User's Guide for Vendor Managed Inventory

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About this document

Objective

The objective of this guide is to describe vendor managed inventory in ERP LN.

Intended audience

This document is intended for persons involved in vendor managed inventory from customers' or suppliers' perspectives. The intended audience can include key users, but also implementation consultants or support specialists.

Document summary

Chapter number	Content
Chapter 1	Introducing Vendor Managed Inventory
Chapter 2	Vendor Managed Inventory scenarios
Chapter 3	Procedures
Chapter 4	To set up Vendor Managed Inventory
Chapter 5	Ownership
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How to read this document

This document was assembled from online Help topics. As a result, references to other sections in the manual are presented as shown in the following example:

For details, refer to *Introduction*. To locate the referred section, please refer to the Table of Contents or use the Index at the end of the document.

At the end of this document, a glossary is included. Terms explained in the glossary are presented as shown in the following example:

In Common Data, you can link addresses to business partners.

If you view this document online, you can click these terms to go to the term's definition in the glossary at the end of the document.

Customer Support

If you have questions regarding the Infor products described, go to Infor's Customer Support portal at www.infor365.com .

- To access Infor365, go to www.infor365.com and log in. If you do not have an Infor365 account, click **Account Request**, complete the registration form, and a login will be sent to you within 24 hours.
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Chapter 1
Introducing Vendor Managed Inventory

Vendor managed inventory

Vendor managed inventory is an inventory management method according to which the supplier usually manages the inventory of their customer or subcontractor. Sometimes, the supplier manages the supply planning as well. Alternatively, the customer manages the inventory but the supplier is responsible for supply planning. Inventory management or inventory planning can also be subcontracted to a logistics service provider (LSP).

The supplier or the customer own the inventory delivered by the supplier. Often, the ownership of the inventory changes from the supplier to the customer when the customer consumes the inventory, but other ownership transfer moments occur, which are laid down by contract.

Vendor managed inventory reduces internal costs associated with planning and procuring materials, and allows the vendor to better manage their inventory through higher visibility to the supply chain.

VMI scenarios

Though perfectly adjustable to all types of industries, Infor ERP LN 's VMI solution focuses on the supply chain of the electronics industry. In practice, you can distinguish numerous scenarios, all labeled VMI, in which the supplier's role goes beyond mere selling and delivering goods to the customer. For further information about VMI scenarios, see *Overview of VMI business scenarios (p. 2-1)* .

Parties involved

In most VMI scenarios, you can distinguish the following parties:
- Supplier
- Contract manufacturer
- Customer

The supplier supplies components to the contract manufacturer. The contract manufacturer uses the components to produce items for the customer. Therefore, the contract manufacturer plays two roles: the customer of the (component) supplier, and the supplier of the (item) customer. In ERP LN, the flow between the component supplier and the contract manufacturer and the flow between the contract manufacturer, and the end item customer is defined as a supplier - customer relation. The contract manufacturer is defined as customer of the component supplier and as supplier of the end item customer.

Some scenarios involve yet another party, the logistics service provider or LSP. The LSP performs various activities related to warehouse management.

Roles

All of these scenarios revolve around the following questions:

■ Who performs warehouse management?
■ Who performs supply planning?
■ Who is the financial owner of the goods?

In ERP LN, you must define the customer role or the supplier role for your organization. Also, various aspects of these roles are laid down in the terms and conditions of the contracts between business partners, which are defined by item, business partner, and warehouse. To set up VMI functionality, see:

■ *VMI customer role - setup (p. 4-1)*
■ *VMI supplier role - setup (p. 4-7)*

In a full VMI scenario, for example, the supplier is responsible for supply planning and warehouse management. Supply planning is based on the customer's outstanding sales orders and forecasted demand. For further information about ERP LN functionality that supports supply planning by the supplier, refer to the *User's Guide for Supply Planning by Supplier, (U9482A US)*.

The supplier is the owner of the goods until the customer consumes them. At the moment of consumption, the customer becomes the owner and payment is due. Typically, the customer uses a self-billing process to make aggregated payments at fixed intervals, such as once a month.

The supplier uses sales orders or sales schedules to sell their goods to the customer, which correspond to the customer's purchase orders or purchase schedules.

Example

The supplier knows their customer's requirements and plans to supply 1000 items X once a week. The supplier delivers item X at warehouse A, which is located at the customer's, but managed by the supplier. The customer performs a call-off for the issue of item X from warehouse A at regular intervals; the supplier then outbounds the goods and brings them to the customer's production plant.

This is the moment the customer becomes the owner of the goods and payment is due.

The VMI warehouse

In the previous example, warehouse A is the <u>VMI warehouse</u>. In the VMI scenarios that ERP LN supports, the VMI warehouse is defined in the customer's ERP system and the supplier's ERP system.

For the party responsible for warehouse management, the VMI warehouse is defined as a regular warehouse that supports full warehouse functionality. For the party not responsible for warehouse management, the VMI warehouse is defined as an <u>administrative warehouse</u>.

Note

Administrative warehouse is not one of the warehouse types that you can define in ERP LN. To define a warehouse as an administrative warehouse, in the Warehouses (whwmd2500m000) session, clear the **Inventory Management** check box.

Therefore, in the previous example, warehouse A is modeled as a regular warehouse in the supplier's ERP system. In the customer's ERP system, warehouse A is modeled as an administrative warehouse.

Because the VMI warehouse and the administrative warehouse reside in separate systems managed by different parties, they are not synchronized.

For more information, refer to *VMI warehouse settings (p. 5-9)* .

Inventory ownership

In non-VMI supply chains, a customer becomes the owner of the goods they have purchased when the customer receives them in their warehouse. In various VMI scenarios, the supplier remains the owner of the goods after delivery in the VMI warehouse until the customer uses the goods.

The moment at which the ownership of the goods changes from the supplier to the customer is laid down in the contract drawn up between the supplier and the customer. In the Terms and Conditions module of the Common Data package, you can define ownership change rules. For further information, see *Inventory ownership in Warehouse Management (p. 5-1)* and Overview of terms and conditions.

Chapter 2
Vendor Managed Inventory scenarios

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Overview of VMI business scenarios

Infor ERP LN supports numerous <u>vendor managed inventory (VMI)</u> scenarios. The following table lists the main scenarios. For each scenario, the responsibilities of the parties involved are displayed.

In each scenario, the customer is a contract manufacturer who builds end items for their end item customers. To build the end items, the contract manufacturer purchases components from the supplier. The end item customer is not included in these scenarios.

Scenario	Financial owner-ship	Warehouse man-agement	Supply planning	For more informa-tion, see:
Full VMI	Supplier	Supplier	Supplier	*Full VMI (p. 2-2)*
Planning by customer	Supplier	Supplier	Customer	*Supply planning by customer (p. 2-4)*
Planning by supplier	Customer	Customer	Supplier	*Planning by supplier (p. 2-6)*
Warehouse management by customer	Supplier	Customer	Supplier	*Warehouse management by customer (p. 2-7)*
Financial ownership by supplier	Supplier	Customer	Customer	*Consignment (p. 2-8)*

To set up VMI functionality, see:

- *VMI customer role - setup (p. 4-1)*
- *VMI supplier role - setup (p. 4-7)*

Full VMI

As a customer, the contract manufacturer retrieves components from stock that is managed and owned by the component supplier. In this scenario, the supplier manages the <u>VMI warehouse</u>, which is modeled as a regular warehouse in their ERP system. Supply planning of the components is also performed by the supplier. In the customer's ERP system, the VMI warehouse is modeled as an <u>administrative warehouse</u> in which inventory levels are maintained for financial reasons. Usually, the ownership change rule is consumption based or time based. For further information, see *Consumption-based ownership change (p. 5-2)* or *Time-based ownership change (p. 5-4)* .

Supply is based on either minimum/maximum inventory level replenishment or more detailed supply planning, in which the supplier is required to commit themselves to the scheduled supply quantities.

Step 1: Customer sends planned consumption to supplier

The customer sends their requirements to the supplier. The requirements are based on the customer's current inventory, outstanding sales orders or <u>sales schedules</u>, and forecasted demand. Usually, the customer sends the total required quantities without specifying the information on which the required quantities are based.

If the customer and the supplier have agreed on replenishment based on minimum/maximum replenishment levels, the customer also sends the required inventory levels.

Step 2: Supplier plans supply

The supplier checks whether they can fulfill the customer's requirements, and creates a supply plan based on the information from the customer, thus converting their planned supply orders to actual supply orders.

The planning is based on the customer's current inventory, the firm demand, that is, outstanding sales orders or sales schedules, and the unconfirmed forecasted demand.

The resulting supply plan consists of a range of dates and times on which particular quantities are to be delivered. Ths supply plan includes a firm part and a planned, that is, unconfirmed part. In the contract between the supplier and the customer, the dividing line between firm and planned demand is laid down.

Typically, the demand dated before a particular time fence is to be regarded as firm demand.

If the supply plan includes firm and planned demand, the customer typically uses purchase schedules. If it only includes firm demand, the customer uses purchase orders.

In some full VMI scenarios, the supplier is required to commit themselves to the quantities that they will forward to the customer. In such cases, before the supplier replenishes the customer's stock, the following takes place, which is discussed in *Supply planning by customer (p. 2-4)* :

- *Supplier commits to supply plan (p. 2-5)* .
- *Customer sends call-off (p. 2-5)* .

Step 3: Customer approves supply

This is an optional step. Berore the supplier replenishes the customer's stock, the customer approves the supply confirmed by the supplier.

Step 4: Supplier replenishes the customer's stock

The supplier replenishes the VMI warehouse as required. The supplier issues components for the customer as agreed in the contract, usually based on minimum/maximum replenishment levels.

Because the supplier manages the VMI warehouse, the receipts are registered in their ERP system. To notify the customer of the receipts, the supplier sends RosettaNet-XML message Inventory Report to the customer. This message triggers an automatic receipt in the customer's administrative warehouse. Other means of communication are also used, in which case the customer manually enters the receipt in their administrative warehouse.

