

Method And System For Shipment Support Management

Field of invention

This invention relates to a method and a system for supporting the shipment
5 of goods without a buyer, although the tracking of shipment may also covers
shipment of goods with a buyer. More particularly, this invention relates to a method
and a system for supporting and tracking the shipment of goods to various bonded
facilities. Still more particularly, this invention relates to a method and a system for
managing the flow of goods and forwarding of goods to bonded facilities and its
10 related information based on reports generated.

Background

Traditionally, manufacturers will store their products (after manufacturing) in a
warehouse near to the source of production. When an order is received from the
15 buyer, the product will be picked and loaded into containers, and shipping
arrangement shall be made to transport the products to the designated country
requested by the buyer.

Figure 1 shows an example of a manufacturer based in the Middle East
20 selling to a buyer located in Ho Chi Minh, Vietnam. The goods are stored at the
manufacturing plant. Upon receipt order placed by the buyer, the order shall be
picked, loaded into containers and shipped to the designated country, in this case
Vietnam. Typically, it takes approximately 14 days for the goods to be prepared,
loaded into container and transported to port of loading. The journey between port of
25 loading in the middle east and port of discharge in Vietnam takes approximately 25
days. It takes another 3 days to deliver the goods from the port of discharge to the
buyer, which include local customs clearance process. Hence, from the time an
order is placed by the buyer, it will take approximately 42 days for the Vietnam buyer
to receive his order.

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Such a logistics model is not competitive because of the long lead time it takes to fulfil customer orders.

Hence, it would be beneficial if a system is available that reduce the lead time
5 of transporting goods to a buyer and at the same time, reduce logistics costs.

Summary of Invention

The above and other problems are solved and an advance in the art is made by a system and method for supporting the shipment of goods without a buyer in
10 accordance with this invention. A first advantage of a system and method for supporting the shipment of goods without a buyer in accordance with this invention is that the system provides a shipper to position their products nearer to their intended buyers, and the provision of real time information that allows easy management of goods in transit and at various bonded container yards. Furthermore, by moving the
15 goods to a bonded container yard that is close to the potential buyers, the system will greatly reduce the buyer's Order-To-Cash cycle through shortening the delivery lead time. A second advantage of a system and method for supporting the shipment of goods without a buyer in accordance with this invention is that the system allows a shipper to manage the transaction of goods during in transit or at various bonded
20 container yards. A third advantage of a system and method for supporting the shipment of goods without a buyer in accordance with this invention is that the system offers time definite delivery of the goods to buyers by eliminating the uncertainty of vessel availability and vessel schedule. A fourth advantage of a system and method for supporting the shipment of goods without a buyer in
25 accordance with this invention is that the system stores the goods in container loads on bonded container yards, warehouse storage cost that would have been incurred both at port of loading or at destination would not be incurred. This system will also eliminate the damage related cost from handling in and out of the warehouse. The goods remain in its original condition from manufacturing plant up to the time when
30 the buyer opens the container. With the shorter and guaranteed delivery of the products, the buyers will benefits greatly in terms of lower requirement for working

capital on inventory and from the flexible just-in-time delivery arrangement. Yet another advantage of the system and/or method is that while the goods on board a vessel to a bonded containers yard, the goods are made available for buyers. In particular, if a buyer is identified when the goods are on board a vessel, the containers on board the vessel are assigned to the buyers. Containers with no buyers assigned will arrive at the bonded container yards as planned. These containers will stay in the bonded container yards until such time buyers are found.

In accordance with an aspect of the invention, the system and method for supporting the shipment of goods without a buyer may be performed in the following manner. The system reads a purchase order (PO) received from a shipper. The PO includes PO number, liner details, number of containers, package type, order type, issuance requirement, Port of Loading (POL) and Port of Discharge (POD). The system then monitors and receives for a booking confirmation from a liner. The booking confirmation includes vessel name, vessel number, estimated time of departure (ETD), POL, estimated time of arrival (ETA) and POD. The system then receives an actual time of departure (ATD) from the liner and determines a loading timeliness based on a difference between the ATD and the ETD in response to receiving the ATD. Subsequently, the system receives an actual time of arrival (ATA) and determines an arrival timeliness based on a difference between the ETA and the ATA, and a transit lead time based on a difference between the ATD and the ATA in response to receiving the ATA. The loading timeliness, arrival timeliness and transit lead time are stored in a carrier performance report in a register.

In accordance with an embodiment of the invention, the system may further store the PO and information in the PO, booking confirmation and information in the booking confirmation, ATD, and ATA in the register.

In accordance with an embodiment of the invention, the system may further generate a booking order and transmit the booking order to the liner. The booking order contains liner details, number of containers, POL, and POD. Further, the

system may update an inventory management report on the number of containers in-transit to the POD in response to receiving the ATD. Still further, the system may generate a first notification in response to receiving the ATD and transmit the first notification to the shipper. The first notification contains the booking confirmation,
5 ETD, POL, ETA, and POD. Subsequently, the system may generate a second notification and transmit the second notification to the logistic server. The second notification contains ETD, POL, ETA, and POD.

In accordance with an embodiment of the invention, the system determines if
10 ETA is equal to a predetermined value in response to receiving the ATD. In response to said ETA being equal to the predetermined value, the system triggers a pre-alert notification. Preferably, the predetermined value is 3 days before the ETA. In accordance with an embodiment of this embodiment, the step to trigger the pre-alert notification further includes generating and transmitting the pre-alert notification to the
15 shipper server and logistic server. The pre-alert notification contains bill of lading reference number, liner details, vessel name, vessel number, and a list of container numbers. In accordance with another embodiment of this embodiment, the step to trigger said pre-alert notification to said shipper and said logistics server includes the step of determining if buyer is found based on said order type. If a buyer is found,
20 the system transmits the pre-alert notification to a buyer.

In accordance with an embodiment of the invention, the system determines if any instruction is received from the shipper server or the liner server. If the system receives an instruction from said liner server, the system determines if the instruction
25 contains a new ETA. If so, the system updates the carrier performance report to include an information reliability index. Subsequently, the system determines if the new ETA is within a number of days from the ETA. If so, the system generates and broadcasts a change of ETA notification and updates the register with the new ETA.

30 If the system receives an instruction from said shipper server, the system determines if the instruction contains a change of order type. If so, the system

updates the order type with a new order type and a delivery order (DO) received with the change of order type. The delivery order contains DO number, quantity of goods, container number, address of the buyer, and POD.

5 In accordance with an embodiment of this invention, the system receives a collection report from the logistics server. The collection report contains condition of the containers, maintenance work undertaken and cost incurred, current charges for storage rental at a Bonded Container Yard (BCY). The system then updates the inventory management report on the containers at the BCY. Subsequently, the
10 system generates and transmits a collection notification to the shipper server, collection notification containing cost incurred for repair of containers, confirmation that the containers are stored in the BCY, detention cost for the use of the containers charged by the liner, and current charges for storage rental of the BCY.

15 In accordance with an embodiment of this invention, the system receives a transfer request from the shipper server and monitors for a confirmation notification from the logistics server. The confirmation notification contains completion of unloading of goods from the containers and storing of the goods at a bonded warehouse. The system then updates the inventory management report that goods
20 in the containers are stored at the bonded warehouse.

 In accordance with an embodiment of this invention, the system monitors for a request for a mobile device. In response to receiving a request from a mobile device, the system determines if the request is for a carrier performance report,
25 inventory management report, or daily shipment tracking report. If the request is for a carrier performance report, the system retrieves the carrier performance report from the register and transmits the carrier performance report to the mobile device. If the request for an inventory management report, the inventory management report is retrieved in the following manner. The system determines a shipper based on an
30 identity of the mobile device. Subsequently, the system extracts information of all the goods belonging to the determined shipper that are in the register and tabulate the

information to generate the inventory management report. The information includes location of the containers housing the goods. If the request for a daily shipment tracking report, the daily shipment tracking report is retrieved by determining updates or entries being entered in said register on the day itself and extracting relevant information for each of the containers that contains new updates on the day itself to generate said daily shipment tracking report.

