depicted in the accompanying drawings does not necessarily need a particular order or consecutive order to achieve the desired results. In some implementations, multitasking and parallel processing are possible or can be advantageous.

[00131] In conclusion, after reading the detailed disclosure, a person skilled in the art can understand that the detailed disclosure can be presented only in an example manner, and can impose no limitation. Although it is not explicitly stated here, a person skilled in the art can understand that the requirements of this specification include various proper changes, improvements, and modifications to the embodiments. These changes, improvements, and modifications are intended to be presented in this specification, and fall within the spirit and scope

of the example embodiments of this specification.

[00132] In addition, some terms in this specification are used to describe the embodiments of this specification. For example, "one embodiment", "an embodiment", and/or "some embodiments" mean that particular features, structures, or characteristics described with reference to the embodiments can be included in at least one embodiment of this specification. Therefore, it can be emphasized and understood that two or more of "an embodiment", "one embodiment", or "alternative embodiments" referred in parts of this specification do not necessarily indicate the same embodiment. In addition, particular features, structures, or characteristics can be properly combined in one or more embodiments of this specification.

[00133] It should be understood that in the above-mentioned descriptions of the embodiments of this specification, to help understand a feature, for the purpose of simplifying this specification, various features are combined in a single embodiment, accompanying drawing, or description thereof in this specification. However, this does not mean that the combination of these features is necessary. It is entirely possible for a person skilled in the art to mark some devices and understand the devices as separate embodiments when reading this specification. In other words, the embodiments in this specification can also be understood as an integration of a plurality of secondary embodiments. Content of each secondary embodiment is also true when features are less than all features in one of the above-mentioned disclosed embodiments.

[00134] Each patent, patent application, publication of a patent application, and other materials, for example, articles, books, instructions, publications, documents, and products, that are cited in this specification and that are other than any document that is inconsistent or conflict with this document or that imposes limiting impact on the widest scope of the claims can be incorporated herein by reference and used for all purposes now or later associated with this document. In addition, the term in this document shall prevail when there is any inconsistency or conflict between the description, definition and/or use of a related term in any material and the description, definition and/or use of a related term in this document.

[00135] Finally, it should be understood that the principles of the implementation solutions of this specification are described in the implementation solutions of the application disclosed in this specification. Other modified embodiments also fall within the scope of this specification. Therefore, the embodiments disclosed in this specification are merely examples and not limitations. A person skilled in the art can use an alternative configuration according to the embodiments of

this specification to implement the application in this specification. Therefore, the embodiments of this specification are not limited to the embodiments accurately described in the application.

CLAIMS

What is claimed is:

1. An incoming payment processing method, applied to a collection system, and comprising:

receiving a target incoming payment, wherein a receiving moment of the target incoming payment is a first moment;

performing joint risk identification on the target incoming payment and at least some historical incoming payments in a buffer pool, to obtain a target risk identification result, wherein the target risk identification result represents a risk probability of the target incoming payment, and the buffer pool is used to store a historical incoming payment received in a historical period before the first moment; and

processing the target incoming payment based on the target risk identification result.

2. The method according to claim 1, wherein the performing joint risk identification on the target incoming payment and at least some historical incoming payments in a buffer pool, to obtain a target risk identification result comprises:

determining N historical incoming payment sets from the buffer pool, wherein one historical incoming payment set comprises at least one historical incoming payment, the N historical incoming payment sets are associated with the target incoming payment in different risk dimensions, and N is an integer greater than or equal to 1;

performing joint risk identification on the target incoming payment and each of the N historical incoming payment sets, to obtain N intermediate risk identification results; and

determining the target risk identification result based on the N intermediate risk identification results.

3. The method according to claim 2, wherein the determining N historical incoming payment sets from the buffer pool comprises:

determining N risk dimensions corresponding to the target incoming payment based on information about the target incoming payment, wherein the information about the target incoming payment comprises at least one of the following: a risk label of the target incoming payment, a first source account corresponding to the target incoming payment, a first destination account corresponding to the target incoming payment, and the risk label is obtained by performing independent risk identification on the target incoming payment; and

for each risk dimension, selecting, from the buffer pool, a historical incoming payment associated with the target incoming payment in the risk dimension, to form a historical incoming payment set.