Often, the customer does not need frequent detailed information on the inventory levels, because aggregated receipt information at regular intervals will be sufficient to update the administrative warehouse.

If the ownership change rule is consigned, the customer becomes the owner when the items are issued for consumption.

Step 5: Supplier issues stock for customer

The supplier issues stock for the customer as agreed in the contract, usually based on minimum/maximum replenishment levels or call-offs from the customer. The supplier and the customer register the issue in the VMI warehouse in their ERP systems.

If the ownership change rule is consigned, the customer becomes the owner when the items are issued for consumption.

Step 6: Invoicing

The supplier records the consumption in their system. This results in an open amount that the customer is to pay. Usually, invoices are created periodically, and sent.

Either the supplier or the customer initiates the billing process. If the supplier triggers the invoicing process, they send a RosettaNet Notify of Invoice message to the customer. Typically, the customer uses a self-billing process to make aggregated payments at fixed intervals, such as once a month. The supplier matches the self-billed invoices with the open amounts. The aggregation level of the invoices is laid down in the contract drawn up between the supplier and the customer.

Step 7: Payment

The supplier matches the customer's payments, based on self-billing or invoices from the supplier, with the open amounts.

Supply planning by customer

The customer receives components from stock managed and owned by the supplier. The customer performs supply planning for the components. In this scenario, the supplier manages the VMI warehouse, which is modeled as a regular warehouse in their ERP system. In the customer's ERP system, the VMI warehouse is modeled as an administrative warehouse in which inventory levels are maintained for planning reasons. Usually, the ownership change rule is time based or consumption based. For further information, see *Consumption-based ownership change (p. 5-2)* or *Time-based ownership change (p. 5-4)* .

Step 1: Customer plans supply

The customer plans the component supply required for production. The planning is based on the customer's current inventory, the firm demand, that is, outstanding sales orders or sales schedules, and the unconfirmed forecasted demand.

The resulting supply plan consists of a range of dates and times on which particular quantities are to be delivered. Ths supply plan includes a firm part and a planned, that is, unconfirmed part. In the contract between the supplier and the customer, the dividing line between firm and planned demand is laid down. Typically, the demand dated before a particular time fence is to be regarded as firm demand.

If the supply plan includes firm and planned demand, the customer typically uses purchase schedules. If it only includes firm demand, the customer uses purchase orders.

The customer will not request replenishment while having sufficient owned stock. If the owned stock partially covers the demand, the customer allocates owned stock before supplier-owned stock. Another example is if the customer has issued or consumed more components than required for production, and brings the surplus back to the VMI warehouse, while remaining the owner of these components.

The customer sends the supply plan to the supplier.

Step 2: Supplier commits to supply plan

The supplier checks whether they can fulfill the customer's requirements and commits themselves to the quantities that they can deliver according to the date/time schedule of the supply plan.

Optionally, the supplier commits themselves to the firm demand and the planned demand. For the planned demand, the supplier commits themselves to days rather than times. The supplier typically stores the committed and planned quantities as a sales schedule in their ERP system.

The supplier notifies the customer of the quantities they can commit themselves to. If the supplier cannot commit themselves to all requested quantities, the customer can look for other or additional suppliers, or alternative items.

Step 3: Customer sends call-off

In the purchase schedule, the customer enters a call-off against the committed quantities. In this scenario, replenishment of the component stock is triggered by purchase schedules or purchase orders and EDI/Rosettanet messages.

Step 4: Supplier replenishes the customer's stock

The supplier replenishes the VMI warehouse as required.

Because the supplier manages the VMI warehouse, the receipts are registered in their ERP system. To notify the customer of the receipts, the supplier sends RosettaNet-XML message Inventory Report to the customer. This message triggers an auto receipt in the customer's administrative warehouse.

Other means of communication are also used, in which case the customer manually enters the receipt in their administrative warehouse. The received quantities are inserted in the customer's purchase schedule for each supplier.

If the ownership change rule is consigned, the customer becomes the owner when the items are issued for consumption.

The remaining steps are identical to the following steps in the Full VMI scenario:

1. *Supplier issues stock for customer (p. 2-3)* .
2. *Invoicing (p. 2-4)* .

3. *Payment (p. 2-4) .*

Planning by supplier

The customer retrieves components from stock that is owned and managed by themselves. The supplier is responsible for supply planning. Therefore, the supplier determines the stock levels in the warehouse, but does not remain the financial owner of the goods.

The VMI warehouse is modeled as a regular warehouse in the customer's ERP system because they perform warehouse management. Furthermore, the customer is the owner of the goods. To enable adequate supply planning, the VMI warehouse is modeled as an administrative warehouse in the supplier's ERP system. The advantage for the supplier is that they can allocate goods to their customers at the latest moment, and enhance flexibility and reliability.

Just as in the Full VMI scenario, in this scenario supply planning is based on either minimum/maximum inventory level replenishment or more detailed supply planning, in which the supplier is required to commit themselves to the scheduled supply quantities.

Step 1: Customer sends planned consumption to supplier

Customer sends planned consumption to supplier (p. 2-2)

Step 2: Supplier plans supply

Supplier plans supply (p. 2-2)

Step 3: Supplier replenishes the customer's stock

The supplier replenishes the VMI warehouse as required.

The customer registers the receipt of the goods in the VMI warehouse.

To notify the supplier of the receipts, the customer sends RosettaNet-XML message Inventory Report/ Receipt to the supplier. This message triggers an inventory receipt to update the inventory levels in the supplier's administrative warehouses, which allows the supplier to adequately perform supply planning.

Other means of communication are also used, in which case the receipts are manually entered in the customer's administrative warehouse and the supplier's administrative warehouse. The received quantities are inserted in the customer's purchase schedule for each supplier.

Step 4: Supplier sends invoice to customer

Because the customer owns the components on receipt, the supplier invoices the customer at regular intervals; self-billing by the customer is not practicable in this scenario.

Step 5: Customer issues stock

The customer issues components for production or sales, because the customer is responsible for warehouse management for the VMI warehouse.

Step 6: Customer notifies supplier of issues

The customer notifies the supplier of the stock issues by means of RosettaNet-XML message Distribute Inventory Report. The supplier needs this information to effectively perform supply planning.

Step 7: Customer pays supplier

The customer pays the supplier.

Warehouse management by customer

The customer retrieves components from stock that is owned and planned by the supplier, but managed by themselves.

The VMI warehouse is modeled as an administrative warehouse in the supplier's ERP system because they perform supply planning and is they are owners of the goods. In the customer's ERP system, the VMI warehouse is modeled as a regular warehouse, because they are responsible for warehouse management.

Just as in the Full VMI scenario, in this scenario supply planning is based on either min/maximum inventory level replenishment or more detailed supply planning, in which the supplier is required to commit themselves to the scheduled supply quantities.

Step 1: Customer sends planned consumption to supplier

Customer sends planned consumption to supplier (p. 2-2)

Step 2: Supplier plans supply

Supplier plans supply (p. 2-2)

Step 3: Supplier replenishes the customer's stock

The supplier replenishes the <u>VMI warehouse</u> as required.

The customer registers the receipt of the goods in the VMI warehouse.

Step 4: Customer sends inventory update message to supplier

To notify the supplier of the receipts, the customer sends RosettaNet-XML message Inventory Report/Receipt to the supplier. This message triggers an inventory receipt to update the inventory levels in the supplier's <u>administrative warehouses</u>, which allows the supplier to adequately perform supply planning.

Other means of communication are also used, in which case the receipts are manually entered in the customer's and the supplier's administrative warehouses. The received quantities are inserted in the customer's purchase schedule for each supplier.

Step 5: Customer issues stock

The customer issues components for production or sales, because the customer is responsible for warehouse management for the VMI warehouse.

Step 6: Customer notifies supplier of issues

The customer notifies the supplier of the stock issues by means of RosettaNet-XML message Distribute Inventory Report. The supplier needs this information to effectively perform supply planning.

Step 7: Customer pays supplier

The customer pays the supplier.

Consignment

The customer retrieves components from stock that is owned by the supplier, but managed and planned by themselves.

The <u>VMI warehouse</u> is modeled as an <u>administrative warehouse</u> in the supplier's ERP system because they are the owners of the goods. In the customer's ERP system, the VMI warehouse is modeled as a regular warehouse, because they are responsible for warehouse management.

Step 1: Customer plans supply

The customer plans the component supply required for production. The planning is based on the customer's current inventory, the firm demand, that is, outstanding sales orders or sales schedules, and the unconfirmed forecasted demand.

The resulting supply plan consists of a range of dates and times on which particular quantities are to be delivered. Ths supply plan includes a firm part and a planned, that is, unconfirmed part. In the contract between the supplier and the customer, the dividing line between firm and planned demand is laid down. Typically, the demand dated before a particular time fence is to be regarded as firm demand.

If the supply plan includes firm and planned demand, the customer typically uses purchase schedules. If it only includes firm demand, the customer uses purchase orders.

The customer will not request replenishment while having sufficient owned stock. If the owned stock partially covers the demand, the customer allocates owned stock before supplier-owned stock.

The customer sends the supply plan to the supplier.

Step 2: Supplier commits to supply plan

The supplier checks whether they can fulfill the customer's requirements and commits themselves to the quantities that they can deliver according to the date/time schedule of the supply plan.

Optionally, the supplier commits themselves to the firm demand and the planned demand. For the planned demand, the supplier commits themselves to days rather than times. The supplier typically stores the committed and planned quantities as a sales schedule in their ERP system.

The supplier notifies the customer of the quantities they can commit themselves to. If the supplier cannot commit themselves to all requested quantities, the customer can look for other or additional suppliers, or alternative items.

Step 3: Customer sends call-off

In the purchase schedule, the customer enters a call-off against the committed quantities. In this scenario, replenishment of the component stock is triggered by purchase schedules or purchase orders and EDI/Rosettanet messages.

Step 4: Supplier replenishes the customer's stock

The supplier replenishes the VMI warehouse as required.