Brief description of drawings

The above and other features and advantages of a method and a system in accordance with this invention are described in the following detailed description and are shown in the following drawings:

Figure 1 illustrating the traditional mode of fulfilling an order, where products are manufactured and stored at source and near to the manufacturing plant;

Figure 2 illustrating the propose mode of fulfilling an order in accordance with an embodiment of this invention;

Figure 3 illustrating devices and systems communicatively connected to a network to provide or perform a system and/or method in accordance with an embodiment of this invention;

Figure 4 illustrating a processing system for providing the system and/or method in accordance with an embodiment of this invention;

Figure 5 illustrating another processing system for providing the system and/or method in accordance with an embodiment of this invention.

Figure 6 illustrating a sequence diagram in accordance with an embodiment of this invention;

Figure 7 illustrating a sequence diagram of a process for domestic buyer in accordance with an embodiment of this invention;

Figure 8 illustrating a sequence diagram of a process for non-domestic buyer in accordance with an embodiment of this invention;

Figure 9 illustrating a process performed by a host server in accordance with an embodiment of this invention;

Figure 10 illustrating an outbound process performed by a host server in accordance with an embodiment of this invention;

Figure 11 illustrating a process for retrieving certain reports via a mobile device in accordance with an embodiment of this invention; and

5 Figure 12 illustrating a process for retrieving and transmitting requested reports to the mobile device in accordance with an embodiment of this invention.

Detailed description

10 This invention relates to a method and a system for supporting the shipment of goods without a buyer, although the tracking of shipment may also covers shipment of goods with a buyer. More particularly, this invention relates to a method and a system for supporting and tracking the shipment of goods to various bonded facilities. Still more particularly, this invention relates to a method and a system for managing the flow of goods and forwarding of goods to bonded facilities and its
15 related information based on reports generated.

It is envisioned that a system and/or method in accordance with embodiments of this invention may be used for supporting the shipment of goods. The system and/or method provide a shipper to position their products nearer to their intended
20 buyers, and the provision of real time information that allows easy management of goods in transit and at various bonded container yards. Further, the system and/or method allow a shipper to manage the transaction of goods during in transit or at various bonded container yards.

25 An advantage of the system and/or method is that the goods are being transported to a bonded container yard that is close to potential buyers prior to any order being received. By moving the goods to a bonded container yard that is close to the potential buyers, the system will greatly reduce the shipper's Order To Cash cycle through shortening the delivery lead time. The system also offers time definite
30 delivery of the goods to buyers by eliminating the uncertainty of vessel availability and vessel schedule.

Another advantage of the system and/or method is that by storing the goods in container loads on bonded container yards, warehouse storage cost that would have been incurred both at port of loading or at destination would not be incurred.

5 This system will also eliminate the damage related cost from handling in and out of the warehouse. The goods remain in its original condition from manufacturing plant up to the time when the buyer opens the container. With the shorter and guaranteed delivery of the products, the buyers will benefit greatly in terms of lower requirement for working capital on inventory and from the flexible just-in-time delivery
10 arrangement.

Yet another advantage of the system and/or method is that while the goods on board a vessel to a bonded containers yard, the goods are made available for buyers. In particular, if a buyer is identified when the goods are on board a vessel,
15 the containers on board the vessel are assigned to the buyers. Containers with no buyers assigned will arrive at the bonded container yards as planned. These containers will stay in the bonded container yards until such time buyers are found.

Figure 2 illustrates a flow chart 200 of a supply chain being implemented in
20 accordance with an embodiment of the invention. Flow chart 200 begins with step 210 where goods are produced at the manufacturing plant. The goods are loaded into containers based on the purchase order being generated by the shipper and delivered to the port of loading. The purchase order may include PO number, liner details, number of containers, package type, Port of Loading, Port of Discharge, order
25 type etc. The order type contains information of the consignee. For goods with no buyer, the consignee is a BCY selected by the shipper.

In step 220, the containers are loaded to a vessel and shipped to port of discharge. In step 230, the vessel arrives at the port of discharge and the containers
30 are transferred to the bonded container yard in step 240 or repack facility in step 245. This is dependent on how the goods are loaded to the container at step 210. Further

details of the containers are being forwarded to either the bonded container yard or repack facility will be described below.

During in transit, i.e. between step 220 and step 230, the shipper may assign
5 the goods to a buyer. In such circumstances, the order type will be changed accordingly and at the port of discharge, the goods will be forwarded to the buyer. Further details of the process of change of order type during in transit will be described below.

10 In step 240, the containers are stored in the Bonded Container Yard (BCY) for certain number of days. BCY allows the owner to store the containers for certain number of days without any buyers when they arrive at the port of discharge. After certain number of days, the cost of keeping products in container will become more expensive and the containers will be transferred to a bonded warehouse in step 250.
15 Before the containers are transferred to a bonded warehouse in step 250, the containers may be transferred to a repack facility if the goods in the containers need to be repacked into super sacks, jumbo sacks, or 25kg bags. Bonded warehouses are storage area where the goods in the containers can be stored. Further, the goods are tax exempted at least until the goods are being sold to a domestic buyer.
20 Another advantage of moving the goods to a bonded warehouse is that the containers can be returned to the liner before any detention cost is incurred.

For containers that require to be repacked into super sack (or jumbo bags) or 25kg bags, the containers will be transferred to a repack facility in step 245 before
25 being transferred to the bonded warehouse in step 250 for storage. This is dependent on how the goods are being packed and loaded into the container in step 210. For example, if the goods are bulk or sea bulk package, the containers are transferred to repack facility in step 245 and the goods are repacked accordingly. Before the goods are received at the repack facility, the repack facility will determine
30 whether they have the capacity to repack the containers. For example, if the repack facility is already running at full capacity, the repack facility will inform the shipper the

repack order can only be received after certain date. In such circumstances, the container will be transferred to the bonded container yard instead. Further details of acceptance of repack work will be described below.

5 In step 260, when a buyer is found, the containers are delivered to the buyer directly. The logistics for delivering the containers to the buyer will depend on the address of the buyer. If the buyer resides in the same country as the BCY, Bonded warehouse or the Port of discharge, domestic logistics will be arranged. If the buyer resides in another country, the container will be re-exported.

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 Under the flow chart 200, goods are push out to a BCY without a buyer. The choice of the BCY is dependent on the potential buyers. Unlike the model as illustrated in figure 1, goods are only delivered to the destination assigned by the buyers when a valid order is received. In this new model, also known as “Forward
15 Hubbing”, the goods are made available to the buyer prior to any order being made, and thus can be delivered to the buyer faster compared to the model illustrated in figure 1. The system and method for supporting the flow chart 200 will be described below.

20 Figure 3 illustrates system 300 including a mobile device 310 and a host server 320. The mobile device 310 as shown in figure 3 is a representation of a tablet. One skilled in the art will recognise that although mobile device 310 shown in figure 3 is a representation of a tablet, the mobile device 310 may also be a personal digital assistant (PDA), a portable computer, a mobile phone or other similar mobile
25 devices without departing from the invention. Further details of mobile device 310 in accordance with embodiments of this invention are described below.

 Host server 320 is a typical processing system such as a desktop computer, laptop computer, or other computer terminal. Host server 320 is communicatively
30 connected to a network 330 via either a wired or wireless connection to communicate with mobile device 310. Host server 320 is also communicatively connected to other

network servers managed by external parties. The external parties may include shippers, freight forwarders, shipping agents, liners, BCY operators, transport companies. Essentially, there are at least three groups, namely, shipper server 340 managed by the shippers, liner server 350 managed by freight forwarders, shipping agent or liner, and logistics server 360 managed by BCY operators or any transport agents. The host server 320 is communicatively connected to shipper server 340, liner server 350 and logistics server 350 via network 330 via either a wired or wireless connection to receive and transmit information. Although figure 3 shows one host server 320, shipper server 340, liner server 350 and logistic server 350, one skilled in the art will also recognise that more than one host server 320, shipper server 340, liner server 350 and logistic server 350 may be used without departing from the invention. Further details of host server 320, shipper server 340, liner server 350 and logistic server 350 are described with reference to figure 4 below.

