METHOD, APPARATUS, AND SYSTEM FOR SCHEDULING LOGISTIC RESOURCES

TECHNICAL FIELD

The present application relates to the technical fields of Internet information processing and logistics and distribution, and in particular, to a method, an apparatus, and a system for scheduling logistic resources.

BACKGROUND

With the development of science and technology and the development of Internet technology, various electronic commerce platforms have emerged from Internet platforms. These electronic commerce platforms may provide various different online services for users. These online services provide great convenience for lives of the users.

For example, a user purchases daily necessities through an electronic commerce platform that mainly provides daily necessities and services. When receiving order information (the order information includes the daily necessities purchased by the user) from the user, the electronic commerce platform may distribute the needed daily necessities to the user according to location information included in the order information. In this way, the user enjoys an online service of purchasing daily necessities provided by the electronic commerce platform.

On one electronic commerce platform, a plurality of different commodity object providers may use the electronic commerce platform to provide online services for users. However, online services provided by a commodity object provider include, but are not limited to, providing commodity object information and delivering the purchased commodity object to a user that purchases the commodity object. Accordingly, one important indicator for determining the quality of an online service provided by a commodity object provider is whether it can enable a user that purchases a commodity object to receive the purchased commodity object quickly.

At present, to resolve the foregoing problem, warehouse resource providers and distribution resource providers have emerged in the market. A commodity object provider needs to acquire warehouse resources from a warehouse resource provider to use the warehouse resources to store a commodity object, and further needs to acquire distribution

resources from a distribution resource provider to use the distribution resources to distribute a commodity object. However, most warehouse resources and distribution resources are scheduled by different providers. As a result, the period from acquisition of a commodity object from a warehouse resource to distribution of the commodity object by using a distribution resource is relatively long. A user that purchases a commodity object cannot receive a purchased commodity object rapidly. In this case, the utilization of logistic resources (including warehouse resources and distribution resources) is relatively low.

In conclusion, a method for scheduling logistic resources is urgently needed to resolve the problem of relatively low utilization of logistic resources in existing technologies.

SUMMARY

In view of this, embodiments of the present application provide a method, an apparatus, and a system for scheduling logistic resources, so as to resolve the problem of relatively low utilization of logistic resources in existing technologies.

A method for scheduling logistic resources comprises:

determining warehouse resources from different warehouse resource providers and distribution resources from different distribution resource providers;

integrating the warehouse resources and the distribution resources according to a preset resource integration rule to obtain logistic resources that satisfy a preset condition; and

releasing the logistic resources, enabling a commodity object provider requesting to use a logistic resource to schedule a logistic resource.

An apparatus for scheduling logistic resources comprises:

a determining unit, configured to determine warehouse resources from different warehouse resource providers and distribution resources from different distribution resource providers;

an integration unit, configured to integrate the warehouse resources and the distribution resources according to a preset resource integration rule to obtain logistic resources that satisfy a preset condition; and

a releasing and scheduling unit, configured to release the logistic resources, enabling a commodity object provider requesting to use a logistic resource to schedule a logistic resource.

A system for scheduling logistic resources comprises a front-end commodity-object presentation platform and a back-end logistics service platform, where:

the front-end commodity-object presentation platform is configured to release commodity object information by a commodity object provider; and

the back-end logistics service platform is configured to: determine warehouse resources from different warehouse resource providers and distribution resources from different distribution resource providers; integrate the warehouse resources and the distribution resources according to a preset resource integration rule to obtain logistic resources that satisfy a preset condition; and release the logistic resources, enabling a commodity object provider requesting to use a logistic resource to schedule a logistic resource.

The beneficial effects of the present application are as follows:

In the embodiments of the present application, warehouse resources from different warehouse resource providers and distribution resources from different distribution resource providers are determined; the warehouse resources and the distribution resources are integrated according to a preset resource integration rule to obtain logistic resources that satisfy a preset condition; and the logistic resources are released, enabling a commodity object provider requesting to use a logistic resource to schedule a logistic resource. Based on a logistics service platform provided in the embodiments of the present application, warehouse resources from different warehouse resource providers and distribution resources from different distribution resource providers can be acquired, and the acquired warehouse resources and distribution resources are integrated or categorized, to obtain logistic resources that satisfy a preset condition and release the logistic resources to a commodity object provider, so that the commodity object provider can schedule a logistic resource. Not only relatively scattered warehouse resources and distribution resources in the society can be integrated into relatively unified logistic resources, but also utilization of these logistic resources can be improved, thereby effectively improving the efficiency of distributing a commodity object, shortening a time period between acquisition of a commodity object from a warehouse resource to distribution of the commodity object by using a distribution resource, and improving user experience of a user on an electronic commerce platform.

BRIEF DESCRIPTION OF THE DRAWINGS

To describe the technical solutions of the embodiments of the present application more clearly, the following briefly introduces the accompanying drawings required for describing the embodiments. Apparently, the accompanying drawings in the following description show only some embodiments of the present application, and a person of ordinary skill in the art

may still derive other drawings from these accompanying drawings without creative efforts.