The customer registers the receipt of the goods in the VMI warehouse.

To notify the supplier of the receipts, the customer sends RosettaNet-XML message Inventory Report/ Receipt to the supplier. This message triggers an inventory receipt to update the inventory levels in the supplier's <u>administrative warehouses</u>.

Step 5: Supplier sends invoice to customer

Because the supplier owns the components on receipt, the supplier invoices the customer at regular intervals; self-billing by the customer is another option in this scenario.

Step 6: Customer issues stock

The customer issues components for production or sales, because the customer is responsible for warehouse management for the VMI warehouse.

Step 7: Customer pays supplier

The customer pays the supplier.

Chapter 3
Procedures

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Full VMI - procedure

The following procedure outlines the steps that the supplier and the customer take to communicate demand, plan supply, supply stock, consume stock, send invoice, and pay for the goods. These steps comprise the full VMI scenario, but some of these steps also apply to various other scenarios, and some steps can be carried out by the customer instead of the supplier or vice versa, which is indicated where applicable.

For some of these steps, you can use other sessions or options to use different functionality, but the following procedure is recommended for most situations, which is described in:

- *VMI customer role - setup (p. 4-1)*
- *VMI supplier role - setup (p. 4-7)*

Step 1: Customer sends planned consumption to supplier

1. In the Sales Orders (tdsls4100m000) session, the customer generates a sales order for the items that they will sell to *their* customer.

2. In the Generate Order Planning (cprrp1210m000) session, the customer performs an MRP run to make an estimate of the item or component quantities that they must purchase from the supplier to fulfil the order generated in the previous step.

3. In the Approve Forecast to Supplier (cpvmi0202m000) session, the customer approves the forecast data before sending this information to the supplier.

4. In the Forecast to Supplier (cpvmi0102m000) session, the customer sends the forecast data to the supplier.

This step can also apply to other scenarios in which the supplier performs supply planning, such as:

- *Warehouse management by customer (p. 2-7)*
- *Planning by supplier (p. 2-6)*

Step 2: Supplier plans supply

1. In the Accept Forecast from Customer (cpvmi0206m000) session, the supplier accepts the <u>forecast</u> data that they receive from the customer. For this purpose, ensure that the cluster is inserted in the cluster segment (the outer left section) of the plan item fields.

2. In the Forecast Revisions from Customer (cpvmi0506m000) session, the supplier checks and approves any <u>forecast</u> revisions that they receive from the customer.

3. In the Generate Planned Supply based on Forecast (cpvmi1211m000) session, the supplier generates <u>planned distribution orders</u> based on the approved forecast. If no planned orders are generated, rerun this session and select the **Send Signals to Report** check box.

4. In the Generate Confirmed Supply (cpvmi1210m000) session, the supplier generates confirmed supply based on the planned orders generated in the Generate Planned Supply based on Forecast (cpvmi1211m000) session.

   This step is required if, in the Terms and Conditions Line (tctrm1620m000) session, on the **Planning** tab, the **Confirm Supply** check box is selected for the relevant <u>terms and conditions agreement</u>.

5. In the Planned Orders (cprrp1100m000) session, the supplier transfers the planned distribution orders to warehouse transfer orders using the **Transfer Planned Orders** option on the **Specific** menu. Note that the supplier does not execute the transfer orders until the supplier has approved and sent the confirmed supply to the customer and the customer has approved the confirmed supply from the supplier.

6. The supplier approves the confirmed supply using one of the following methods:

   - In the Approve Confirmed Supply to Customer (cpvmi0208m000) session, approve the confirmed supply for a range of items. Specify which checks the session must apply before approving the confirmed supply.

   - In the Confirmed Supply to Customer (cpvmi0108m000) session, click **Set Approved for Sending** to approve the confirmed supply for one particular item.

This step can also apply to other scenarios in which the supplier performs supply planning, such as:

- *Warehouse management by customer (p. 2-7)*
- *Planning by supplier (p. 2-6)*

For further details about supply planning by the supplier, refer to To perform the supply planning for your customer - Procedure in the *User's Guide for Supply Planning by Supplier, (U9482A US)*.

Step 3: Customer approves supply

1. In the Accept Confirmed Supply from Supplier (cpvmi0205m000) session, the customer approves the confirmed supply from the supplier.

2. In the Item Supplier Plan (cpvmi0530m000) session, the customer views the item-business-partner plan created for the current item and supplier.

Step 4: Supplier replenishes the customer's stock

1. After the customer approves the confirmed supply from the supplier (see previous step), in the Warehousing Order (whinh2100m100) session, the supplier performs the required outbound and inbound steps to execute the transfer order from the supplier's warehouse to the VMI warehouse, which is a regular warehouse in the supplier's system. Refer to the online Help of the Warehouse Management package for details.

2. In the Initiate Automatic Receipts (whinh3223m000) session, the *customer* initiates automatic receipts to update the VMI warehouse, which is set up as an administrative warehouse in their ERP system. For more information, refer to *To update the administrative warehouse (p. 6-1)* .

Step 5: Supplier issues stock for customer

The supplier issues stock for the customer, usually based on call-offs from the customer. The customer will consume the issued stock for sale or production.

The supplier and the customer register the issue in the VMI warehouse in their ERP systems.

In the customer's ERP system, a payable receipt and a consumption record are created. The consumption record is stored in the Consigned Consumptions (whwmd2551m000) session and linked to the purchase order and the receipt for which the consumed goods were originally received in the warehouse. For more information, refer to *Consumption records (p. 5-3)* .

In the supplier's ERP system, the supplier creates a sales order with payment type **Pay on Receipt** after they issue the goods for consumption. This sales order will initiate the invoicing process (see the following step).

This step can also apply to other scenarios in which the supplier performs inventory management, such as *Supply planning by customer (p. 2-4)* .

Step 6: Invoicing

Either the supplier or the customer initiates the billing process. If the supplier triggers the invoicing:

1. For the sales order with payment type **Pay on Receipt**, the supplier creates invoice lines in the Sales Order Invoice Lines (tdsls4106m100) session.

2. In the Release Sales Orders/Schedules to Invoicing (tdsls4247m000) session, the supplier releases the invoice lines to Central Invoicing.

3. In the Billing Requests (cisli2100m000) session, the supplier creates a billing request.

4. In the Compose/Print/Post Invoices (cisli2200m000) session, the supplier creates the invoice. As a result, ERP LN processes the originating sales orders.

Alternatively, the customer employs a self-billing process to make aggregated payments at fixed intervals, such as once a month. For more information, refer to Self billing or the online Help of the Financials package.

Invoicing initiated by the customer or the supplier applies to all VMI scenarios.

Step 7: Payment

The supplier matches the customer's payments, based on self-billing or invoices from the supplier, with the open amounts. For more information, refer to Payment Methods or the online Help of the Financials package.

Warehouse management by customer - procedure

The steps involved in the *Warehouse management by customer (p. 2-7)* scenario are identical to those of the *Full VMI (p. 2-2)* scenario, except for Step 5, Supplier issues stock for customer, and Step 6, Invoicing. These steps are outlined below. For the other steps of this scenario, refer to *Full VMI - procedure (p. 3-1)* .

Step 5. Supplier issues stock for customer

1. The supplier issues stock for the customer, usually based on call-offs from the customer. The customer will consume the issued stock for sale or production.

2. The supplier and the customer register the issue in the VMI warehouse in their ERP systems.

   In the customer's ERP system, a payable receipt and a consumption record are created. The consumption record is stored in the Consigned Consumptions (whwmd2551m000) session and linked to the purchase order and the receipt for which the consumed goods were originally received in the warehouse. For more information, refer to *Consumption records (p. 5-3)* .

   In the supplier's ERP system, a consumption record is created in the Inventory Consumptions (tdsls4140m000) session, either manually or

electronically after a call-off message from the customer. This consumption record handles the invoicing in the Sales Invoicing module for the supplier . ERP LN links the consumption record to the originating sales order to the customer.

This step can also apply to other scenarios in which the supplier performs inventory management, such as *Supply planning by customer (p. 2-4)* .

Step 6. Invoicing

1. In the Process Inventory Consumptions (tdsls4290m000) session, the supplier processes the consumption record to create an invoice line linked to the originating sales order line. The invoicing lines are shown in the Sales Order Invoice Lines (tdsls4106m100) session.

   If during the process no originating sales order line is found that can be linked to the consumption record, ERP LN generates a sales order of type **Consignment Invoicing** to create invoicing lines.

2. Either the supplier or the customer initiates the billing process. If the supplier triggers the invoicing:

   a. In the Billing Requests (cisli2100m000) session, the supplier creates a billing request.

   b. In the Compose/Print/Post Invoices (cisli2200m000) session, the supplier creates the invoice. As a result, ERP LN processes the originating sales orders.

3. Alternatively, the customer employs a self-billing process to make aggregated payments at fixed intervals, such as once a month. For more information, refer to Self billing or the online Help of the Financials package.

Invoicing initiated by the customer or the supplier applies to all VMI scenarios.

Chapter 4
To set up Vendor Managed Inventory

4

VMI customer role - setup

To model the VMI scenarios relevant to your organization requires various parameter settings. If your organization buys goods on a VMI basis, you must set up the customer role. If your organization sells goods on a VMI basis, you must set up the supplier role.

Within each role, to model the VMI scenario relevant to your organization, you can specify specific settings, the most important of which are described below.

Organizations that use warehouses of type **Consignment (Not Owned)** or **Consignment (Owned)** can continue to use such warehouses, but then the VMI functionality according to the following setup is unavailable.

To set up the customer role:

Step 1: Implemented software components

In the **Modules** tab of the Implemented Software Components (tccom0500m000) details session:

- Select the **Terms and Conditions** check box.
- Clear the **Ownership Internal** check box.
- Clear the **Use Confirmation (Purchase)**.check box.
- Select the **Ownership External** and the **VMI (customer side)** check boxes.