4. The method according to claim 2, wherein the performing joint risk identification on the target incoming payment and each of the N historical incoming payment sets, to obtain N intermediate risk identification results comprises:

for each historical incoming payment set:

determining an incoming payment feature based on the target incoming payment and the historical incoming payment set; and

inputting the incoming payment feature into a joint risk identification model corresponding to a target risk dimension, and performing joint risk identification on the target incoming payment and the historical incoming payment set by using the joint risk identification model, to obtain an intermediate risk identification result, wherein the target risk dimension is a risk dimension corresponding to the historical incoming payment set.

5. The method according to claim 4, wherein the incoming payment feature is obtained based on at least one of the following:

transaction information of a transaction corresponding to the target incoming payment and a historical incoming payment in the historical incoming payment set;

external information obtained by searching an external data source based on the target incoming payment and the historical incoming payment in the historical incoming payment set, wherein the external data source is an external data source of the collection system; and

internal information obtained by searching an internal data source based on the target incoming payment and the historical incoming payment in the historical incoming payment set, wherein the internal data source is an internal data source of the collection system.

6. The method according to claim 2, wherein the determining the target risk identification result based on the N intermediate risk identification results comprises:

obtaining an independent risk identification result corresponding to the target incoming payment, wherein the independent risk identification result is obtained by performing independent risk identification on the target incoming payment;

determining a joint risk identification result based on the N intermediate risk identification results; and

determining the target risk identification result based on the joint risk identification result and the independent risk identification result.

7. The method according to claim 1, wherein after the target incoming payment is received, the method further comprises:

performing independent risk identification on the target incoming payment, to obtain an independent risk identification result, and when a risk level represented by the independent risk identification result is a preset level, temporarily depositing an amount corresponding to the target incoming payment in a transition account of the collection system; and

the performing joint risk identification on the target incoming payment and at least some historical incoming payments in a buffer pool comprises:

when the risk level represented by the independent risk identification result is the preset level, performing joint risk identification on the target incoming payment and the at least some historical incoming payments in the buffer pool.

8. The method according to claim 7, wherein the target incoming payment is a transfer from a first source account to a first destination account, and the processing the target incoming payment based on the target risk identification result comprises:

refunding the amount corresponding to the target incoming payment from the transition account to the first source account if the risk probability represented by the target risk identification result is greater than or equal to a first preset threshold; or

transferring the amount corresponding to the target incoming payment from the transition account to the first destination account if the risk probability represented by the target risk identification result is less than or equal to a second preset threshold, wherein a first preset threshold is greater than the second preset threshold; or

if the risk probability represented by the target risk identification result is less than a first preset threshold and greater than a second preset threshold, leaving the amount corresponding to the target incoming payment in the transition account, and leaving the target incoming payment in the buffer pool.

9. The method according to claim 8, wherein the method further comprises:

obtaining transaction proof information corresponding to the target incoming payment if retention duration of the target incoming payment in the buffer pool is greater than or equal to preset duration; and

performing supplementary risk identification on the target incoming payment based on the transaction proof information, to obtain a supplementary risk identification result, and processing the target incoming payment based on the supplementary risk identification result.

10. The method according to claim 1, wherein the at least some incoming payments comprise a first historical incoming payment, and the method further comprises:

updating an accumulative risk identification result of the first historical incoming payment based on the target risk identification result, and processing the first historical incoming payment based on the updated accumulative risk identification result.

11. The method according to claim 10, wherein the first historical incoming payment is a transfer from a second source account to a second destination account, and an amount corresponding to the first historical incoming payment is temporarily deposited in a transition account of the collection system; and

the processing the first historical incoming payment based on the updated accumulative risk identification result comprises:

refunding the amount corresponding to the first historical incoming payment from the transition account to the second source account if the risk probability represented by the updated accumulative risk identification result is greater than or equal to a first preset threshold; or

transferring the amount corresponding to the first historical incoming payment from the transition account to the second destination account if the risk probability represented by the updated accumulative risk identification result is less than or equal to a second preset threshold, wherein a first preset threshold is greater than the second preset threshold; or

if the risk probability represented by the updated accumulative risk identification result is less than a first preset threshold and greater than a second preset threshold, leaving the amount corresponding to the first historical incoming payment in the transition account, and leaving the first historical incoming payment in the buffer pool.