FIG. 1 is a schematic flowchart of a method for scheduling logistic resources according to an embodiment of the present application;

FIG. 2 is a schematic diagram of a branch-warehouse replenishment/allocation strategy according to an embodiment of the present application;

FIG. 3 is a schematic structural diagram of an apparatus for scheduling logistic resources according to an embodiment of the present application; and

FIG. 4 is a schematic structural diagram of a system for scheduling logistic resources according to an embodiment of the present application.

DETAILED DESCRIPTION OF THE INVENTION

To achieve the objective of the present application, the embodiments of the present application provide a method, an apparatus, and a system for scheduling logistic resources. Warehouse resources from different warehouse resource providers and distribution resources from different distribution resource providers are determined; the warehouse resources and the distribution resources are integrated according to a preset resource integration rule to obtain logistic resources that satisfy a preset condition; and the logistic resources are released, enabling a commodity object provider requesting to use a logistic resource to schedule a logistic resource.

Based on a logistics service platform provided in the embodiments of the present application, warehouse resources from different warehouse resource providers and distribution resources from different distribution resource providers can be acquired, and the acquired warehouse resources and distribution resources are integrated or categorized, to obtain logistic resources that satisfy a preset condition and release the logistic resources to a commodity object provider, enabling the commodity object provider to schedule a logistic resource. Not only relatively scattered warehouse resources and distribution resources in the society can be integrated into relatively unified logistic resources, but also utilization of these logistic resources can be improved, thereby effectively improving the efficiency of distributing a commodity object, shortening a time period between acquisition of a commodity object from a warehouse resource to distribution of the commodity object by using a distribution resource, and improving user experience of a user on an electronic commerce platform.

It should be noted that the embodiments of the present application are applied to a

logistics service platform system. The logistics service platform has a capability of integrating warehouse resources and distribution resources in the society, and integrates relatively scattered warehouse resources and distribution resources to obtain unified logistic resources. When providing these logistic resources to a commodity object provider, the logistics service platform can provide the commodity object provider with characteristics such as warehouse management, order routing, automatic dispatch, and rapid distribution, thereby reducing the inventory cost and logistics cost for the commodity object provider. Therefore, both a commodity object provider and a commodity object demander enjoy a rapid and convenient logistics service.

The following describes the embodiments of the present application in further detail with reference to the accompanying drawings in the embodiments in the specification. Apparently, the described embodiments are only some of the embodiments of the present application rather than all of the embodiments. All other embodiments obtained by a person of ordinary skill in the art based on the embodiments of the present application without creative efforts shall fall within the protection scope of the present application.

FIG. 1 is a schematic flowchart of a method for scheduling logistic resources according to an embodiment of the present application. The method may be shown as follows.

Step 101: Determine warehouse resources from different warehouse resource providers and distribution resources from different distribution resource providers.

The warehouse resource includes a warehouse capacity and an inventory turnover period, and the distribution resource includes a distribution attribute.

In step 101, a logistics service platform may provide a plurality of interfaces. Different warehouse resource providers send warehouse resources to the logistics service platform by using these interfaces, and different distribution resource providers send distribution resources to the logistics service platform by using these interfaces. In this way, the logistics service platform may determine the warehouse resources from the different warehouse resource providers and the distribution resources from the different distribution resource providers in real time.

An example in which a warehouse resource is an inventory turnover period is used below to describe how to determine a warehouse resource from a warehouse resource provider.

Specifically, an inventory turnover period of a warehouse unit is determined according to a historical sales quantity and a historical sales volume ratio within a preset time period of the warehouse unit provided by the warehouse resource provider; and at least one obtained inventory turnover period of the warehouse unit is used as an inventory turnover period of the

warehouse resource provider.

The inventory turnover period herein may refer to a time between a commodity's entering the warehouse and out of the warehouse.

For example, a historical sales quantity and a historical sales volume ratio within a preset time period of a warehouse unit provided by the warehouse resource provider are collected. A sales volume prediction algorithm is used to predict a sales volume within a future time period. In this case, the inventory turnover period of the warehouse unit is determined according to the calculated sales volume. That is, if the sales volume has a larger value, the inventory turnover period is shorter. In contrast, if the sales volume has a smaller value, the inventory turnover period is longer.

A replenishment plan of a commodity object provider using the warehouse unit may be predicted or a circulation time of the warehouse unit may be determined according to the determined inventory turnover period.

It should be noted that to determine the inventory turnover period, a level of a warehouse unit may be used for calculation, or a location of a warehouse unit may be used for calculation. This is not specifically limited herein.

In addition, the warehouse resource further includes a warehouse capacity, a warehouse level (when a coverage area of a warehouse unit is larger, a warehouse level is higher), a location of a warehouse unit, a warehouse type, and charging information of different warehouse units, and the like.

An example in which a distribution resource is a distribution attribute is used below to describe how to determine a distribution resource from a distribution resource provider.