These settings are relevant to all VMI scenarios. For more information, refer to *Overview of VMI business scenarios (p. 2-1)* .

Step 2: Clusters

In the Clusters (tcemm1135m000) session, clear the **External** check box and leave the **Sold-to Business Partner** and **Ship-to Business Partner** fields empty for all scenarios, because these settings relate to the supplier role.

Step 3: Warehouses

In the Warehouses (whwmd2500m000) session, you set up the <u>VMI warehouse</u>. In the *Supply planning by customer (p. 2-4)* and the *Full VMI (p. 2-2)* scenarios, this is modeled as an <u>administrative warehouse</u>. Consider the following fields and check boxes:

- **Include in Enterprise Planning**
  It is recommended that you select this check box for scenarios in which the customer performs supply planning for the VMI warehouse. It is recommended that you clear this check box if the customer does not perform supply planning.

  If the VMI warehouse is also used for storage and inventory handling of goods belonging to business partners outside the current VMI relationship such as other suppliers or the customer's own customers, you can clear this check box.

- **Inventory Management**
  Select this check box for the scenarios in which the customer performs inventory management:
  - *Planning by supplier (p. 2-6)*
  - *Warehouse management by customer (p. 2-7)*
  - Consignment

  For more information, refer to *Overview of VMI business scenarios (p. 2-1)*
  .

- **Business Partner**
  If you cleared the **Inventory Management** check box, in this field, select the business partner who is to carry out inventory management. This applies to the following scenarios:
  - *Full VMI (p. 2-2)*
  - *Supply planning by customer (p. 2-4)*

- **External Site**
  In this field, select **No** for all scenarios, because being the customer, the VMI warehouse belongs to your company.

- Also, leave the corresponding business partner fields empty:
  - **Buy-from**
  - **Ship-from**
  - **Sold-to**
  - **Ship-to**

Step 4: Item

To set up items:

- In the **Item Data I** tab of the Items - General (tcibd0501m000) details session, select **Purchased** in the **Item Type** field for all scenarios.

- In the **Settings** tab of the Items - Ordering (tcibd2500m000) details session, select **Planned** in the **Order System** field for all scenarios.
- In the **General** tab of the Items - Planning (cprpd1100m000) session, consider the following fields:
  - **Default Supply Source**
    Select **Production/Purchase** for all scenarios. Therefore, the value of the **Actual Source** field changes to **Purchase**.
  - **Default Warehouse**
    For all scenarios, enter the VMI warehouse specified in the previous step.
  - **Maintain Master Plan**
    It is not recommended to select this check box for VMI scenarios. For other scenarios, the organization's planning requirements determine whether to choose master planning. For more information, refer to the online Help of the Enterprise Planning package.
- In the **Registration Level** field in the **General** tab of the Item - Warehousing (whwmd4100s000) session, you can specify whether and how the ownership of the inventory must be registered.

  For scenarios in which the supplier or, for example, an LSP performs warehouse management, and therefore the VMI warehouse is an <u>administrative warehouse</u> in the customer's ERP system, ownership registration on warehouse level should be enough.

  Otherwise, the required ownership registration level depends on whether the VMI warehouse contains owned inventory and not-owned inventory, or inventory owned by various business partners. The scenarios in which the customer performs warehouse management are:
  - *Planning by supplier (p. 2-6)*
  - *Warehouse management by customer (p. 2-7)*
  - Consignment
- In the **Registration Level** field in the Warehouse - Item (whwmd2510m000) details session, you can specify whether and how the ownership of the inventory must be registered for a warehouse - item combination. See the previous list item for information about the ownership registration levels relevant to each scenario.

Step 5: Terms and conditions

- In the Terms and Conditions (tctrm1600m000) session, consider the following fields, the values of which are relevant to all scenarios:
  - In the **Terms and Conditions Type** field, select **Purchase**.
  - For search level 1, the recommended attribute for the **Search Attribute 1** field is **Item Group**. For the **Search Attribute 2** field, the recommended attribute is **Warehouse**. In this way, you set up terms and conditions that apply to all items of the item group. Other attributes

you can use to group items for a particular set of terms and conditions are **Product Type** or **Product Class**.

For search level 2, to set up terms and conditions for specific items, the recommended attribute for the **Search Attribute 1** field is **Item**, and for the **Search Attribute 2** field the recommended attribute is **Warehouse**. In the **Priority** field, set a higher priority than the priority set for search level 1.

For search level 3, to set up general terms and conditions for items not covered by the terms and conditions that match search levels 1 and 2, do not define any attributes.

To select the following check boxes is recommended, but not required, for all scenarios:
- **Planning**
- **Order**
- **Logistics**
- **Invoicing**
- **Allocation and Hard Pegging**

For example, setting up planning terms and conditions might not be necessary for scenario *Supply planning by customer (p. 2-4)* . Note that the availability of these check boxes depends on the search attributes selected for the search levels described in the previous list item.

- In the **Payment** field of the Order Terms and Conditions (tctrm1130m000) session, select **Pay on Receipt** for scenario *Planning by supplier (p. 2-6)* . Otherwise, you are recommended to select **Pay on Use**.

- In the Planning Terms and Conditions (tctrm1135m000) session, consider the following fields:

General tab

- **Supply Planning by Supplier**
  For the following scenarios, it is recommended that you clear this check box, because the customer performs supply planning:
  - Consignment
  - *Supply planning by customer (p. 2-4)*

  Otherwise, select this check box.

- **Send Forecast to Supplier**
  For the following scenarios, it is recommended that you clear this check box, because the customer performs supply planning and therefore the supplier does not need a forecast:
  - Consignment
  - *Supply planning by customer (p. 2-4)*

  Otherwise, select this check box.

- **Aggregation Level**
  For scenario *Full VMI (p. 2-2)* , preferably select **Detail**. For the
  following scenarios, the value is **Not Applicable**:
  - Consignment
  - *Supply planning by customer (p. 2-4)*
  For the *Planning by supplier (p. 2-6)* scenario, set the aggregation
  level as required in your business environment.

- **Forecast Horizon**
  For scenario *Full VMI (p. 2-2)* , set the widest possible horizon. For
  the following scenarios, this field is unavailable because the **Send
  Forecast to Supplier** check box is cleared:
  - Consignment
  - *Supply planning by customer (p. 2-4)*
  For the *Planning by supplier (p. 2-6)* scenario, set the forecast horizon
  as required in your business environment.

Confirmed Forecast tab

- **Use Confirmed Forecast**
  For the following scenarios, preferably clear this check box, because
  the customer performs supply planning and therefore the supplier does
  not use forecasts:
  - Consignment
  - *Supply planning by customer (p. 2-4)*
  Otherwise, select this check box.

- **Specify Confirmed Forecast by**
  For scenario *Full VMI (p. 2-2)* , the preferred value is **Message**. For
  the following scenarios, this field is unavailable because the **Use
  Confirmed Forecast** check box is cleared:
  - Consignment
  - *Supply planning by customer (p. 2-4)*
  For the *Planning by supplier (p. 2-6)* scenario, select the value
  required in your business environment.

- **Base Confirmed Forecast on**
  For scenario *Full VMI (p. 2-2)* , the preferred value is **All Forecast**.
  For the following scenarios, this field is unavailable because the **Use
  Confirmed Forecast** check box is cleared:
  - Consignment
  - *Supply planning by customer (p. 2-4)*
  For the *Planning by supplier (p. 2-6)* scenario, select the value
  required in your business environment.

Confirmed Supply tab

- **Use Confirmed Supply**

  For scenario *Full VMI (p. 2-2)* , select this check box. For the following scenarios, this check box is unavailable because the **Send Forecast to Supplier** check box is cleared:
  - Consignment
  - *Supply planning by customer (p. 2-4)*

  For the *Planning by supplier (p. 2-6)* scenario, select or clear this check box as required in your business environment.

- **Confirm Supply Time Fence**

  For scenario *Full VMI (p. 2-2)* , set the widest possible time fence. For the following scenarios, this field is unavailable because the **Send Forecast to Supplier** check box is cleared:
  - Consignment
  - *Supply planning by customer (p. 2-4)*

  For the *Planning by supplier (p. 2-6)* scenario, set the time fence as required in your business environment.

Planning tab

- **Replenishment Based On**

  For scenario *Full VMI (p. 2-2)* , select **Confirmed Supply**. For the following scenarios, this field is unavailable because the **Send Forecast to Supplier** check box is cleared:
  - Consignment
  - *Supply planning by customer (p. 2-4)*

  For the *Planning by supplier (p. 2-6)* scenario, select the value required in your business environment.

- In the Logistics Terms and Conditions (tctrm1140m000) session, various fields allow you to specify how ERP LN updates the <u>administrative warehouse</u> with the inventory levels of the "real" VMI warehouse. This applies to the following scenarios:
  - *Full VMI (p. 2-2)*
  - *Supply planning by customer (p. 2-4)*

  Consider the following fields:
  - **Method of Inventory Update**
  - **Receiving Process**
  - **Delivery Moments**

  For more information, refer to Updating the administrative warehouse.

- In the Invoicing Terms and Conditions (tctrm1145m000) session, various fields allow you to specify how to perform invoicing. You can fill these fields

as required in your business environment. Note that the **Receive Invoice** field only applies to the supplier role.

Step 6: Purchase contracts

Terms and conditions are linked to purchase contracts. When you create a purchase contract, in the **Buy-from Business Partner** field of the Purchase Contracts (tdpur3100m000) session, insert the appropriate supplier. In the **Terms and Conditions ID** field, you can link the appropriate terms and conditions to the purchase contract.

VMI supplier role - setup

To model the VMI scenarios relevant to your organization requires various parameter settings. If your organization buys goods on a VMI basis, you must set up the customer role. If your organization sells goods on a VMI basis, you must set up the supplier role.

Within each role, to model the VMI scenario relevant to your organization, you can specify specific settings, the most important of which are described below.

Organizations that use warehouses of type **Consignment (Not Owned)** or **Consignment (Owned)** can continue to use such warehouses, but then the VMI functionality according to the following setup is unavailable.