Figure 4 illustrates an example of a processing system 400 that represents the processing systems in host server 320, shipper server 340, liner server 350 and logistics server 360 that execute instructions to perform the processes described below in accordance with this invention. One skilled in the art will recognize that the instructions may be stored and/or performed as hardware, firmware, or software without departing from this invention. One skilled in the art will recognize that the exact configuration of each processing system may be different and the exact configuration executing processes in accordance with this invention may vary and processing system 400 shown in figure 4 is provided by way of example only.

Processing system 400 includes Central Processing Unit (CPU) 405. CPU 405 is a processor, microprocessor, or any combination of processors and microprocessors that execute instructions to perform the processes in accordance with the present invention. CPU 405 connects to memory bus 410 and Input/ Output (I/O) bus 415. Memory bus 410 connects CPU 405 to memories 420 and 425 to transmit data and instructions between the memories and CPU 405. I/O bus 415 connects CPU 405 to peripheral devices to transmit and receive data between CPU

405 and the peripheral devices. One skilled in the art will recognize that I/O bus 415 and memory bus 410 may be combined into one bus or subdivided into many other busses and the exact configuration is left to those skilled in the art.

5 A non-volatile memory 420, such as a Read Only Memory (ROM), is connected to memory bus 410. Non-volatile memory 420 stores instructions and data needed to operate various sub-systems of processing system 400 and to boot the system at start-up. One skilled in the art will recognize that any number of types of memory may be used to perform this function.

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 A volatile memory 425, such as Random Access Memory (RAM), is also connected to memory bus 410. Volatile memory 425 stores the instructions and data needed by CPU 405 to perform software instructions for processes such as the processes for providing a system in accordance with this invention. One skilled in the art will recognize that any number of types of memory may be used to provide volatile memory and the exact type used is left as a design choice to those skilled in the art.

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 I/O device 430, keyboard 435, display 440, memory 445, network device 450 and any number of other peripheral devices connect to I/O bus 415 to exchange data with CPU 405 for use in applications being executed by CPU 405. I/O device 430 is any device that transmits and/or receives data from CPU 405. Keyboard 435 is a specific type of I/O that receives user input and transmits the input to CPU 405. Display 440 receives display data from CPU 405 and display images on a screen for a user to see. Memory 445 is a device that transmits and receives data to and from CPU 405 for storing data to a memory. Memory 445 may be a secured database for storing customer/account credentials. Network device 450 connects CPU 405 to a network for transmission of data to and from other processing systems.

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 Figure 5 illustrates an example of a processing system 500 in the mobile device 310. Processing system 500 represents the processing systems in the mobile device 310 that execute instructions to perform the processes described below in

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accordance with embodiments of this invention. One skilled in the art will recognize that the instructions may be stored and/or performed as hardware, firmware, or software without departing from this invention. Further one skilled in the art will recognise that the instructions may be installed as a software application that can be retrieved from a third party provider, such as, App Store managed by Apple Inc. or Google Play managed by Google Inc. without departing from this invention. One skilled in the art will recognize that the exact configuration of each processing system may be different and the exact configuration executing processes in accordance with this invention may vary and processing system 500 shown in figure 5 is provided by way of example only.

Processing system 500 includes a processor 510, a radio transceiver 520, an image capturing device 530, a display 540, a keypad 550, a memory 560, an audio module 570, a Near Field Communication (NFC) module 580, and an I/O device 590.

The radio transceiver 520, image capturing device 530, display 540, keypad 550, memory 560, audio module 570, NFC module 580, I/O device 590 and any number of other peripheral devices connect to processor 510 to exchange data with processor 510 for use in applications being executed by processor 510.

The radio transceiver 520 is connected to an antenna which is configured to transmit outgoing voice and data signals and receive incoming voice and data signals over a radio communication channel. The radio communication channel can be a digital radio communication channel such as a CDMA, GSM or LTE channels that employs both voice and data messages in a conventional techniques.

The image capturing device 530 is any device capable of capturing still and/or moving images such as complementary metal-oxide semiconductor (CMOS) or charge-coupled sensor (CCD) type cameras. The display 540 receives display data from processor 510 and display images on a screen for a user to see. The display 540 may be a liquid crystal display (LCD) or organic light-emitting diode (OLED)

display. The keypad 550 receives user input and transmits the input to processor 510. In some embodiments, the display 540 may be a touch sensitive surface that functions as a keypad to receive user input.

5 The memory 560 is a device that transmits and receives data to and from processor 510 for storing data to a memory. The audio module 570 may include a microphone, an earpiece and a headset. A microphone is a device that transmits audio data to processor 510. An earpiece is a device that receives audio data from the processor. The headset is a device that transmits and receives audio data to and
10 from the processor 510. The NFC module 580 is a module that allows mobile device 310 to establish radio communication with another similar device by touching them together or by bringing the devices within a close proximity.

 Other peripheral devices that may be connected to processor 510 include a
15 Bluetooth transceiver, a Wi-Fi transceiver and a Global Positioning System (GPS).

 The processor 510 is a processor, microprocessor, or any combination of processors and microprocessors that execute instructions to perform the processes in accordance with the present invention. The processor has the capability to
20 execute various application programs that are stored in the memory 560. These application programs can receive inputs from the user via the display 540 having a touch sensitive surface or directly from a keypad 550. Some application programs stored in the memory 560 that can be performed by the processor 510 are application programs developed for iPhone, Android, Windows Mobile, Blackberry or other
25 mobile platforms.

 Figures 6 to 12 illustrate embodiments of the invention for tracking and managing the movement of goods without a buyer. Figure 6 illustrates a timing diagram sequence 600 of the information being generated and transmitted among
30 host server 320, shipper server 340, liner server 350 and logistics server 360. Sequence 600 begins with 610 where a PO is generated by the Shipper and

transmitted from the shipper server 340 to host server 320. Upon receipt of the PO from the shipper server 340, host server 320 updates the register with the details provided in the PO. The details provided in the PO include PO number, liner details, number of containers, package type, order type, issuance requirement, Port of Loading, Port of Discharge, etc. The order type contains the information of the consignee. Since the goods are without any buyers, the consignee is the selected BCY. With the liner details, number of containers, Port of Loading (POL) and Port of Discharge (POD) provided in the PO, the host server 320 will generate a booking order on behalf of the shipper and transmit the booking order to the liner server 350 to book a vessel in step 620. In another embodiment, shipper may directly contact a freight forwarder, shipping agent or a liner to arrange for a vessel without going through the host server 320. Hence, the generating of the booking order by the host server in step 620 may be optional and the shipper may place a booking order directly with the freight forwarder, shipping agent or liner.

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In step 630, liner server 350 processes the order upon receipt of the booking order and transmits a booking confirmation to the host server 320. The booking confirmation includes vessel name, vessel number, Estimated Time of Departure (ETD), POL, Estimated Time of Arrival (ETA), POD, etc. Upon receiving the booking confirmation, the host server 320 stores each of the information in the booking confirmation in the register.

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In step 631, liner server 350 transmits the actual time of departure (ATD) to the host server 320 and shipper server 340 to inform on the departure of the vessel from the POL.

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In step 621, host server 320 receives the ATD from the liner server 350 and updates the register with the details provided in the booking confirmation and the ATD. The host server 320 then generates and transmits a notification to the shipper server 340 and BCY operator via logistics server 360 containing the booking confirmation and the ATD.