Specifically, a distribution type, distribution routes, and a distribution capacity of each distribution route that are released by a distribution resource provider are received; and a distribution attribute of the distribution resource provider are determined according to the distribution type, the distribution routes, and the distribution capacity of each distribution route.

The distribution attribute herein may refer to a type and a distribution limitation of a distributed commodity object.

At present, a distribution attribute mainly depends on two aspects of factors: one aspect is a distance between a ship-from address of a commodity object and a ship-to address of a user. The other aspect is a transportation tool used for distribution and a used distribution route. In this case, relationships between a distribution attribute and a distribution type, distribution routes, and a distribution capacity of each distribution route may be determined

according to distribution data provided by the distribution resource provider.

Optionally, before step 101 is performed in this embodiment of the present application, the method further includes:

By using an external interface, the identity of the warehouse resource provider is verified, and the identity of the distribution resource provider is verified, to ensure the security of a commodity object of the commodity object provider.

Step 102: Integrate the warehouse resource and the distribution resource according to a preset resource integration rule to obtain logistic resources that satisfy a preset condition.

In step 102, integration is performed by using the preset resource integration rule, the warehouse capacity and the inventory turnover period included in the warehouse resource, and the distribution attribute included in the distribution resource, to obtain the logistic resources that satisfy the preset condition, where the preset condition is used to adjust the utilization of the integrated logistic resources.

For example, the warehouse resource is categorized according to the warehouse capacity and/or the inventory turnover period to obtain a first category, the distribution resource is categorized according to the distribution attribute to obtain a second category, and the first category and the second category are integrated to obtain a type of a logistic resource that satisfies a preset condition.

For another example, determined warehouse resources include a warehouse resource 1, a warehouse resource 2, and a warehouse resource 3. A warehouse capacity included in the warehouse resource 1 is X, and an inventory turnover period included in the warehouse resource 1 is 10 days. A warehouse capacity included in the warehouse resource 2 is Y, and an inventory turnover period included in the warehouse resource 2 is 20 days. A warehouse capacity included in the warehouse resource 3 is Z, and an inventory turnover period included in the warehouse resource 3 is 5 days. X is greater than Z, Z is less than Y, and Y is greater than X. Determined distribution resources include a distribution resource 1, a distribution resource 2, and a distribution resource 3. A distribution attribute included in the distribution resource 1 is supporting distribution of a commodity object being a large home appliance, and a distribution limitation included in the distribution resource 1 is 3 days. A distribution attribute included in the distribution resource 2 is supporting distribution of a commodity object having a high timeliness requirement (for example, vegetables), and a distribution limitation included in the distribution resource 2 is 1 day. A distribution attribute included in the distribution resource 3 is supporting distribution of a common commodity object, and a distribution limitation included in the distribution resource 3 is 1 day to 3 days. In this case,

based on the information, a warehouse resource and a distribution resource may be integrated as follows according to the preset resource integration rule.

The warehouse resource 2 and the distribution resource 3 are integrated into a logistic resource, and the logistic resource is applicable to a common commodity object. The warehouse resource 1 and the distribution resource 2 are integrated into a logistic resource, and the logistic resource is applicable to a commodity object being a large home appliance. The warehouse resource 3 and the distribution resource 1 are integrated into a logistic resource, and the logistic resource is applicable to a commodity object that has a relatively high timeliness requirement (for example, vegetables).

For another example, determined warehouse resources include a warehouse resource 1, a warehouse resource 2, and a warehouse resource 3, and determined distribution resources include a distribution resource 1, a distribution resource 2, and a distribution resource 3. A warehouse resource and a distribution resource may be combined according to a preset condition, to obtain a combined logistic resource.

It should be noted that the resource integration rule recorded in this embodiment of the present application may be a rule for combining different resources. For example, a geographical location of a warehouse resource and a geographical location of a distribution resource belong to a same area. In this case, the warehouse resource and the distribution resource are combined into a logistic resource. This is not specifically limited herein.

The resource integration rule recorded herein may be determined by using a resource integration algorithm, or may be obtained by analyzing historical data, or may be manually preset. How to obtain a resource integration rule is not specifically limited herein.

Step 103: release the logistic resource, enabling a commodity object provider requesting to use the logistic resource to schedule the logistic resource.

In step 103, the logistic resources determined in step 102 are released, so that a commodity object provider freely selects a needed logistic resource.

In this embodiment of the present application, after the releasing the logistic resource, the method further includes:

receiving logistic resource order information sent by the commodity object provider, where the logistic resource order information includes a logistic resource selected by the commodity object provider and commodity-object identifier information; and

establishing a mapping relationship between the commodity-object identifier information and the selected logistic resource.

When the logistics service platform releases logistic resources, the commodity object

provider may acquire these logistic resources by using the logistics service platform, and select, according to an attribute of a provided commodity object, a logistic resource matching the attribute of the commodity object.