To set up the supplier role:

Step 1: Implemented software components

In the **Modules** tab of the Implemented Software Components (tccom0500m000) details session:

■ Select the **Terms and Conditions** check box.

■ If the Enterprise Planning package must allocate inventory based on forecasted demand from the customer, but replenishment is based on call-off, select the **Allocation and Hard Pegging** check box.

■ Clear the **Ownership Internal** check box.

■ Select the **Ownership External** check box if the ownership of the goods is consigned.

■ Select the **VMI (supplier side)** check box.

■ Preferably clear the **Use Confirmation (Sales)** check box, unless the supplier performs inventory planning and the items involved are crucial to the customer's production process, as can be the case in scenario *Planning by supplier (p. 2-6)* .

Step 2: Clusters

In the Clusters (tcemm1135m000) session, consider the following fields:

- **External**
  Select this check box if the supplier performs supply planning such as in the *Full VMI (p. 2-2)* , *Planning by supplier (p. 2-6)* , and the *Warehouse management by customer (p. 2-7)* scenarios. Otherwise, it is recommended that you clear this check box.

- **Sold-to Business Partner**
  If the cluster is external, that is, if the **External** check box is selected, in this field you must insert the customer.

- **Ship-to Business Partner**
  Insert the appropriate ship-to business partner if the customer has various ship-to business partners.

Step 3: Warehouses

In the Warehouses (whwmd2500m000) session, you set up the <u>VMI warehouse</u>. In the Consignment, *Warehouse management by customer (p. 2-7)* , and *Planning by supplier (p. 2-6)* scenarios, this is modeled as an <u>administrative warehouse</u>. Consider the following fields and check boxes:

- **Distribution Cluster**
  If the supplier performs supply planning, it is recommended that you insert the external cluster defined in the Clusters (tcemm1135m000) session. This typically applies to the *Full VMI (p. 2-2)* , *Planning by supplier (p. 2-6)* , and the *Warehouse management by customer (p. 2-7)* scenarios.

- **Include in Enterprise Planning**
  It is recommended that you select this check box for scenarios in which the supplier performs supply planning for the VMI warehouse.

- **Inventory Management**
  It is recommended that you select this check box for scenarios in which the supplier performs inventory management:
  - *Full VMI (p. 2-2)*
  - *Supply planning by customer (p. 2-4)*

  For more information, refer to *Overview of VMI business scenarios (p. 2-1)* .

- **Business Partner**
  If you cleared the **Inventory Management** check box, in this field, select the business partner who is to carry out inventory management, the customer. This applies to the following scenarios:
  - *Planning by supplier (p. 2-6)*
  - *Warehouse management by customer (p. 2-7)*
  - Consignment

- **External Site**
  In this field, it is recommended that you select **Yes**, because being the supplier, the VMI warehouse belongs to the customer.
- **Business Partner**
  If you selected **Yes** in the **External Site** field, in this field (located directly below the **External Site** field), enter the business partner who represents the customer.
- **Buy-from and Ship-from**
  Leave these fields (located in the **External Site** group box) empty.
- **Sold-to**
  If you selected **Yes** in the **External Site** field, in this field (located in the **External Site** group box), enter the business partner who represents the customer.
- **Ship-to**
  If you selected **Yes** in the **External Site** field, and the customer has various ship-to business partners for whom the supplier performs supply planning, in this field insert the appropriate ship-to business partner.

Step 4: Item

To set up items:

- In the **Settings** tab of the Items - Ordering (tcibd2500m000) details session, it is recommended that you select **Planned** in the **Order System** field for scenarios in which the supplier performs supply planning:
  - *Full VMI (p. 2-2)*
  - *Planning by supplier (p. 2-6)*
  - *Warehouse management by customer (p. 2-7)*
- In the **General** tab of the Items - Planning (cprpd1100m000) session, consider the following fields:
  - **Plan Item**
    In the cluster segment (outer left) of this field, select the external cluster defined in *Step 2. Clusters (p. 4-8)* for scenarios in which the supplier performs supply planning.
  - **Default Supply Source**
    It is recommended that you select **Distribution** for scenarios in which the supplier performs supply planning. For direct deliveries, value **Production/Purchase** is required.
  - **Default Warehouse**
    For all scenarios, enter the VMI warehouse specified in *Step 3. Warehouses (p. 4-8)* .
  - **Maintain Master Plan**
    It is not required to selecting this check box for VMI scenarios. For other scenarios, the organization's planning requirements determine whether

to choose master planning. For more information, refer to the online Help of the Enterprise Planning package.

- In the **Registration Level** field in the **General** tab of the Item - Warehousing (whwmd4100s000) session, you can specify whether and how the ownership of the inventory must be registered.

  For scenarios in which the customer performs warehouse management, and therefore the VMI warehouse is an <u>administrative warehouse</u> in the supplier's ERP system, ownership registration on warehouse level should be enough.

  Otherwise, the required ownership registration level depends on whether the VMI warehouse contains owned inventory and not-owned inventory, or inventory owned by various business partners. The scenarios in which the customer performs warehouse management are:
  - *Planning by supplier (p. 2-6)*
  - *Warehouse management by customer (p. 2-7)*
  - Consignment

- In the **Registration Level** field in the Warehouse - Item (whwmd2510m000) details session, you can specify whether and how the ownership of the inventory must be registered for a warehouse - item combination. See the previous list item for information about the ownership registration levels relevant to each scenario.

Step 5: Terms and conditions

- In the Terms and Conditions (tctrm1600m000) session, consider the following fields, the values of which are relevant to all scenarios:
  - In the **Terms and Conditions Type** field, select **Sales**.
  - For search level 1, the recommended attribute for the **Search Attribute 1** field is **Item Group**, and for the **Search Attribute 2** field the recommended attribute is **Ship-to BP**. In this way, you set up terms and conditions that apply to all items of the item group. Other attributes you can use to group items for a particular set of terms and conditions are **Product Type** or **Product Class**.

    For search level 2, to set up terms and conditions for specific items, the recommended attribute for the **Search Attribute 1** field is **Item**. For the **Search Attribute 2** field the recommended attribute is **Ship-to BP**. In the **Priority** field, set a higher priority than the priority set for search level 1.

    For search level 3, to set up general terms and conditions for items not covered by the terms and conditions that match search levels 1 and 2, do not define any attributes.

  - It is recommended that you select the following check boxes, but not for all scenarios.
    - **Planning**

- **Order**
- **Logistics**
- **Invoicing**
- **Allocation and Hard Pegging**

   For example, setting up planning terms and conditions might not be necessary for scenario Consignment. Note that the availability of these check boxes depends on the search attributes selected for the search levels described in the previous list item.

■ In the **Payment** field of the Order Terms and Conditions (tctrm1130m000) session, select **Pay on Receipt** for scenario *Planning by supplier (p. 2-6)* . Otherwise, select **Pay on Use**.

■ In the Planning Terms and Conditions (tctrm1135m000) session, consider the following fields:

General tab

- **Responsible for Supply Planning**
   For the following scenarios, it is recommended that you select this check box, because the supplier performs supply planning:
  - *Full VMI (p. 2-2)*
  - *Planning by supplier (p. 2-6)*
  - *Warehouse management by customer (p. 2-7)*

   Otherwise, clear this check box.

- **Forecast received from Customer**
   For the following scenarios, it is recommended that you select this check box if the supplier performs supply planning and the supplier is to receive a <u>demand forecast</u> from the customer:
  - *Full VMI (p. 2-2)*
  - *Planning by supplier (p. 2-6)*
  - *Warehouse management by customer (p. 2-7)*

Confirmed Forecast tab

- **Use Confirmed Forecast**
   Select this check box for scenarios in which the customer is to specify which part of the forecast is confirmed. This field is unavailable if the **Forecast received from Customer** check box is cleared.

- **Specify Confirmed Forecast by**
   For scenario *Full VMI (p. 2-2)* , select **Message**. For the following scenarios, this field is unavailable because the **Use Confirmed Forecast** check box is cleared:
  - Consignment
  - *Supply planning by customer (p. 2-4)*

   For the *Planning by supplier (p. 2-6)* scenario, select the value required in your business environment.

Confirmed Supply tab

- **Confirm Supply**
  It is recommended that you select this check box for scenarios in which the supplier is to send a confirmation of the forecast to the customer.

- **Confirmed Supply Based On**
  It is recommended that you select **Confirmed Forecast** if it is required to define the type of demand on which a supplier's confirmed supply is based.

- **Confirm Supply Time Fence**
  For the *Full VMI (p. 2-2)* scenario, it is recommended that you set the widest possible time fence. Otherwise, set the time fence as required in your business environment.

Planning tab

- **Replenishment Based On**
  For the *Full VMI (p. 2-2)* scenario, it is recommended that you select **Confirmed Supply**. Otherwise, select the value required in your business environment.

- In the Logistics Terms and Conditions (tctrm1140m000) session, various fields allow you to specify how ERP LN updates the administrative warehouse with the inventory levels of the "real" VMI warehouse. This applies to the following scenarios:
  - *Planning by supplier (p. 2-6)*
  - *Warehouse management by customer (p. 2-7)*
  - Consignment

  Consider the following fields:
  - **Method of Inventory Update**
  - **Receiving Process**
  - **Delivery Moments**
  For further information on these fields, see Updating the administrative warehouse.

- In the Invoicing Terms and Conditions (tctrm1145m000) session, various fields allow you to specify how to perform invoicing. You can fill these fields as required in your business environment. For further information on these fields, refer to the online Help of the Terms and Conditions module of the Common Data package.

Step 6: Sales contracts

Terms and conditions are linked to sales contracts. When you create a sales contract, in the **Sold-to Business Partner** field of the Sales Contracts

(tdsls3500m000) session, insert the appropriate customer. In the **Terms and Conditions ID** field, you can link the appropriate terms and conditions to the sales contract.

Chapter 5
Ownership

5

Inventory ownership in Warehouse Management

When the ownership of an item changes, payment is due and invoicing is initiated.