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During in-transit, the host server 320 may receive instructions from shipper server 340 and/or liner server 350. The instructions from the shipper server 340 may be a change of order type (i.e. change of consignee). The instructions from the liner server 350 may be a change of ETD being informed by the shipping agent or liner. If the host server 320 receives a change of order type from the shipper server 340, the goods in transit has found a buyer and the instructions will include the details for delivering the goods to a buyer's selected location. If shipping agent or liner wishes to inform the host server 320 on the change of ETD, the liner server 350 will transmit the new ETD to the host server 320. Upon receipt of the new ETD, the host server 320 will update the register and perform certain procedure to update the carrier performance report. Further details will be described below.

A few days before the ETA, the host server 320 will determine the order type and subsequently generate and broadcast a shipment arrival pre-alert to the shipper server 340 and the logistics server 360 based on the order type. The shipment arrival pre-alert notification includes Bill of Lading reference number, liner details, vessel name, vessel number, a list of container numbers, etc. One skilled in the art will recognise that multiple pre-alerts may be generated and broadcasted at different intervals prior to the ETA. Hence, the number of pre-alerts to generate and broadcast, and/or the time to generate and broadcast the pre-alert are left as a design choice for one skilled in the art.

Upon reaching the POD, the liner server 350 transmits the actual time of arrival (ATA) to the host server 320 and the shipper server 340 to inform on the arrival of the vessel at the POD in step 632. The host server 320 will update the register on the ATA.

If there is a change of order type during in transit and the goods have found a buyer (i.e. there is a change of consignee), the container will be delivered to the location as requested by the buyer for unloading. If there is no change in the order

type, the BCY operator will collect the containers from the POD and inspect the containers. The containers are inspected for the container number, seal number and external condition of the containers prior to moving the containers to the BCY. The BCY operator will then via logistics server 360 generates a report on the containers and transmits the report to the host server 320 in step 640. The report includes container number, seal number and external condition of the containers.

In step 623, the host server 320 will update the register on the condition on the containers upon receipt of the report from the logistics server 360. The host server 320 then generates a report including the report received from the logistics server 360. This report is transmitted to the shipper server 340.

In step 611, if the shipper wishes to move the goods to a bonded warehouse, the shipper server 340 will generate and transmit a transfer request to the host server 320. The host server 320 shall initiate a transfer request to logistics server 360 to inform the BCY operator to move the goods to a bonded warehouse. The reason for moving the goods out of the BCY is due to the high detention cost for using of the containers and the storage cost for storing of the containers at the designated BCY. The message will also be transmitted to the host server 320. The host server 320 will update the register on the containers to be transferred.

In step 641, the BCY operator will move the containers to the bonded warehouse for unloading upon receipt of the transfer request from the shipper server 340. For goods that are bulk packed in the container, the containers are moved to a repack facility prior to moving to the bonded warehouse. The BCY operator will then via the logistics server 360 generate a report on the details of the transfer including quantity and condition of the goods unloaded and stored in the bonded warehouse. The report will be transmitted to the host server 320.

In step 624, the host server 320 updates the register based on the report received from logistics server 360. The host server 320 then generates and transmits

a report to the shipper server 340 on the goods being unloaded and moved to the bonded warehouse.

Based on the information received from the shipper server 340, liner server 350 and logistics server 360, various reports can be generated by the host server 320. The reports are daily shipment tracking report, carrier performance report, inventory management report, etc.

Daily Shipment Tracking Report

Daily Shipment Tracking Report include information on the Actual Time of Arrival at the POD, Actual Time of Arrival at the BCY, Date of completion of customs clearance, Date of collection from BCY, Date of Empty Container Return, etc. This allows the Shipper to have full transparency on the movement of each of the containers that enters into and exit out of the BCY. An example of a daily shipment tracking report is provided in table 1 below

Daily Shipment Tracking Report	
Container 1	
Actual Time of Arrival at the POD	1 Jan 2014 @ 1300hrs
Actual Time of Arrival at the BCY	1 Jan 2014 @ 2000hrs
Date of completion of customs clearance	29 Jan 2014
Date of collection from BCY	30 Jan 2014
Date of Empty Container Return	1 Feb 2014
Container 2	
Actual Time of Arrival at the POD	1 Feb 2014 @ 1000hrs
Actual Time of Arrival at the BCY	1 Feb 2014 @ 1500hrs
Date of completion of customs clearance	
Date of collection from BCY	
Date of Empty Container Return	

Table 1

The above daily shipment tracking report is for any movement of goods on 1 February 2014 for a particular shipper. The register contains all the relevant information for each of the containers. In order to generate a daily shipment tracking report, the system determines for new updates in the register for a specified date and extracts the relevant information for each of the containers that contains new updates on the specified date to generate the daily shipment tracking report. For brevity, only two containers are illustrated in the daily shipment tracking report above. One skilled in the art will recognise that other information may be provided in the daily shipment tracking report without departing from the invention.

Inventory management report

Inventory management report includes information on the location of the goods, the quantity of each lot of goods and the length of stay of goods in the BCY and in transit. This allows the shipper to know where the goods are so that when there is a buyer, the shipper is able to allocate the goods based on the inventory management report. In other words, the shipper can better plan their inventory. An example of an inventory management report is provided in table 2 below.

Inventory Management Report		
Location	Quantity (in tonne)	Status
BCY at POD 1	50	25 not allocated 25 assigned
BCY at POD 2	75	75 not allocated
BCY at POD 3	80	80 not allocated
Bonded warehouse at POD 1	20	20 not allocated
Bonded warehouse at POD 2	25	25 assigned
Bonded warehouse at POD 3	40	20 not allocated 20 assigned
In-transit to POD 1	30	30 not allocated
In-transit to POD 2	30	30 not allocated

In-transit to POD 3	50	20 not allocated 30 assigned
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Table 2

The above inventory management report is generated for a particular shipper. As shown, the number of containers at various locations is provided. The unit of measurement for this example is tonne. However, one skilled in the art will recognise that other unit of measurement may be used without departing from the invention.

In order to generate the inventory management report, the system determines the identity of the shipper. Based on the identity of the shipper, the system extracts all the goods that are in the records. In particular, the location of the containers housing the goods is extracted and tabulated to generate the inventory management report. The system will then translate the information in terms of tonne. The system further determines the order type of for each of the goods. If the order type is an indication that the goods have not found a buyer, the system indicates in the status column that certain number of tonnes of goods are not allocated. If the order type is an indication that the goods have found a buyer, the system indicates in the status column that certain number of tonnes of goods are assigned. For brevity, only nine locations are illustrated in the inventory management report above. One skilled in the art will recognise that other information may be provided in the inventory management report without departing from the invention.

With the inventory management report, the shipper has an overview of where the goods are so that when there is a buyer, the shipper is able to allocate the goods based on the inventory management report. Further, the shipper is able to plan their inventory and push the goods to a POD according to the quantity of goods stored at or in-transit to the PODs. One skilled in the art will recognise that other factors such as projected sales, forecast demands may be required in planning the pushing of the goods without departing from the invention.

Carrier performance report

Carrier performance report includes all liners performance by location. The liners performance by location is determined based on the loading timeliness, arrival timeliness, transit lead time, and information reliability. The loading timeliness is determined by the difference between the original ETD and ATD. The arrival timeliness is determined by the difference between the original ETA and ATA. The transit lead time is determined by the difference between ATD and ATA. The information reliability is determined by the number of times of revision of the ETA received from the shipping agent or liner server 350. The value, X, determined from the loading timeliness, arrival timeliness, transit lead time and information reliability is then assigned a grade. Example of the grading criteria as follows:

Perfect: $X = 0$

Good: $1 \leq X \leq 3$ and $-3 \leq X \leq -1$

Average: $4 \leq X \leq 6$ and $-6 \leq X \leq -4$

15 Poor: $6 < X < -6$

One skilled in the art will recognise that other ranges may be used for assigning a grade without departing from the invention. An example of a carrier performance report is provided below.