For example, a commodity object provided by a commodity object provider is a commodity object being a large home appliance. In this case, the logistic resource including the warehouse resource 1 and the distribution resource 2 in step 102 may be selected.

When selecting the logistic resource matching the attribute of the commodity object, the commodity object provider sends logistic resource order information to the logistics service platform. The logistic resource order information may include the commodity-object identifier information, or may include identifier information of the commodity object provider. If the logistic resource order information includes the commodity-object identifier information, it is regarded that the logistic resource is used for the commodity object from the commodity object provider.

In this case, the logistics service platform establishes a mapping relationship between commodity-object identifier information and a selected logistic resource or establishes a mapping relationship between identifier information of a commodity object provider and a selected logistic resource. In this way, it becomes convenient to rapidly determine a logistic resource when order information is received subsequently.

In another embodiment of the present application, after the releasing the logistic resource, the method further includes:

receiving order information that is sent by the commodity object provider and includes the commodity-object identifier information and identifier information of the commodity object provider, where the order information further includes distribution address information;

determining the warehouse resource from the commodity object provider according to the identifier information of the commodity object provider;

determining, according to the warehouse resource, warehouse units in which the commodity object corresponding to the commodity-object identifier information is located;

according to the distribution address information, selecting, from the determined warehouse units, a warehouse unit whose distance from the distribution address information is less than a preset threshold; and

sending the order information to the warehouse unit, and instructing the warehouse unit to perform dispatch and distribution according to the order information.

After the logistic resource is released, when receiving order information submitted by a

user on a front-end commodity-object presentation platform, the commodity object provider needs to route the order information to the logistics service platform. In this case, the order information includes commodity-object identifier information, identifier information of the commodity object provider, and distribution address information.

In this case, the logistics service platform determines, according to the identifier information of the commodity object provider included in the order information, a warehouse resource selected by the commodity object provider, and further determines, according to the warehouse resource, the warehouse units in which the commodity object corresponding to the commodity-object identifier information is located.

Because the commodity object provider selects more than one warehouse resource, a plurality of warehouse units in which the commodity object corresponding to the commodity-object identifier information is located may be determined according to the warehouse resources. In this case, to rapidly deliver the commodity object to the user, a warehouse unit that is relatively close to a distribution address of a user needs to be selected according to the distribution address, the order information is sent to the warehouse unit, and the warehouse unit is instructed to perform dispatch and distribution according to the order information.

In addition, the order information submitted by the user may include a plurality of pieces of commodity-object identifier information. A warehouse unit in which a commodity object corresponding to each piece of commodity-object identifier information is located is determined according to the warehouse resource. However, if commodity objects corresponding to these pieces of commodity-object identifier information are distributed in a plurality of different warehouse units, the order information is divided into a plurality of pieces of sub-order information according to warehouse units in which the commodity objects are located. Each piece of sub-order information includes identifier information of the commodity objects that are located in the same warehouse unit and the distribution address information.

It should be noted that when the division of one piece of order information is initiated, the division may further be performed according to label information included in the order information, or may be performed according to location information of a warehouse unit, or may further be performed in another manner. How division is performed is not specifically limited herein, provided that the user can receive a commodity object as soon as possible.

In another embodiment of the present application, after the releasing the logistic resource, the method further includes:

for the logistic resource selected by the commodity object provider, monitoring an inventory quantity of the warehouse resource included in the logistic resource;

generating a branch-warehouse replenishment/allocation strategy according to the inventory quantity and a sales volume prediction value, where the sales volume prediction value is determined according to a sales volume prediction algorithm and historical sales volume data of a warehouse unit, and the branch-warehouse replenishment/allocation strategy is used to adjust inventory quantities of commodity objects in different warehouse units; and

sending the branch-warehouse replenishment/allocation strategy to the commodity object provider.

FIG. 2 is a schematic diagram of a branch-warehouse replenishment/allocation strategy according to an embodiment of the present application.

As may be seen from FIG. 2, a logistics service system monitors information such as an inventory quantity of the warehouse resource included in the logistic resource, and an inventory proportion, a sales prediction value, a shortage rate, an average inventory limitation, and an inventory turnover of each warehouse unit, to generate a branch-warehouse replenishment/allocation strategy. The branch-warehouse replenishment/allocation strategy is sent to a corresponding warehouse unit and commodity object provider. When the commodity object provider confirms the branch-warehouse replenishment/allocation strategy, a branch-warehouse replenishment/allocation procedure is initiated. A CDC warehouse shown in FIG. 2 refers to one warehouse unit, and a DC warehouse refers to another warehouse unit.

The branch-warehouse replenishment strategy recorded in this embodiment of the present application may be acquiring a commodity object from a commodity object provider and storing the acquired commodity object to a warehouse unit, or may be allocating a commodity object from one warehouse unit to another warehouse unit.

It should be noted that branch-warehouse replenishment/allocation strategy may be understood as a branch-warehouse replenishment strategy or may be understood as a branch-warehouse allocation strategy or may further be a combination of the branch-warehouse replenishment strategy and the branch-warehouse allocation strategy. This is not limited herein.