In traditional, non-VMI business scenarios, the ownership of an item changes from the supplier to the customer after the customer has received the item from the supplier. The customer must pay for the item on receipt of the goods.

In various subcontracting scenarios, ownership will not change during any of the inbound or outbound warehousing processes. In such cases, the ownership is customer owned. For further information on subcontracting scenarios, see Overview of subcontracting.

In vendor managed inventory (VMI) scenarios, the ownership can be consigned. If the ownership is consigned, the ownership change is either time based or consumption based.

- **Consumption based**
  The ownership changes if the customer issues the goods to sell them or to consume them.
- **Time based**
  The ownership changes some time after:
  - The customer receives the goods.
  - The last issue or receipt of the goods.

If a supplier delivers various items to a customer, a separate agreement or separate legal requirements may apply to each type of item. For time-based ownership change, the period of time is laid down in the terms and conditions of the contract between the customer and the supplier.

For further information, see:
- *Consumption-based ownership change (p. 5-2)*
- *Time-based ownership change (p. 5-4)*

Terms and conditions

Ownership behavior, that is, if or when the ownership of the goods changes from the supplier to the customer, is laid down in the contract between the business partners. The terms and conditions of the contracts can be defined by item, business partner, and/or warehouse. For more information, refer to Overview of terms and conditions in the *User's Guide for Terms and Conditions (U9499A US)*.

Ownership behavior is defined in the **Payment** field of the Order Terms and Conditions (tctrm1130m000) session and the **Time-based Ownership Change after Receipt** and **Time-based Ownership Change after last Transaction** fields of the Logistics Terms and Conditions (tctrm1140m000) session.

The Warehouse Management package uses the terms and conditions settings to determine how to deal with ownership in warehouse handling.

Note that the terminology used in the terms and conditions defined in Common Data differs from the Warehouse Management terminology:

Usage in Common Data	Usage in Warehouse Management
Pay on Receipt	Company owned
Pay on Use	Consigned
No Payment	Customer owned

Consumption-based ownership change

If the ownership change is consumption based according to the contract drawn up between the supplier and the customer, the ownership of the goods changes from the supplier to the customer when the customer consumes the items for production or sale. After the customer becomes the owner, the customer must pay for the goods.

Issues of consigned items from the VMI warehouse involved in warehouse transfers might or might not be consumptions that make the ownership of the goods change from the supplier to the customer.

For information on updating the supplier's administrative warehouse with consumption details, see *Inventory consumption - process overview (p. 6-8)* and *To update the administrative warehouse (p. 6-1)* . For information on updating the customer's administrative or "real" VMI warehouse, see Consumption records and *To update the administrative warehouse (p. 6-1)* .

Consumption criteria

Usually, the contract between the supplier and the customer determines whether a warehouse issue is a consumption. In the **Usage at Warehouse Transfer** field of the Logistics Terms and Conditions (tctrm1140m000) session, you can specify whether a <u>warehouse transfer</u> is a consumption.

For warehouse issues not covered by contracts, you can specify whether an issue is a consumption in:

- The **Usage at Warehouse Transfer** field of the Warehouse - Item (wwmd2110s000) session, for specific items in specific warehouses.
- The **Usage at Warehouse Transfer** field of the Warehouses (whwmd2500m000) session, for specific warehouses.
- The **Usage at Warehouse Transfer** field of the Outbound Order Lines (whinh2120m000) session, for a specific outbound order line.

For example, if the **Usage at Warehouse Transfer** field of the Logistics Terms and Conditions (tctrm1140m000) session is set to **Only between Clusters**, and consigned stock is transferred from the VMI warehouse to another warehouse within the same <u>cluster</u> before being consumed, the supplier remains the owner. If the stock is transferred from the VMI warehouse to a shop floor warehouse in another cluster for production, this transfer is a consumption and, therfore, the customer becomes the owner.

Consumption records

If the issue is a consumption according to the **Usage at Warehouse Transfer** parameter, ERP LN creates a consumption record when the outbound order for which the goods will be issued for consumption is created. Consumption records are displayed in the Consigned Consumptions (whwmd2551m000) session.

When the shipment containing the consumed goods is confirmed or, if no shipment procedure is defined for the outbound order lines, outbound advice is released, and the consumption record is updated. The status of the consumption record then changes from **Allocated** to **Used**.

The consumption records are linked to the purchase order and the receipt for which the consumed goods were originally received in the warehouse.

ERP LN uses this information together with the shipment ownership records or outbound advice ownership records to create:

- A <u>purchase payable receipt</u> that handles the payments for the consumed goods that the customer is to make to the supplier. Based on the purchase payable receipts, the invoicing procedures start up. Purchase payable receipts are displayed in the Purchase Payable Receipts (tdpur4130m000) session.
- <u>Integration transactions</u> in Financials.

For further details on outbound advice or shipment ownership records, see Outbound Advice Ownership (whinh4128m000) and Shipment Line Ownership (whinh4138m000).

The purchase price that the customer must pay the supplier is determined by the setting of the **Price Determination Based on** field of the Order Terms and Conditions (tctrm1130m000) session.

For information on how ERP LN decides which stock is to be issued, see *To determine the stock to be issued (p. 5-9)* .

> **Note**
>
> If an issue for a consumption is performed on the sales side, that is, in the supplier's administrative warehouse, ERP LN creates a consumption record in the Inventory Consumptions (tdsls4140m000) session. For more information, refer to *Inventory consumption - process overview (p. 6-8)* .

Time-based ownership change

If the ownership change for consigned goods is time based according to the contract drawn up between the supplier and the customer, the ownership of the inventory changes after a particular period:

- After receipt, according to legal requirements.
- After receipt, as specified in the contract drawn up between the supplier and the customer.
- After the latest transaction. The ownership changes after a number of days in which no receipts or issues have taken place. This applies if the basic ownership rule is consigned, and no receipts or issues (consumptions) have taken place in a particular period specified in the contract.

The **Time-based Ownership Change after Receipt** and **Time-based Ownership Change after last Transaction** fields of the Logistics Terms and Conditions (tctrm1140m000) session determine whether the inventory ownership change for a (combination of) item, warehouse, or business partner is after the last receipt or after the last transaction.

To register time-based ownership changes, ERP LN uses inventory ownership change orders.

Inventory ownership change orders

To change the ownership of consigned inventory for which the ownership change is time based, you must generate inventory ownership change orders. You can generate inventory ownership change orders in the Generate Time Based

Ownership Change Orders (whinh1200m100) session. This session can run automatically at specified intervals.

The resulting change orders, change order lines, and, if applicable, line handling details are displayed in the following sessions:

- Inventory Ownership Change Orders (whinh1100m000)
- Inventory Ownership Change Order Lines (whinh1110m000)
- Inventory Ownership Change Order - Inventory Movement (whinh1115m000)
- Handling Unit Process for Inventory Change Orders (whinh1113m000)

In the Inventory Ownership Change Orders (whinh1100m000) session, you can also create individual change orders.

To make the ownership changes effective and initiate invoicing, you must process the change orders. You can process individual change orders in the Inventory Ownership Change Orders (whinh1100m000) session, or by batch in the Process Inventory Ownership Change Orders (whinh1200m000) session.

For more information, refer to:

- *To generate inventory ownership change orders (p. 5-5)*
- *To process inventory ownership change orders (p. 5-6)*

To generate inventory ownership change orders

To generate inventory ownership change orders, Infor ERP LN proceeds as follows:

1. From the Consigned Receipts (whwmd2550m000) session, select receipts whose owner, warehouse, and item match the selection ranges entered in the Generate Time Based Ownership Change Orders (whinh1200m100) session.

2. For matching receipts for which the ownership change is after the latest transaction, see *To determine the ownership change date after latest transaction (p. 5-6)* . If the ownership change is after the latest receipt, check if:
   - The **Ownership Transfer Date** is present.
   - The **Ownership Transfer Date** is before the **Transaction Date**.
   - The status is lower than **Processed**.
   - The ownership is **Consigned**.
   - The owner is identical to the <u>buy-from business partner</u>.

3. For matching receipts, create inventory ownership change orders for received quantities not allocated to an outbound order for which <u>outbound advice</u> is present.

   If outbound advice is present, Infor ERP LN creates no change order. The ownership of these quantities changes when the shipment created for the

outbound order is confirmed. In such cases, the ownership change process is in fact *Consumption-based ownership change (p. 5-2)* .

4. For the newly created change orders:

   ■ If the ownership registration level in the warehouse is **Location**, **Physical Item**, or **Physical Item and Location**, you must allow the user to specify the destination location of the items and adjust the handling unit structure if it contains items belonging to various owners. To do this, create a change order handling line in the Inventory Ownership Change Order - Inventory Movement (whinh1115m000) session.

   ■ Create a consumption record in the Consigned Consumptions (whwmd2551m000) session. This record is identical to the change order. The **Consumption Type of Order** field and the **Consumption Order** field refer to the change order. The status of the consumption record is **Allocated**.

   ■ If the **Directly Process Created Orders** check box is selected, *process the change orders (p. 5-6)* .

   .

To determine the ownership change date after latest transaction

To determine the ownership change date if the ownership change is after the latest transaction according to the terms and conditions, Infor ERP LN proceeds as follows:

1. For each receipt, from the receipt and consumption dates, select the latest receipt or consumption date.

2. To the receipt or consumption date found, add the period specified in the **Period** field of the Logistics Terms and Conditions (tctrm1140m000) session.

3. If the resulting date is on or before the date specified in the **Up to Date** field, generate an inventory ownership change order.

For the remainder of the procedure, see *To generate inventory ownership change orders (p. 5-5)* , from step 3 onwards.

To process inventory ownership change orders

You can process individual change orders in the Inventory Ownership Change Orders (whinh1100m000) session, or by batch in the Process Inventory Ownership Change Orders (whinh1200m000) session.

To process individual change orders, in the Inventory Ownership Change Orders (whinh1100m000) session, select the change orders you want to process and, from the **Specific** menu, select **Process**.