Carrier Performance Report					
	Liner 1	Liner 2	Liner 3	Liner 4	Remarks
Summary					
Loading timeliness index	Good	Good	Perfect	Perfect	
Arrival timeliness index	Average	Good	Poor	Good	
Transit lead time index	Good	Good	Poor	Good	
Information reliability index	Poor	Good	Perfect	Good	
Route 1					
Loading timeliness index	Average	Perfect	Perfect	Perfect	Recommend Liners 2 and 4
Arrival timeliness index	Average	Good	Poor	Good	
Transit lead time index	Good	Good	Poor	Average	

Information reliability index	Average	Perfect	Average	Good	
Route 2					
Loading timeliness index	Good	Good	Perfect	Perfect	Recommend Liners 4 and 2
Arrival timeliness index	Average	Good	Poor	Average	
Transit lead time index	Good	Good	Poor	Good	
Information reliability index	Poor	Average	Perfect	Average	
Route 3					
Loading timeliness index	Good	Good	Perfect		Recommend Liners 2 and 1
Arrival timeliness index	Average	Good	Poor		
Transit lead time index	Good	Good	Poor		
Information reliability index	Poor	Good	Perfect		

Table 3

As shown in the carrier performance report above, 4 liners are indicated in the carrier performance report. If a particular liner has not or does not offer shipping service to a particular destination, the indexes will remain blank. See Liner 4 in the example above where the indexes for Route 3 are empty. A remark column is provided in the extreme left which recommends at least one liner based on the indexes. A summary is provided at the top of the table for a general overview on the performance for each of the liners. For brevity, only three routes are provided in the carrier performance report above. One skilled in the art will recognise that other information may be provided in the carrier performance report without departing from the invention.

Based on the carrier performance report and the inventory management report, a shipper is able to make an informed decision when preparing the PO which requires the shipper to decide on the BCY and the liner. These reports can be

requested from mobile device 310. Further details of retrieving the reports will be described below.

Figure 7 illustrates a time diagram sequence 700 of the information being generated and transmitted among host server 320, shipper server 340, and logistics server 360 when a domestic buyer is found. Sequence 700 begins with 710 where a Delivery Order (DO) is generated by the Shipper and transmitted from the shipper server 340 to host server 320. The details provided in the DO may include DO number, quantity of goods, container number, address of the buyer, POD, etc.

In step 720, upon receipt of the DO from the shipper server 340, host server 320 updates the register with the details provided in the DO. Based on the information in the DO, the host server 320 will generate a pick instruction and transmit the pick instruction to the logistics server 360 to inform the BCY operator and/or bonded warehouse. The allocation of the container to be picked for the order depends largely on the issuance requirement being requested by the shipper. These requirements can be based on First-in-first-out basis, specific lot / grade, and/or specific shipping lines.

In step 740, the BCY operator and/or bonded warehouse will proceed according to the pick instruction received by the logistics server 360. Upon completion of the pick instruction, the BCY operator and/or bonded warehouse will via the logistics server 360 generate a report on the actual pick details and transmit the report to the host server 320.

In step 750, the host server 320 receives the report from the logistics server 360. Upon receipt of the report, the host server 320 updates the register and generates a collection notification to the shipper to inform the readiness of the containers for collection. Alternatively, the host server 320 may be requested by the shipper to forward the collection notification directly to the buyer without departing from the invention. A collection notification shall be generated from the host server

320 and forwarded to the shipper server 340 and/or directly to the buyer via email, fax or other preferred means of communication requested by the shipper.

In step 760, after the buyer collects the containers from BCY operator and/or bonded warehouse, the logistics server 360 sends the information on the collection from the buyer to the host server 320. Post collection activities such as unloading and return of empty containers to the designated yard shall be monitored and updated to the host server 320 automatically by subsequent reports from the BCY operators and/or bonded warehouse via the logistics server 360 and the shipping agent or liner via the liner server 350. Alternatively, these post collection activities may be tracked by the host and manually updated to the host server 320. The updated information can be made available to the shipper either through mobile devices 310 or the shipper server 340. Alternatively, the updated information can be transmitted from host server 320 to shipper server 340.

Figure 8 illustrates a time diagram sequence 800 of the information being generated and transmitted among host server 320, shipper server 340, liner server 350 and logistic server 360 when a non-domestic buyer is found. Sequence 800 begins with 810 where a Delivery Order (DO) is generated by the Shipper and transmitted from the shipper server 340 to host server 320. The details provided in the DO may include DO number, quantity of goods, container number, address of the buyer, POD, etc.

In step 820i, upon receipt of the DO from the shipper server 340, host server 320 updates the register with the details provided in the DO. Based on the information in the DO, the host server will generate a pick instruction and transmit the pick instruction to the logistic server 360 to inform the BCY operator and/or Bonded warehouse. Concurrently, if the DO includes instructions for the host server 320 to make a booking order for vessel space, the host server 320 generates a booking order for vessel space to reserve a space with the shipping lines based on the shipping schedule being provided and transmit the booking order to the shipping

agent or liner server 350 in step 820ii. If the liner details indicated in the DO is a liner that has no server that can communicate with the host server 320, the host has to directly contact the liner via phone, email or fax for booking of vessel space to reserve a space with the shipping lines based on the shipping schedule being provided. One skilled in the art will recognise that the order of the sequence between 820i and 820ii can be changed without departing from the invention.

In step 830, liner server 350 processes the order upon receipt of the booking order and transmits a booking confirmation to the host server 320. The booking confirmation includes vessel name, vessel number, Estimated Time of Departure (ETD), POL, Estimated Time of Arrival (ETA), POD, etc. Upon receiving the booking confirmation, the host server 320 stores each of the information in the booking confirmation in the register

In step 840, the BCY operator/bonded warehouse will proceed according to the pick instruction received by the logistics server 360. Upon completion of the pick instruction, the logistic server 360 will generate a report on the actual pick details and transmit the report to the host server 320.

In step 850, the host server 320 receives the report from the BCY operator via the logistics server 360. Upon receipt of the report, the host server 320 updates the register and generates a shipping document for re-export. . A shipping document shall be generated from the Host Server 320 and forwarded to the shipper server 340 via email, fax or other preferred means of communication requested by the shipper.

Figure 9 illustrates a flow diagram of process 900 performed by the processor in host server 320 in accordance with an embodiment of this invention. Process 900 is an embodiment of an inbound process after receiving the PO from shipper server 340. Process 900 begins in step 905 by reading the PO. The details provided in the PO include PO number, liner details, number of containers, package type, order type,

issuance requirement, Port of Loading, Port of Discharge, etc. The details are updated to the register.

5 In step 910, process 900 generates a booking order on behalf of the shipper and transmits the booking order to the liner server 350 to book a vessel with the liner details, number of containers, Port of Loading (POL) and Port of Discharge (POD) provided in the PO. In another embodiment, shipper may directly contact a shipping agent or a liner to arrange for a vessel without going through the host server. Hence, the generating and transmitting of the booking order in step 910 may be optional and
10 the shipper may place a booking order directly with the shipping agent or liner via the liner server 350.

In step 915, process 900 receives booking confirmation from the liner server 350. The booking confirmation includes vessel name, vessel number, ETD, POL,
15 ETA, POD, etc. In response to receiving the booking confirmation, process 900 updates the carrier performance report in the register on the ETD, POL, ETA, and POD provided by the liner. The information in the booking confirmation is also updated to the register.

20 In step 920, the actual time of departure (ATD) is received from the liner server 350. In response, process 900 updates the carrier performance report in the register on the ATD and determines the loading timeliness index. The loading timeliness index is determined by determining the difference between the original ETD and ATD, and subsequently assigning a grade according to the determined
25 difference between the original ETD and ATD. Concurrently, process 900 also updates the inventory management report on the number of containers in-transit to the POD.