In another embodiment of the present application, during the releasing the logistic resource, the method further includes:

determining cost information of different logistic resources, and displaying the cost information.

In the solution recorded in this embodiment of the present application, based on a logistics service platform provided in this embodiment of the present application, warehouse resources from different warehouse resource providers and distribution resources from different distribution resource providers can be acquired, and the acquired warehouse resources and distribution resources are integrated or categorized, to obtain logistic resources that satisfy a preset condition and release the logistic resources to a commodity object provider, enabling the commodity object provider to schedule a logistic resource. Not only relatively scattered warehouse resources and distribution resources in the society can be integrated into relatively unified logistic resources, but also utilization of these logistic resources can be improved, thereby effectively improving the efficiency of distributing a commodity object, shortening a time period between acquisition of a commodity object from a warehouse resource to distribution of the commodity object by using a distribution resource, and improving user experience of a user on an electronic commerce platform.

FIG. 3 is a schematic structural diagram of an apparatus for scheduling logistic resources according to an embodiment of the present application. The scheduling apparatus includes a determining unit 31, an integration unit 32, and a releasing and scheduling unit 33.

The determining unit 31 is configured to determine warehouse resources from different warehouse resource providers and distribution resources from different distribution resource providers.

The integration unit 32 is configured to integrate the warehouse resources and the distribution resources according to a preset resource integration rule to obtain logistic resources that satisfy a preset condition.

The releasing and scheduling unit 33 is configured to release the logistic resources, enabling a commodity object provider requesting to use a logistic resource to schedule a logistic resource.

In another embodiment of the present application, if the warehouse resource includes a warehouse capacity and an inventory turnover period, the determining, by the determining unit 31, of a warehouse resource from a warehouse resource provider includes:

determining an inventory turnover period of a warehouse unit provided by the warehouse resource provider according to a historical sales quantity and a historical sales volume ratio of the warehouse unit within a preset time period; and

using at least one obtained inventory turnover period of the warehouse unit as an inventory turnover period of the warehouse resource provider.

In another embodiment of the present application, if the distribution resource includes a

distribution attribute, the determining, by the determining unit 31, of a distribution resource from a distribution resource provider includes:

receiving a distribution type, distribution routes, and a distribution capacity of each distribution route released by the distribution resource provider; and

determining the distribution attribute of the distribution resource provider according to the distribution type, the distribution routes, and the distribution capacity of each distribution route.

In another embodiment of the present application, the integrating, by the integration unit 32, of the warehouse resources and the distribution resources according to a preset resource integration rule to obtain logistic resources that satisfy a preset condition includes:

performing integration by using the preset resource integration rule, the warehouse capacity and the inventory turnover period included in the warehouse resource, and the distribution attribute included in the distribution resource, to obtain the logistic resources that satisfy the preset condition, where the preset condition is used to adjust the utilization of the integrated logistic resources.

In another embodiment of the present application, the scheduling apparatus further includes an establishment unit 34.

The establishment unit 34 is configured to: after the logistic resource is released, receive logistic resource order information sent by the commodity object provider, where the logistic resource order information includes a logistic resource selected by the commodity object provider and commodity-object identifier information; and

establish a mapping relationship between the commodity-object identifier information and the selected logistic resource.

In another embodiment of the present application, the scheduling apparatus further includes a distribution unit 35.

The distribution unit 35 is configured to: after the logistic resource is released, receive order information that is sent by the commodity object provider and includes the commodity-object identifier information and identifier information of the commodity object provider, where the order information further includes distribution address information;

determine the warehouse resource from the commodity object provider according to the identifier information of the commodity object provider;

determine, according to the warehouse resource, the warehouse units in which the commodity object corresponding to the commodity-object identifier information is located;

according to the distribution address information, select, from the determined warehouse

units, a warehouse unit whose distance from the distribution address information is less than a preset threshold; and

send the order information to the warehouse unit, and instruct the warehouse unit to perform dispatch and distribution according to the order information.

In another embodiment of the present application, the determining, by the distribution unit 35 according to the warehouse resource, of the warehouse units in which the commodity object corresponding to the commodity-object identifier information is located includes:

if a quantity of pieces of commodity-object identifier information included in the order information is greater than one, determining, according to the warehouse resource, a warehouse unit in which a commodity object corresponding to each piece of commodity-object identifier information is located.

In another embodiment of the present application, the scheduling apparatus further includes a division unit 36.

the division unit is configured to: if commodity objects corresponding to the commodity-object identifier information included in the order information are located in different warehouse units, divide the order information into a plurality of pieces of sub-order information according to the warehouse units in which the commodity objects are located, where each piece of sub-order information includes identifier information of the commodity objects that are located in the same warehouse unit and the distribution address information.

In another embodiment of the present application, the scheduling apparatus further includes a replenishment strategy unit 37.