To process change orders by batch, in the Process Inventory Ownership Change Orders (whinh1200m000) session, use the selection range fields to select the change orders to be processed, and click **Process**.

To process inventory ownership change orders, Infor ERP LN proceeds as follows:

1. Change the ownership for the selected change orders.

2. Update the consumption record in the Consigned Consumptions (whwmd2551m000) session. The status changes from **Allocated** to **Used**.

3. Create a purchase payable receipt to initiate payment of the items.

4. Create integration transaction in Financials.

5. If the ownership registration level in the warehouse is **Location**, **Physical Item**, or **Physical Item and Location**:

- Change the owner on the handling unit and split the handling unit if specified by the user in the Inventory Ownership Change Order - Inventory Movement (whinh1115m000) session.

- Print handling unit labels if specified on the Process Inventory Ownership Change Orders (whinh1200m000) session.

- Generate and process easy inventory movements to move the items or handling units to not-owned destination locations, as specified by the user in the Inventory Ownership Change Order Lines (whinh1110m000) session.

- In the from-location and the destination location, adjust the item quantities.

Note

If internal and external payment relations are present, you must run the Process Inventory Ownership Change Orders (whinh1200m000) session several times to process all change orders within the selection range.

For example, the following payment relations of type Pay on Use are present between:

- External business partner A and the internal business partner of purchase office B.

- Purchase office B and consignment warehouse C.

According to the terms and conditions, the ownership change for business partner A is 10 days after receipt.

If 200 item X from business partner A is received in consignment warehouse C, two receipts are generated in the Consigned Receipts (whwmd2550m000) session:

Receipt	Item	Qty	Owner	Buy-from business partner	Receipt date	Ownership change date	Destination owner
1	X	200	Business partner A	BP A	March 12	March 22	Purchase office B
2	X	200	Business partner A	Internal BP of purchase office B	March 12	March 22	Warehouse C

When the change orders are processed on March 22nd, the change order for receipt 1 is processed. The change order for receipt 2 cannot be processed, because ownership change is not allowed if the buy-from business partner and the owner are not identical.

After the change order for receipt 1 is processed, purchase office B has become the owner. As a result, for receipt 2, the owner is now the internal business partner of purchase office B, and therefore the owner and the buy-from business partner are identical. The next time you process the change orders for the same selection range, the change order for receipt 2 is included.

Ownership registration setup in Warehousing

To enable ownership registration for an individual item, the item must be contained in a handling unit. You can view individual handling units in a warehouse, and handling unit data includes a reference to the owner of the item.

Ownership data for items are listed on handling units. Handling units obtain the ownership data from the Receipt Line Ownership (whinh3521m000) session.Therefore, to trace the owner of an item through warehousing processes and in inventory, automatic generation of handling units is required.

Note that for this setting to work, you must select the **Physical Item** or the **Physical Item and Location** value in the **Registration Level** field of the following sessions:
- Warehouse - Item (whwmd2110s000)
- Item - Warehousing (whwmd4100s000)

■ Item - Warehousing Defaults (whwmd4101s000)

In addition, handling units must be in use for receipts, inbound and outbound inspections, and shipping for warehouse - item combinations.

Note

If the ownership registration level is not location or location and physical item, and locations or stock points are blocked, ERP LN cannot determine whether inventory of a specific owner is blocked. If the ownership registration level is not location, physical item or location and physical item, and handling units are blocked, ERP LN cannot determine whether inventory of a specific owner is blocked. In general, if the ownership registration level is warehouse, manual blockings do not block inventory of specific owners.

VMI warehouse settings

To specify who performs warehouse management for the VMI warehouse, the customer or the supplier, you can select or clear the **Inventory Management** check box in the Warehouses (whwmd2500m000) session. In a full VMI scenario, this check box is selected in the supplier's ERP system, and cleared in the customer's ERP system (for the customer, this is an administrative warehouse). In addition, in the customer's system, the business partner representing the supplier would be entered in the **Business Partner** field of the Warehouses (whwmd2500m000) session.

To determine the stock to be issued

To determine from which stock the items listed on an outbound order must be issued, ERP LN checks the following fields:

1. **Ownership fields**
   The settings of the ownership fields in the Outbound Order Lines (whinh2120m000) session and the **Ownership Issue Priority** field in the Warehouse - Item (whwmd2110s000) session determine whether company owned, consigned, or customer owned inventory must be picked for an outbound order line. For consigned and customer owned inventory, these fields also determine from which business partner's inventory the goods are picked. For more information, refer to *Finding available stock for ownership (p. 5-12)* .

2. **Usage at Warehouse Transfer**
   The value of the **Usage at Warehouse Transfer** field determines whether the item issues are consumptions, in which case the ownership of the issued

items changes from the supplier to the customer. For more information, refer to *Consumption-based ownership change (p. 5-2)* .

3. **Sourcing fields**
   If an item is supplied by more than one supplier, the values of the sourcing fields determine from which business partner's inventory an issue for a consumption is to take place. For more information, refer to *Sourcing rules for consumptions (p. 5-10)* .

4. **Outbound Method**
   The outbound method determines which inventory must be issued based on the inventory date or the outbound priority defined for the locations of a warehouse, while taking the values of the ownership fields (see first item of this list) into account.

> **Note**
>
> Committed or allocated stock is exclusively reserved for the orders or business partners relevant to the inventory commitments or allocations concerned. For further information, see Inventory commitment and To specify the minimum and maximum inventory.

Inventory from various owners on outbound order line

An outbound order line can contain items from various owners. For example, if the issue strategy value is **Preferred** and the available inventory of the preferred owner is insufficient for a particular outbound order line, inventory from other owners or the own company is issued. Ownership of items listed on outbound order lines is maintained in the Outbound Advice Ownership (whinh4128m000) session. In this session, and in the Shipment Line Ownership (whinh4138m000) session, you can manually adjust the outbound order line or shipment line ownership determined by the field settings mentioned above.

Sourcing rules for consumptions

Sometimes, various suppliers supply the same item, and the inventory owned by these business partners is stored in the warehouse. To determine from which supplier a consumption is to take place, ERP LN checks the **priority**, the sourcing percentages, and the **cumulative consumption percentages** of the business partners supplying the item. In addition, ERP LN checks the issue strategy.

Issue strategy determines the use of sourcing percentages

If several business partners supply the same item, and the value of the **Issue Strategy** field on the outbound order line is:

- **Free**, the sourcing percentage and the cumulative consumption percentage of the buy-from business partners determine the next business partner from whose inventory items for consumption are issued.

- **Preferred** and no inventory owned by the preferred business partner is available, the sourcing and consumption percentages determine the business partner from whose inventory the issue for consumption will take place.

- **Restricted**, the sourcing and consumption percentages are not used to determine the business partner.

Sourcing and consumption percentages

Sourcing priorities and sourcing percentages are based on agreements between the business partners. You can maintain sourcing percentages and sourcing priorities in the Items - Purchase Business Partner (tdipu0110m000) session. For further information, see Sourcing and To use sourcing percentages. In the Consumption Percentages by Business Partner (whinr1135m000) session, you can view actual business partner consumption percentages.

As a rule, consumptions are issued from business partners with priority 1 according to the business partners' sourcing percentages in relation with their cumulative consumption percentages. Each issue involves the inventory of only one business partner.

When a consumption is due, ERP LN selects the business partner whose sourcing percentage exceeds the actual cumulative consumption percentage the most. This means that their actual consumption is the farthest below the agreed consumption percentage of the business partners involved. Therefore, to increase the actual consumption percentage to meet, or at least approach, the agreed sourcing percentage, this business partner must supply the next consumption. This is described in *Select business partner for consumption issue (p. 5-15)* .

No stock or insufficient stock owned by selected business partner available

If no stock owned by the selected priority 1 business partner is available, ERP LN selects a business partner without applying the sourcing rules.

If insufficient stock owned by the selected priority 1 business partner is available, the available stock is issued, and for the remainder, ERP LN allocates inventory owned by other business partners without applying the sourcing rules.

Issue by other than priority 1 business partner

If none of the priority 1 business partners have sufficient stock for some reason, the customer must be supplied by another, non-priority 1 business partner. This stock must be used up before the regular issues from the priority 1 business partners can resume.

Example

Because company A's regular priority 1 suppliers are out of stock, company A buys from supplier X. If the regular supplies from the priority 1 business partners are resumed according to the sourcing rules before all of supplier X's stock is consumed, supplier X's stock would never be used up.

Finding available stock for ownership

The following fields determine whose inventory is to be picked for an outbound order line:

Outbound Order Lines (whinh2120m000)
- **Payment**
- **Internal Payment**
- **Ownership**
- **Issue Strategy**
- **Issue Ownership**
- **Issue from Business Partner**

Warehouse - Item (whwmd2110s000)
- **Issue Priority**

The values of the **Payment** or the **Internal Payment** fields determine whose stock must be issued in the sense that they deterimine the value of the **Ownership** field. In turn, if the value of the **Ownership** field is Customer Owned, ERP LN only issues inventory owned by the business partner that the user specified in the **Issue from Business Partner** field.

For information on the values of the payment fields and the corresponding value of the ownership fields, see *The Payment and Internal Payment fields (p. 5-13)* .

The other values of the **Ownership** field have no impact on determining the ownership of the stock to be issued. This is determined by the values of the following fields:
- **Issue Strategy**
- **Issue from Business Partner**

- **Issue Ownership**
- **Issue Priority**

For more information, refer to *The Issue Strategy, Issue Ownership, and Issue Priority fields (p. 5-13)* .

The Payment and Internal Payment fields

Value in Payment or Internal Payment field	Corresponding value in Ownership field
Pay on Receipt	**Company Owned**
Pay on Use	**Consigned**
No Payment	**Customer Owned**

The Issue Strategy, Issue Ownership, and Issue Priority fields

The following table shows the interdependence of the **Issue Strategy**, **Issue Ownership**, and **Issue Priority** fields, and the resulting outbound advice.