In step 923, process 900 generates a notification to the shipper server 340 on
30 the confirmation of the booking together with the details of the ETD, POL, ETA, and POD provided by the liner. Another notification will be generated for the logistics

server 360 which only contains ETD, POL, ETA, and POD provided by the liner. These notifications will be transmitted to shipper server 340 and the logistics server 360 accordingly.

5 In step 925, process 900 determines if ETA is equal to min. Min is the minimum number of days before the ETA. This is to determine the number days before the ETA. The minimum number of days is dependent on the number of days required for notifying the relevant parties regarding the impending arrival of the containers. The minimum number of days is typically at least three day before the
10 ETA. If ETA is equal to min, process 900 proceeds to step 930. If ETA is not equal to min, process 900 proceeds to step 940. Step 925 may be performed concurrently with step 923. In order words, step 925 may be triggered upon receiving the ATD without departing from the invention.

15 In step 940, process 900 determines if any instruction is received from the shipper server 320 or liner server 350. If the instruction is from the liner server 350, process 900 proceeds to step 942. If the instruction is from the shipper server 320, process 900 proceeds to step 945. If no instruction is received, process 900 returns to step 925. In brief, process 900 monitors for an input from the shipper server 320
20 or liner server 350 before the shipment arrives at the POD.

 In step 942, process 900 reads the instruction to determine if the instruction is a change of ETA. If the instruction is a change of ETA, process 900 determines if the new ETA is within Z days of the old ETA. If the new ETA is not within Z days of the
25 old ETA, process 900 generates and broadcasts a Change of ETA notification to the consignee and updates the register with the new ETA. If the new ETA is within Z days of the old ETA, process 900 will not generate any Change of ETA notification to the consignee and update the register with the new ETA. The information of the consignee is provided in the order type. In other words, if the new ETA deviates from
30 the old ETA by certain number of days, there is a material change and process 900 inform all parties on the change of ETA. The process also updates the ETA with the

new ETA so that the new ETA is being considered in step 925. If the new ETA does not deviate from the old ETA by certain number of days, then it is not required to inform all parties on the change of ETA. After step 942, process 900 returns to step 925.

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In step 945, process 900 reads the instruction to determine if the instruction is a change of order type. If the instruction is a change of order type, process 900 updates the register with the new order type of the PO and save the delivery order (DO) received. The details provided in the DO may include DO number, quantity of goods, container number, address of the buyer, POD, etc. The inventory management report will be updated to indicate that the goods are being assigned to a buyer. After step 945, process 900 returns to step 925.

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In step 930, process 900 determines the order type and generates and broadcasts a shipment arrival pre-alert to the shipper server 340 and the BCY operator via the logistics server 360 based on the order type. If the order type is an indication that a buyer is not found, the shipment arrival pre-alert notification includes Bill of Lading reference number, liner details, vessel name, vessel number, a list of container numbers, etc. This shipment pre-alert notification will be sent to the consignee which is the BCY operator. If the order type is an indication that a buyer is found, the shipment arrival pre-alert notification shall also be sent to the buyer.

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In step 950, the actual time of arrival is received from the liner server 350. In response, process 900 updates the carrier performance report on the ATA and determines the arrival timeliness index, transit lead time index, information reliability index. The arrival timeliness index is determined by the difference between the original ETA and ATA, and subsequently assigning a grade according to the determined difference between the original ETA and ATA. The transit lead time index is determined by the difference between ATD and ATA, and subsequently assigning a grade according to the determined difference between the original ATD and ATA. The information reliability index is determined by determining the number of times of

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revision of the ETA received, and subsequently assigning a grade according to the determined number of revision. The information reliability index, loading timeliness index, arrival timeliness index and transit lead time index are updated to the carrier performance report.

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In step 955, process 900 determines the order type of the PO. If the order type indicates a buyer, process 900 proceeds to step 960. If the order type indicates without a buyer, process 900 proceeds to step 970.

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In step 960, process 900 proceeds with the procedure for delivering the goods to the buyer. Typically, the buyers found during in transit are domestic buyer. The procedure is as follows. The process generates a collection notification to the shipper to inform the readiness of the containers for collection. Alternatively, the process may be requested by the shipper to forward the collection notification directly to the buyer without departing from the invention. A collection notification shall be generated from the Host Server 320 and forwarded to the shipper server 340 and/or directly to the buyer via email, fax or other preferred means of communication requested by the shipper. After the buyer collects the containers from collection location, the logistics server 360 sends the information on the collection from the buyer to the host server 320. Post collection activities such as unloading and return of empty containers to the designated yard shall be monitored and updated to the Host server 320 automatically by subsequent reports from the operator server and the shipping agent or liner server 350. Alternatively, these post collection activities may be tracked by the host and manually updated to the host server 320. The updated information can be made available to the shipper either through any mobile devices 310, and/or transmitted information form Host server 320 to Shipper server 340. The inventory management report will be updated to remove the containers of goods that are delivered to and/or collected by the buyer.

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In step 970, a collection report on the container from the logistics server 360 is received. The collection report may include condition of the container,

maintenance work undertaken and cost incurred, current charges for storage rental at the BCY. In response, process 900 updates the inventory management report on the containers at the BCY. Process 900 will also generate and transmit to shipper a collection notification including the cost incurred for repair of the containers, confirmation that the containers are stored in the BCY, detention cost for the use of the containers charged by the liner, and current charges for storage rental at the BCY.

In step 975, process 900 receives transfer request from the shipper and in turn monitor for a confirmation from BCY operator on the completion of transfer.

In step 980, process 900 receives a confirmation notification from the BCY operator on the completion of unloading of the goods from the containers and storing of the goods at the Bonded warehouse.

In step 985, process 900 updates the inventory management report that the goods are now unloaded and stored at the designated Bonded warehouse. Process 900 ends after step 985.

Figure 10 illustrates a flow diagram of process 1000 performed by the processor in host server 320 in accordance with an embodiment of this invention. Process 1000 is an embodiment of an outbound process after receiving the DO from shipper server 340. An outbound process can be initiated at any step during the inbound process. In most cases, outbound process is initiated for goods in the BCY and/or bonded warehouse. Outbound process is typically initiated for goods in-transit only if there are not enough goods in the BCY and Bonded warehouse.

Process 1000 begins in step 1005 by reading the DO. The details provided in the DO include DO number, quantity of goods, container number, address of the buyer, POD, shipping schedule, issuance requirement, order type, etc.

In step 1010, process 1000 reads the issuance requirement and determines the allocation of the containers. The allocation of the containers to be picked for the order depends largely on the issuance requirement being requested by the shipper. These requirements can be based on First-in-first-out basis, specific lot / grade, and/or specific shipping lines.

In step 1015, process 1000 generates the pick instruction based on the issuance requirement and transmits the pick instruction to the logistics server 360 to inform the BCY operator and/or bonded warehouse.

In step 1020, process 1000 determines if the buyer is domestic or non-domestic based on the order type indicated in the DO. If the buyer is domestic, process 1000 proceeds to step 1025. If the buyer is non-domestic, process 1000 proceeds to step 1030.

In step 1030, process 1000 generates a booking order for vessel space to reserve a space with the shipping lines based on the shipping schedule being provided and transmit the booking order to the shipping agent or liner. The booking order is transmitted to the liner server 360. However, if the liner details indicated in the DO is a liner that has no server that can communicate with the host server 320, process 1000 will prompt the host to contact the liner via phone, email or fax for booking of vessel space to reserve a space with the shipping lines based on the shipping schedule being provided.

In step 1035, process 1000 receives a booking confirmation from the liner server 350 and stores each of the information in the booking confirmation in the register. The booking confirmation includes vessel name, vessel number, Estimated Time of Departure (ETD), POL, Estimated Time of Arrival (ETA), POD, etc. After step 1035, process 1000 proceeds to step 1025.