The replenishment strategy unit 37 is configured to: for the logistic resource selected by the commodity object provider, monitor an inventory quantity of the warehouse resource included in the logistic resource;

generate a branch-warehouse replenishment/allocation strategy according to the inventory quantity and a sales volume prediction value, where the sales volume prediction value is determined according to a sales volume prediction algorithm and historical sales volume data of a warehouse unit, and the branch-warehouse replenishment/allocation strategy is used to adjust inventory quantities of commodity objects in different warehouse units; and

send the branch-warehouse replenishment/allocation strategy to the commodity object provider.

In another embodiment of the present application, the scheduling apparatus further includes a charging unit 38.

The charging unit 38 is configured to: when the logistic resource is being released,

determine cost information of different logistic resources, and display the cost information.

It should be noted that the scheduling apparatus recorded in this embodiment of the present application may be implemented by hardware or may be implemented by software. This is not specifically limited herein. A scheduling apparatus can acquire warehouse resources from different warehouse resource providers and distribution resources from different distribution resource providers, and integrate or categorize the acquired warehouse resources and distribution resources, to obtain logistic resources that satisfy a preset condition and release the logistic resource to a commodity object provider, enabling the commodity object provider to schedule a logistic resource. Not only relatively scattered warehouse resources and distribution resources in the society can be integrated into relatively unified logistic resources, but also utilization of these logistic resources can be improved, thereby effectively improving the efficiency of distributing a commodity object, shortening a time period between acquisition of a commodity object from a warehouse resource to distribution of the commodity object by using a distribution resource, and improving user experience of a user on an electronic commerce platform.

FIG. 4 is a schematic structural diagram of a system for scheduling logistic resources according to an embodiment of the present application. The system includes a front-end commodity-object presentation platform 41 and a back-end logistics service platform 42.

The front-end commodity-object presentation platform 41 is configured to release commodity object information by a commodity object provider.

The back-end logistics service platform 42 is configured to: determine warehouse resources from different warehouse resource providers and distribution resources from a different distribution resource providers, where the warehouse resources include a warehouse capacity and an inventory turnover period, and the distribution resources include a distribution attribute; integrate the warehouse resources and the distribution resources according to a preset resource integration rule to obtain logistic resources that satisfy a preset condition; and release the logistic resources, enabling a commodity object provider requesting to use a logistic resource to schedule a logistic resource.

In this embodiment of the present application, the back-end logistics service platform 42 includes a warehouse resource platform and a distribution resource platform and has the same or similar functions recorded in the foregoing embodiments. Details are not repeated herein.

A person skilled in the art should understand that the embodiments of the present application may be provided as a method, an apparatus (device), or a computer program product. Therefore, the present application may use a form of a hardware embodiment, a

software embodiment, or an embodiment combining software and hardware. In addition, the present application may use a form of a computer program product implemented on one or more computer usable storage media (including but not limited to a disk memory, a CD-ROM, and an optical memory) including computer usable program code.

The present application is described with reference to flowcharts and/or block diagrams of the method, the apparatus (device), and the computer program product in the embodiments of the present application. It should be understood that computer program instructions can implement each process and/or block in the flowcharts and/or block diagrams and a combination of processes and/or blocks in the flowcharts and/or block diagrams. These computer program instructions may be provided to a general-purpose computer, an application-specific computer, an embedded processor, or a processor of another programmable data processing apparatus to generate a machine, so that an apparatus configured to implement functions specified in one or more processes in the flowcharts and/or one or more blocks in the block diagrams is generated by using instructions executed by the computer or the processor of another programmable data processing apparatus.

These computer program instructions may also be stored in a computer readable memory that can guide a computer or another programmable data processing apparatus to work in a specific manner, so that the instructions stored in the computer readable memory generate an article of manufacture including an instruction apparatus, where the instruction apparatus implements functions specified in one or more processes in the flowcharts and/or one or more blocks in the block diagrams.

These computer program instructions may also be loaded into a computer or another programmable data processing apparatus, so that a series of operation steps are performed on the computer or another programmable apparatus to generate processing implemented by a computer, and instructions executed on the computer or another programmable apparatus provide steps for implementing functions specified in one or more processes in the flowcharts and/or one or more blocks in the block diagrams.

Although preferred embodiments of the present application are described, once acquiring basic innovative concepts, a person skilled in the art may make other changes and modifications to these embodiments. Therefore, the appended claims intend to be explained to include preferred embodiments and all changes and modifications that fall within scope of the present application.

Obviously, a person skilled in the art may make various modifications and variations to the present application without departing from the spirit and scope of the present application.

In this way, if these modifications and variations to the present application fall within the scope of claims of the present application and equivalent technologies thereof, the present application also intends to cover these modifications and variations.