12. A collection system, comprising:

at least one storage medium, storing at least one instruction set, to perform incoming payment processing; and

at least one processor, communicatively connected to the at least one storage medium, wherein when running, the at least one processor reads the at least one instruction set, and performs the following operations based on an indication of the at least one instruction set:

receiving a target incoming payment, wherein a receiving moment of the target incoming payment is a first moment;

performing joint risk identification on the target incoming payment and at least some historical incoming payments in a buffer pool, to obtain a target risk identification result, wherein the target risk identification result represents a risk probability of the target incoming payment, and the buffer pool is used to store a historical incoming payment received in a historical period before the first moment; and

processing the target incoming payment based on the target risk identification result.

13. The collection system according to claim 12, wherein to obtain the target risk identification result, the at least one processor performs the following operations:

determining N historical incoming payment sets from the buffer pool, wherein one historical incoming payment set comprises at least one historical incoming payment, the N historical incoming payment sets are associated with the target incoming payment in different risk dimensions, and N is an integer greater than or equal to 1;

performing joint risk identification on the target incoming payment and each of the N historical incoming payment sets, to obtain N intermediate risk identification results; and

determining the target risk identification result based on the N intermediate risk identification results.

14. The collection system according to claim 13, wherein to determine the N historical incoming payment sets, the at least one processor performs the following operations:

determining N risk dimensions corresponding to the target incoming payment based on information about the target incoming payment, wherein the information about the target incoming payment comprises at least one of the following: a risk label of the target incoming payment, a first source account corresponding to the target incoming payment, a first destination account corresponding to the target incoming payment, and the risk label is obtained by performing independent risk identification on the target incoming payment; and

for each risk dimension, selecting, from the buffer pool, a historical incoming payment associated with the target incoming payment in the risk dimension, to form a historical incoming payment set.

15. The collection system according to claim 13, wherein to obtain the N intermediate risk identification results, the at least one processor performs the following operations:

for each historical incoming payment set:

determining an incoming payment feature based on the target incoming payment and the historical incoming payment set; and

inputting the incoming payment feature into a joint risk identification model corresponding to a target risk dimension, and performing joint risk identification on the target incoming payment and the historical incoming payment set by using the joint risk identification model, to obtain an intermediate risk identification result, wherein the target risk dimension is a risk dimension corresponding to the historical incoming payment set.

16. The collection system according to claim 15, wherein the incoming payment feature is obtained based on at least one of the following:

transaction information of a transaction corresponding to the target incoming payment and a historical incoming payment in the historical incoming payment set;

external information obtained by searching an external data source based on the target incoming payment and the historical incoming payment in the historical incoming payment set, wherein the external data source is an external data source of the collection system; and

internal information obtained by searching an internal data source based on the target incoming payment and the historical incoming payment in the historical incoming payment set, wherein the internal data source is an internal data source of the collection system.

17. The collection system according to claim 13, wherein to determine the target risk identification result, the at least one processor performs the following operations:

obtaining an independent risk identification result corresponding to the target incoming payment, wherein the independent risk identification result is obtained by performing independent risk identification on the target incoming payment;

determining a joint risk identification result based on the N intermediate risk identification results; and

determining the target risk identification result based on the joint risk identification result and the independent risk identification result.

18. The collection system according to claim 12, wherein the at least one processor further performs the following operations:

performing independent risk identification on the target incoming payment, to obtain an independent risk identification result, and when a risk level represented by the independent risk

identification result is a preset level, temporarily depositing an amount corresponding to the target incoming payment in a transition account of the collection system; and

when the risk level represented by the independent risk identification result is the preset level, performing joint risk identification on the target incoming payment and the at least some historical incoming payments in the buffer pool.

19. The collection system according to claim 18, wherein the target incoming payment is a transfer from a first source account to a first destination account, and to process the target incoming payment, the at least one processor performs the following operations:

refunding the amount corresponding to the target incoming payment from the transition account to the first source account if the risk probability represented by the target risk identification result is greater than or equal to a first preset threshold; or

transferring the amount corresponding to the target incoming payment from the transition account to the first destination account if the risk probability represented by the target risk identification result is less than or equal to a second preset threshold, wherein a first preset threshold is greater than the second preset threshold; or

if the risk probability represented by the target risk identification result is less than a first preset threshold and greater than a second preset threshold, leaving the amount corresponding to the target incoming payment in the transition account, and leaving the target incoming payment in the buffer pool.

20. A computer-readable non-transitory storage medium, wherein the computer-readable non-transitory storage medium stores at least one instruction set, and when the at least one instruction set is executed by at least one processor, the method according to any one of claims 1 to 11 is implemented.