In step 1025, process 1000 receives a report from the logistics server 360 on the actual pick details. Upon receipt of the report from the logistic server 360, process 1000 updates the register and generates a collection notification to the shipper to inform the readiness of the containers for collection and a shipping document in step 1040. One skilled in the art will recognise that the host server may be requested by the shipper to forward the collection notification and shipping document directly to the buyer via email, fax or other preferred means of communication requested by the shipper without departing from the invention.

10 In step 1045, process 1000 receives, from the logistic server 360, the information on the collection from the buyer to the host server 320. This information is updated to the register and subsequently transmitted to the shipper server 340.

15 In step 1050, process 1000 receives, from the logistic server 360, the post collection activities report and subsequently updates the register. The post collection activities report contains information such as unloading and return of empty containers to the designated. Process 1000 ends after step 1050.

20 Figure 11 illustrates a flow diagram of process 1100 performed by the processor in mobile device 310 in accordance with an embodiment of this invention. Process 1100 beings in step 1105 by displaying options on the display. The options available include 1) Carrier Performance Report; 2) Inventory Management Report; and 3) Daily Shipment Tracking Report.

25 In step 1110, process 1100 determines the option selected by the user and generates and transmits a message to host server 320 to retrieve the required report.

In step 1115, process 1100 receives the report from the host server 320 and displays the report on the display. Process 1100 ends after step 1115.

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Figure 12 illustrates a flow diagram of process 1200 performed by the processor in host server 320 in accordance with an embodiment of this invention. Particularly, host server 320 performs process 1200 in response to receiving a request from the mobile device 310.

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Process 1200 beings in step 1205 by receiving a message from the mobile device 310. In response to receiving the message, process 1200 determine a request in the message in step 1210. The requests may be a request for a Carrier Performance Report, Inventory Management Report, Daily Shipment Tracking Report.

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In step 1215, process 1200 retrieves the report from the register and transmits the retrieve report to the mobile device 310 in step 1220.

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The step of retrieving report in step 1215 may be performed in the following manner. The process determines which report is requested. If the request is for a Carrier Performance Report, the process retrieves the Carrier Performance Report from the register in the following manner. The carrier performance report is retrieved from the register. Based on the indexes provided for each of the liners and routes offered by the liners, the process updates the summary of the indexes for each of the liners. Concurrently, the process determines a recommended liner for each of the route based on the indexes for each of the liners related to the route. The determination of a recommended route is based on the average grade of each of the liner for the relevant route. Using the example shown in table 3 above, the recommended liners are arranged according to their performance for each of the routes and at least one of the liners is recommended. In particular, a liner that has more perfect grade will likely be recommended than one having a poor grade. In this example, two liners are recommended for each of the routes i.e. liners 2 and 1 are recommended for Route 1, liners 4 and 2 are recommended for Route 2, and liners 2 and 1 are recommended for Route 3.

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If the request is for an Inventory Management Report, the process retrieves the Inventory Management Report from the register in the following manner. The process determines the identity from the request to determine a particular shipper. Based on the identity of the shipper, the process extracts all the goods that are in the records. In particular, the location of the containers housing the goods is extracted and tabulated to generate the inventory management report. The process will then translate the information in terms of tonne. Subsequently, the process determines the order type of for each of the goods. If the order type is an indication that the goods have not found a buyer, the system indicates in the status column that certain number of tonnes of goods are not allocated. If the order type is an indication that the goods have found a buyer, the system indicates in the status column that certain number of tonnes of goods are assigned.

If the request is for a Daily Shipment Tracking Report, the process retrieves the Daily Shipment Tracking Report from the register in the following manner. The process determines for updates or entries being entered in the register on the day itself and extracts the relevant information for each of the containers that contains new updates on the day itself to generate the daily shipment tracking report. One skilled in the art will recognise that the Daily Shipment Tracking Report may be modified to retrieved shipment tracking report for a specified dated without departing from the invention.

Process 1200 ends after step 1220.

The above is a description of embodiments of a system in accordance with the invention as set forth below. It is envisioned that those skilled in the art can and will design alternative embodiments of this invention based upon this invention that infringe on this invention as set forth in the following claims.

Claims

1. A system for supporting the shipment of goods without a buyer comprising:
a processing unit;
5 a media;
instructions stored on said media for directing said processing unit to:
read a purchase order (PO) received from a shipper, said PO includes
PO number, liner details, number of containers, package type, order type,
issuance requirement, Port of Loading (POL) and Port of Discharge (POD),
10 receive a booking confirmation from a liner, said booking confirmation
includes vessel name, vessel number, estimated time of departure (ETD),
POL, estimated time of arrival (ETA) and POD,
receive an actual time of departure (ATD) from said liner,
determine a loading timeliness based on a difference between said
15 ATD and said ETD in response to receiving said ATD,
receive an actual time of arrival (ATA),
determine an arrival timeliness based on a difference between said
ETA and said ATA, and a transit lead time based on a difference between
said ATD and said ATA in response to receiving said ATA, and
20 store said loading timeliness, said arrival timeliness and said transit
lead time in a carrier performance report in a register in said media.
2. The system according to claim 1 further comprising instructions stored on said
media for directing said processing unit to: store said PO and information in said PO,
25 said booking confirmation and information in said booking confirmation, said ATD,
said ATA in said register in said media.
3. The system according to claim 1 further comprising instructions stored on said
media for directing said processing unit to:
30 generate a booking order, said booking order contains said liner details, said
number of containers, said POL, and said POD; and

transmit said booking order to said liner server.

4. The system according to claim 2 further comprising instructions stored on said media for directing said processing unit to:

5 update an inventory management report on said number of containers in-transit to said POD in response to receiving said ATD.

5. The system according to claim 4 further comprising instructions stored on said media for directing said processing unit to:

10 generate a first notification in response to receiving said ATD, said first notification containing said booking confirmation, ETD, POL, ETA, and POD; and transmit said first notification to said shipper server.

6. The system according to claim 5 further comprising instructions stored on said media for directing said processing unit to:

15 generate a second notification in response to receiving said ATD, said second notification containing said ETD, POL, ETA, and POD; and transmit said second notification to said logistics server.

20 7. The system according to claim 1 further comprising instructions stored on said media for directing said processing unit to:

determine if ETA is equal to a predetermined value in response to receiving said ATD,

25 trigger a pre-alert notification in response to said ETA being equal to said predetermined value.

8. The system according to claim 7 wherein said predetermined value is 3 days before said ETA.

9. The system according to claim 7 wherein said instruction to trigger said pre-alert notification to said shipper and said logistics server further comprises instructions stored on said media for directing said processing unit to:

generate and transmit said pre-alert notification to said shipper server and said logistic server, said pre-alert notification containing bill of lading reference number, liner details, vessel name, vessel number, and a list of container numbers.

10. The system according to claim 9 wherein said instruction to trigger said pre-alert notification to said shipper and said logistics server further comprises instructions stored on said media for directing said processing unit to:

determine if buyer is found based on said order type;
transmit said pre-alert notification to a buyer in response to said determination that buyer is found.

11. The system according to claim 7 further comprising instructions stored on said media for directing said processing unit to:

determine if any instruction is received from said shipper server or said liner server.

12. The system according to claim 11 further comprising instructions stored on said media for directing said processing unit to:

in response to receiving an instruction from said liner server, perform the following steps:

determine if said instruction contains a new ETA;

update said carrier performance report to include an information reliability index in response to said instruction containing said new ETA;

determine if said new ETA is within a number of days from said ETA;
generates and broadcast a change of ETA notification in response to said new ETA is not within said number of days from said ETA; and

updates said register with said new ETA.

13. The system according to claim 12 further comprising instructions stored on said media for directing said processing unit to:

in response to receiving an instruction from said shipper server, perform the following steps:

5 determine if said instruction contains a change of order type; and
 update said order type with a new order type and a delivery order (DO)
received with said change of order type in response to said instruction
containing said change of order type, said delivery order containing DO
number, quantity of goods, container number, address of said buyer, and
10 POD.