CLAIMS

1. A method to be implemented by a computing device for scheduling logistic resources, wherein the computer device comprises a processor and a memory including instructions executed by the processor, the method comprising:

the processor determining a warehouse resource from a warehouse resource providing terminal and a distribution resource from a distribution resource providing terminal;

the processor integrating the warehouse resource and the distribution resource into a logistic resource, which satisfies a condition, according to a resource integration rule;

the processor releasing the logistic resource, to enable a commodity object providing terminal requesting to use the logistic resource to select the logistic resource;

the processor receiving logistic resource order information from the commodity object providing terminal, wherein the logistic resource order information comprises the logistic resource selected by the commodity object providing terminal and commodity-object identifier information; and

the processor establishing a mapping relationship between the commodity-object identifier information and the selected logistic resource.

2. The scheduling method according to claim 1, wherein the warehouse resource comprises a warehouse capacity and an inventory turnover period; and

wherein the processor's determining of a warehouse resource from a warehouse resource providing terminal comprises:

the processor determining an inventory turnover period of a warehouse unit provided by the warehouse resource providing terminal according to a historical sales quantity and a historical sales volume ratio of the warehouse unit within a time period; and

the processor using at least one obtained inventory turnover period of the warehouse unit as an inventory turnover period of the warehouse resource providing terminal.

3. The scheduling method according to claim 2, wherein the distribution resource comprises a distribution attribute; and

wherein the processor's determining of a distribution resource from a distribution resource providing terminal comprises:

the processor receiving a distribution type, distribution routes, and a distribution capacity of each distribution route released by the distribution resource providing terminal; and

the processor determining the distribution attribute of the distribution resource providing terminal according to the distribution type, the distribution routes, and the distribution capacity of each distribution route.

4. The scheduling method according to claim 3, wherein the processor's integrating of the warehouse resource and the distribution resource into a logistic resource, which satisfies a condition, according to a resource integration rule comprises:

the processor performing integration based on the resource integration rule, the warehouse capacity and the inventory turnover period of the warehouse resource, and the distribution attribute of the distribution resource, to obtain the logistic resource that satisfies the condition, wherein the condition is used to adjust the utilization of an integrated logistic resource.

5. The scheduling method according to claim 1, wherein after the processor's releasing of the logistic resource, the method further comprises:

the processor receiving commodity-object order information sent by the commodity object providing terminal, wherein the commodity-object order information comprises the commodity-object identifier information and identifier information of the commodity object providing terminal, wherein the commodity-object order information further comprises distribution address information;

the processor determining the warehouse resource for the commodity object providing terminal according to the identifier information of the commodity object providing terminal;

the processor determining, according to the warehouse resource, warehouse units in which the commodity object corresponding to the commodity-object identifier information is located;

according to the distribution address information, the processor selecting, from the determined warehouse units, a warehouse unit whose distance from the distribution address information is less than a threshold; and

the processor sending the commodity-object order information to the warehouse unit, and instructing the warehouse unit to perform dispatch and distribution according to the commodity-object order information.

6. The scheduling method according to claim 5, wherein the processor's determining, according to the warehouse resource, of the warehouse units in which the commodity object corresponding to the commodity-object identifier information is located comprises:

if a quantity of pieces of commodity-object identifier information included in the commodity-object order information is greater than one, the processor respectively determining, according to the warehouse resource, a warehouse unit in which a commodity object corresponding to each piece of commodity-object identifier information is located; and

wherein the method further comprises:

if commodity objects corresponding to the commodity-object identifier information included in the commodity-object order information are located in different warehouse units, the processor dividing the commodity-object order information into a plurality of pieces of sub-order information according to the warehouse units in which the commodity objects are located, wherein each piece of sub-order information comprises identifier information of the commodity objects that are located in the same warehouse unit and the distribution address information.

7. The scheduling method according to claim 1, wherein the method further comprises:

the processor monitoring an inventory quantity of the warehouse resource included in the logistic resource selected by the commodity object providing terminal;

the processor generating a branch-warehouse replenishment/allocation strategy according to the inventory quantity and a sales volume prediction value, wherein the sales volume prediction value is determined according to a sales volume prediction algorithm and historical sales volume data of warehouse units, and wherein the branch-warehouse replenishment/allocation strategy is configured to adjust inventory quantities of commodity objects in the warehouse units; and

the processor sending the branch-warehouse replenishment/allocation strategy to the commodity object providing terminal.

8. The scheduling method according to claim 1, wherein during the processor's releasing of the logistic resource, the method further comprises:

the processor determining cost information of different logistic resources, and displaying the cost information.

9. An apparatus for scheduling logistic resources, comprising:

a determining unit, configured to determine a warehouse resource from a warehouse resource providing terminal and a distribution resource from a distribution resource providing terminal;

an integration unit, configured to integrate the warehouse resource and the distribution resource into a logistic resource, which satisfies a condition, according to a resource integration rule;

a releasing and scheduling unit, configured to release the logistic resource, to enable to a commodity object providing terminal requesting to use the logistic resource to select the logistic resource; and

an establishing unit configured to: after the logistic resource is released, receive logistic resource order information sent by the commodity object providing terminal, wherein the logistic resource order information comprises the logistic resource selected by the commodity object providing terminal and commodity-object identifier information; and establish a mapping relationship between the commodity-object identifier information and the selected logistic resource.