14. The system according to claim 12 further comprising instructions stored on said media for directing said processing unit to:

 receive a collection report from said logistics server, said collection report
15 containing condition of the containers, maintenance work undertaken and cost
incurred, current charges for storage rental at a Bonded Container Yard (BCY);
 update said inventory management report on the containers at said BCY;
 generate and transmit a collection notification to said shipper server, said
collection notification containing cost incurred for repair of said containers,
20 confirmation that the containers are stored in the BCY, detention cost for the use of
the containers charged by said liner, and current charges for storage rental of said
BCY.

15. The system according to claim 14 further comprising instructions stored on
25 said media for directing said processing unit to:

 receive a transfer request from said shipper server;
 monitor for a confirmation notification from said logistics server in response to
receiving said transfer request from said shipper server, said confirmation notification
containing completion of unloading of goods from said containers and storing of said
30 goods at a bonded warehouse;

update said inventory management report that goods in said containers are stored at said bonded warehouse.

16. The system according to claim 15 further comprising instructions stored on
5 said media for directing said processing unit to:

monitor for a request for a mobile device;

in response to receiving a request from a mobile device, performs the
following instructions store on said media for directing said processing unit to:

determine if said request is for a carrier performance report, inventory
10 management report, or daily shipment tracking report;

retrieve said carrier performance report from said register and transmit said
carrier performance report to said mobile device in response to said request for a
carrier performance report;

retrieve said inventory management report from said register and transmit
15 said inventory management report to said mobile device in response to said request
for an inventory management report; and

retrieve said daily shipment tracking report from said register and transmit
said daily shipment tracking report to said mobile device in response to said request
for a daily shipment tracking report.

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17. The system according to claim 16 wherein said instruction to retrieve said
inventory management report from said register comprises instructions stored on said
media for directing said processing unit to:

determine a shipper based on an identity of said mobile device;

25 extract information of all the goods belonging to said determined shipper that
are in the register, said information includes location of the containers housing the
goods;

tabulate said information to generate said inventory management report.

18. The system according to claim 16 wherein said instruction to retrieve said daily shipment tracking report from said register comprises instructions stored on said media for directing said processing unit to:

5 determine updates or entries being entered in said register on the day itself and extracts relevant information for each of the containers that contains new updates on the day itself to generate said daily shipment tracking report.

19. A method for supporting the shipment of goods without a buyer comprising:

10 reading a purchase order (PO) received from a shipper, said PO includes PO number, liner details, number of containers, package type, order type, issuance requirement, Port of Loading (POL) and Port of Discharge (POD),

receiving a booking confirmation from a liner server, said booking confirmation includes vessel name, vessel number, estimated time of departure (ETD), POL, estimated time of arrival (ETA) and POD,

15 receiving an actual time of departure (ATD) from said liner server,

determining a loading timeliness based on a difference between said ATD and said ETD in response to receiving said ATD,

receiving an actual time of arrival (ATA),

20 determining an arrival timeliness based on a difference between said ETA and said ATA, and a transit lead time based on a difference between said ATD and said ATA in response to receiving said ATA, and

storing said loading timeliness, said arrival timeliness and said transit lead time in a carrier performance report in a register.

25 20. The method according to claim 19 further comprising:

storing said PO and information in said PO, said booking confirmation and information in said booking confirmation, said ATD, said ATA in said register.

21. The method according to claim 19 further comprising:

30 generating a booking order, said booking order contains said liner details, said number of containers, said POL, and said POD; and

transmitting said booking order to said liner server.

22. The method according to claim 20 further comprising:
updating an inventory management report on said number of containers in-
5 transit to said POD in response to receiving said ATD.

23. The method according to claim 22 further comprising:
generating a first notification in response to receiving said ATD, said first
notification containing said booking confirmation, ETD, POL, ETA, and POD; and
10 transmitting said first notification to said shipper server.

24. The method according to claim 23 further comprising:
generating a second notification in response to receiving said ATD, said
second notification containing said ETD, POL, ETA, and POD; and
15 transmitting said second notification to a logistics server.

25. The method according to claim 19 further comprising:
determining if said ETA is equal to a predetermined value in response to
receiving said ATD,
20 triggering a pre-alert notification in response to said ETA being equal to said
predetermined value.

26. The method according to claim 25 wherein said predetermined value is 3 days
before said ETA.

25

27. The method according to claim 25 wherein said step of triggering said pre-
alert notification to said shipper server and said logistics server further comprises:
generating and transmitting said pre-alert notification to said shipper server
and said logistic server, said pre-alert notification containing bill of lading reference
30 number, liner details, vessel name, vessel number, and a list of container numbers.

28. The method according to claim 27 wherein said step of triggering said pre-alert notification to said shipper server and said logistics server further comprises:

determining if buyer is found based on said order type;

transmitting said pre-alert notification to a buyer in response to said

5 determination that buyer is found.

29. The method according to claim 25 further comprising:

determining if any instruction is received from said shipper server or said liner server.

10

30. The method according to claim 29 further comprising:

in response to receiving an instruction from said liner server, performing the following steps:

determining if said instruction contains a new ETA;

15

updating said carrier performance report to include an information reliability index in response to said instruction containing said new ETA;

determining if said new ETA is within a number of days from said ETA;

generating and broadcasting a change of ETA notification in response to said new ETA is not within said number of days from said ETA; and

20

updating said register with said new ETA.

31. The method according to claim 30 further comprising:

in response to receiving an instruction from said shipper server, performing the following steps:

25

determining if said instruction contains a change of order type; and

updating said order type with a new order type and a delivery order (DO) received with said change of order type in response to said instruction containing said change of order type, said delivery order containing DO number, quantity of goods, container number, address of said buyer, and
30 POD.

32. The method according to claim 30 further comprising:

receiving a collection report from said logistics server, said collection report containing condition of the containers, maintenance work undertaken and cost

5 incurred, current charges for storage rental at a Bonded Container Yard (BCY);

updating said inventory management report on the containers at said BCY;

generating and transmitting a collection notification to said shipper server, said collection notification containing cost incurred for repair of said containers, confirmation that the containers are stored in the BCY, detention cost for the use of
10 the containers charged by said liner, and current charges for storage rental of said BCY.

33. The method according to claim 32 further comprising:

receiving a transfer request from said shipper server;

15 monitoring for a confirmation notification from said logistics server in response to receiving said transfer request from said shipper server, said confirmation notification containing completion of unloading of goods from said containers and storing of said goods at a bonded warehouse;

updating said inventory management report that goods in said containers are
20 stored at said bonded warehouse.

34. The method according to claim 33 further comprising:

monitoring for a request for a mobile device;

in response to receiving a request from a mobile device, performing the

25 following steps:

determining if said request is for a carrier performance report, inventory management report, or daily shipment tracking report;

retrieving said carrier performance report from said register and transmit said carrier performance report to said mobile device in response to said request for a
30 carrier performance report;

retrieving said inventory management report from said register and transmit said inventory management report to said mobile device in response to said request for an inventory management report; and

retrieving said daily shipment tracking report from said register and transmit
5 said daily shipment tracking report to said mobile device in response to said request for a daily shipment tracking report.

35. The method according to claim 34 wherein said step of retrieving said inventory management report from said register comprises:

10 determining a shipper based on an identity of said mobile device;

extracting information of all the goods belonging to said determined shipper that are in the register, said information includes location of the containers housing the goods;

15 tabulating said information to generate said inventory management report.

36. The method according to claim 34 wherein said step of retrieving said daily shipment tracking report from said register comprises:

determining updates or entries being entered in said register on the day itself and extracting relevant information for each of the containers that contains new
20 updates on the day itself to generate said daily shipment tracking report.