10. The apparatus according to claim 9, wherein the warehouse resource comprises a warehouse capacity and an inventory turnover period; and

wherein the determining, by the determining unit, of a warehouse resource from a warehouse resource provider side comprises:

determining, by the determining unit, an inventory turnover period of a warehouse unit provided by the warehouse resource providing terminal according to a historical sales quantity and a historical sales volume ratio of the warehouse unit within a time period; and

using, by the determining unit, at least one obtained inventory turnover period of the warehouse unit as an inventory turnover period of the warehouse resource providing terminal.

11. The apparatus according to claim 10, wherein the distribution resource comprises a distribution attribute; and

wherein the determining, by the determining unit, of a distribution resource from a distribution resource providing terminal comprises:

receiving, by the determining unit, a distribution type, distribution routes, and a distribution capacity of each distribution route released by the distribution resource providing terminal; and

determining, by the determining unit, the distribution attribute of the distribution resource providing terminal according to the distribution type, the distribution routes, and the distribution capacity of each distribution route.

12. The apparatus according to claim 11, wherein the integrating, by the integrating unit, of the warehouse resource and the distribution resource into a logistic resource, which satisfies a condition, according to a resource integration rule comprises:

performing, by the integrating unit, integration based on the resource integration rule, the warehouse capacity and the inventory turnover period of the warehouse resource, and the distribution attribute of the distribution resource, to obtain the logistic resource that satisfies the condition, wherein the condition is used to adjust the utilization of an integrated logistic resource.

13. The apparatus according to claim 12, wherein the apparatus further comprises a distribution unit, and wherein the distribution unit is configured to:

after the logistic resource is released, receive commodity-object order information sent by the commodity object providing terminal, wherein the commodity-object order information comprises the commodity-object identifier information and identifier information of the commodity object providing terminal, wherein the commodity-object order information further comprises distribution address information;

determine the warehouse resource from the commodity object providing terminal according to the identifier information of the commodity object providing terminal;

determine, according to the warehouse resource, warehouse units in which a commodity object corresponding to the commodity-object identifier information is located;

according to the distribution address information, select, from the determined warehouse units, a warehouse unit whose distance from the distribution address information is less than a threshold; and

send the commodity-object order information to the warehouse unit, and instruct the warehouse unit to perform dispatch and distribution according to the commodity-object order information.

14. The apparatus according to claim 13, wherein the determining, by the distribution unit, according to the warehouse resource, of the warehouse units in which a commodity object corresponding to the commodity-object identifier information is located comprises:

if a quantity of pieces of commodity-object identifier information included in the commodity-object order information is greater than one, respectively determining, by the distribution unit, according to the warehouse resource, a warehouse unit in which a commodity object corresponding to each piece of commodity-object identifier information is located; and

wherein the apparatus further comprises a division unit, and wherein the division unit is configured to: if commodity objects corresponding to the commodity-object identifier

information included in the commodity-object order information are located in different warehouse units, divide the commodity-object order information into a plurality of pieces of sub-order information according to the warehouse units in which the commodity objects are located, wherein each piece of sub-order information comprises identifier information of the commodity objects that are located in the same warehouse unit and the distribution address information.

15. The apparatus according to claim 9, wherein the apparatus further comprises a replenishment strategy unit, and wherein the replenishment strategy unit is configured to:

monitor an inventory quantity of the warehouse resource included in the logistic resource selected by the commodity object providing terminal;

generate a branch-warehouse replenishment/allocation strategy according to the inventory quantity and a sales volume prediction value, wherein the sales volume prediction value is determined according to a sales volume prediction algorithm and historical sales volume data of warehouse units, and the branch-warehouse replenishment/allocation strategy is used to adjust inventory quantities of commodity objects in the warehouse units; and

send the branch-warehouse replenishment/allocation strategy to the commodity object providing terminal.

16. The apparatus according to claim 9, wherein the apparatus further comprises a charging unit, and wherein the charging unit is configured to: when the logistic resource is being released, determine cost information of different logistic resources, and display the cost information.

17. A system for scheduling logistic resources, the system comprising a front-end commodity-object presentation platform to be implemented by a computing device and a back-end logistics service platform to be implemented by the same or different computing device, wherein:

the front-end commodity-object presentation platform is configured to release commodity object information provided by a commodity object provider side; and

the back-end logistics service platform is configured to: determine a warehouse resource from a warehouse resource providing terminal and a distribution resource from a distribution resource providing terminal; integrate the warehouse resource and the distribution resource into a logistic resource, which satisfies a condition, according to a resource integration rule; release the logistic resource, to enable a commodity object providing terminal requesting to use the logistic resource to select the logistic resource;

after the logistic resource is released, receive logistic resource order information sent by the commodity object providing terminal, wherein the logistic resource order information comprises the logistic resource selected by the commodity object providing terminal and commodity-object identifier information; and establish a mapping relationship between the commodity-object identifier information and the selected logistic resource.