Value in field:	Corresponding value in fields:	
Issue Strategy	**Issue Ownership**	**Issue Priority**
Free	**Company Owned or Consigned**	■ **Free** Outbound advice without ownership restrictions. ■ **Owned Inventory First** Outbound advice for company-owned inventory first, then not-owned inventory, if insufficient owned inventory available. ■ **Not Owned Inventory First** Outbound advice for not-owned inventory first, then company-owned inventory, if insufficient not-owned inventory available.
	Consigned Outbound advice for inventory with ownership <u>consigned</u>.	The issue priority is overruled.

	Company Owned Outbound advice for inventory with ownership <u>company owned</u>.	The issue priority is overruled.
Preferred	**Company Owned or Consigned**	■ **Free** Outbound advice for consigned inventory of specified business partner, then company-owned inventory, if insufficient not-owned inventory available. ■ **Owned Inventory First** Outbound advice for consigned inventory of specified business partner first, then company-owned inventory, if insufficient consigned inventory for specified business partner is available. ■ **Not Owned Inventory First** Outbound advice for consigned inventory of specified business partner, then consigned inventory, if insufficient owned inventory for specified business partner is available. If insufficient consigned inventory is available, outbound advice without ownership restrictions.
	Consigned 1. Outbound advice for consigned inventory of specified business partner. 2. If not available, outbound advice for consigned inventory.	The issue priority is overruled.
Restricted	**Restricted** Outbound advice for customer owned inventory from the business partner specified in the **Issue from Business Partner** field.	The issue priority is overruled.

Select business partner for consumption issue

If various suppliers supply the same item, and inventory owned by each of these business partners is stored in the warehouse, ERP LN must determine from whose inventory the items will be issued for consumption. The following example shows how ERP LN selects the business partner.

Item X is supplied by buy-from business partners BP1, BP2, and BP3. For item X, the business partners have the following sourcing percentages:

Buy-from business partner	Sourcing priority	Sourcing percentage
BP1	1	15
BP2	1	35
BP3	1	50

The following table shows the business partners issuing for consumptions, the cumulative consumption quantities and cumulative consumption percentages by business partner. For the first consumption instance, it is presumed that no previous consumptions have taken place.

When a consumption is due, ERP LN selects the business partner whose sourcing percentage exceeds the actual cumulative consumption percentage the most. To increase the actual consumption percentage to meet, or at least approach the agreed sourcing percentage, this business partner must supply the next consumption.

In the following table, this is shown by means of negative differences between actual percentages and sourcing percentages. If the difference between the actual consumption percentage and the sourcing percentage is negative, the sourcing percentage exceeds the actual percentage. The business partner with the largest negative difference will issue for the next consumption.

Con-sump-tion	Consumed BP1		Consumed BP2		Consumed BP3		Description
	Qty	%	Qty	%	Qty	%	
100	0	0%	0	0	**100**	100	Before the first consumption, the consumption percentage for each

							business partner is 0%. The difference between the actual consumption percentage and the sourcing percentage is the greatest for BP3 (0 - 50 = -50). Therefore, the first consumption of 100 items X is to be issued from inventory owned by BP3.
150	0	0	**150**	60	100	40	After the first consumption, the difference between the actual consumption percentage and the sourcing percentage is the greatest for BP2: 0-35 = -35. (BP1: 0 - 15 = -15, BP3: 100-50 = 50) Therefore, 150 items X are supplied from BP2.
50	**50**	16.7	150	50	100	33.3	After the second consumption, the difference between the actual consumption percentage and the sourcing percentage is the greatest for BP1: 0 - 15 = -15. (BP2: 60 - 35 = 25, BP3: 40 - 50 = -10). Therefore, 50 items X are supplied from BP1.
150	50	11.1	150	33.3	**250**	55.6	After the third consumption, the difference between the actual consumption percentage and the sourcing percentage is the greatest for BP3: 33.3 - 50 = -16.7. (BP1: 16.7 - 15 = 1.7, BP2: 50 - 35 = 15). Therefore, 150 items X are supplied from BP3.
75	**125**	23.8	150	28.6	250	47.6	After the fourth consumption, the difference between the actual consumption percentage and the sourcing percentage is the greatest for BP1: 11.1 - 15 = -3.9. (BP2: 33.3 - 35 = -1.7, BP3: 55.6 - 50 = 5.6). Therefore, 75 items X are supplied from BP1.

Consumption returns

Sometimes, items that were issued for consumption are returned to the warehouse. For example, because the quantity actually used for production was lower than the issued quantity. The items are then returned to the not-owned inventory or the owned inventory. This is based on the effective terms and conditions or settings for specific items stored in specific warehouses.

The not-owned inventory is the <u>customer owned</u> or <u>consigned</u> inventory owned by the supplier from which the items were originally issued.

In the **Ownership for Return to Warehouse** field of the Order Terms and Conditions (tctrm1130m000) session, you can specify whether, according to the contract, items must be returned to owned or not-owned inventory.

In the **Ownership for Return to Warehouse** field located in the sessions listed below, you can specify whether specific items stored in specific warehouses must be returned to owned or not-owned inventory if no active terms and conditions apply.

- Item - Warehousing (whwmd4100s000)
- Item - Warehousing Defaults (whwmd4101s000)
- Warehouse - Item (whwmd2510m000)
- Items - Warehousing (whwmd4500m000)
- Items - Warehousing Defaults (whwmd4501m000)
- Update active Parameters in Warehouses and Items (whwmd2200m000)

In the **Return as** field of the Estimated Materials (ticst0101m000) session, for individual production order lines, shop floor engineers can determine whether return items must be stored in owned or not-owned inventory. For example, if a shop floor engineer notices that some of the items issued from the warehouse are damaged, the engineer can decide that these items cannot be returned to the not-owned inventory.

Invoicing consumption returns

If consumed items are returned to not-owned inventory, ERP LN creates a consumption record with a negative value. For example, if a customer issues 200 items and returns 10 items to the not-owned inventory, 190 items are invoiced and a negative consumption of 10 items is created.

Distribute returns among owners

If items are picked from different owners, and some of the items are returned, the returned items are distributed among the owners from whom the items were issued. For example, if a customer issues 190 items from the owned inventory and 10 from not-owned inventory, and returns 10 items, 5 items are returned to the owned inventory and 5 to the not-owned inventory.

ERP LN issues items according to the issue strategy. For more information, refer to *To determine the stock to be issued (p. 5-9)* .

Ownership records

<u>Ownership records</u> are maintained in ownership sessions that you can access from the **Specific** menu of the object session:

Object session	Ownership session
Receipt Lines (whinh3112s000)	Receipt Line Ownership (whinh3521m000)
Outbound Advice (whinh4525m000)	Outbound Advice Ownership (whinh4128m000)
Shipment Lines (whinh4131m000)	Shipment Line Ownership (whinh4138m000)
Cycle Counting Order Lines (whinh5101m000)	Cycle Counting Order Line Ownership (whinh5105m000)
Adjustment Order Lines (whinh5121m000)	Adjustment Order Line Ownership (whinh5125m000)

For example, receipt line A lists 15 items B, and in the Receipt Line Ownership (whinh3521m000) session, the following ownership records are present for receipt line A:

Ownership record sequence number	Item	Quantity	To be received into inventory owned by
1	B	4	Business partner C
2	B	6	Business partner D
3	B	5	Company owned

The sequence number identifies the ownership record. ERP LN generates the ownership sequence number when a new ownership record is created.

Generate or manually create ownership records

Ownership records are generated or manually created. It depends on the ownership settings of the order lines associated with the ownership records whether ownership records are created manually or automatically, or whether changing the ownership records is allowed. For further information, see the session help of the relevant ownership sessions.

Note

The total quantity of the ownership records of an object cannot exceed the quantity of the object. In the previous example, receipt line A lists 15 items B, and the total quantity of the three ownership records is also 15. Therefore, you cannot create any more ownership records for receipt line A. If the total quantity of the ownership records would be 10, you could create ownership records for the remaining five items for receipt line A.

To manually create ownership records

To create an ownership record:

1. From the **Specific** menu of the object session, select **Ownership** to open the ownership session. See the previous table for the object sessions and corresponding ownership sessions.
2. In the ownership session, click ☐.
3. Enter the ownership, owner, item quantity, and other details as required.
4. Save the data.
5. If required, click ☐ to enter another ownership record.

Manually created ownership records for adjustment order lines

For manually created adjustment order line ownership records, you can enter negative quantities for ownership type:

- consigned
- customer owned
- company owned

For a negative adjustment of consigned inventory, ERP LN creates a consumption record in the Consigned Consumptions (whwmd2551m000) session. If the **Inventory Discrepancies Paid by Business Partner** check box in the Logistics Terms and Conditions (tctrm1140m000) session is selected for the terms and conditions relevant to the purchase order based on which the consigned inventory was originally received, the customer, that is, the party performing the adjustment, must pay for the adjusted consigned inventory. For information on how invoicing is initiated for the consumption record, see *Consumption records (p. 5-3)* .

If the **Inventory Discrepancies Paid by Business Partner** check box in the Logistics Terms and Conditions (tctrm1140m000) session is cleared for the relevant terms and conditions, the supplier pays for the adjusted inventory and reduces their inventory value accordingly. For more information, refer to To process inventory adjustment orders.

Negative adjustments for customer-owned inventory are exceptional. The subcontractor, that is, the party performing the adjustment, must pay the customer for the adjusted customer-owned inventory. In ERP LN, standard functionality to support such situations is unavailable, you must manually perform payment.

Negative adjustments of company-owned inventory are processed as described in To process inventory adjustment orders.

For manually created adjustment order line ownership records, you can enter positive quantities for ownership type:

- consigned
- company owned

Positive adjustments for customer-owned inventory are not allowed.

Inspection by owner

For inbound and outbound inspections, you can approve, reject, or destroy items by owner.

Inbound inspections

For inbound inspections, you can approve, reject, or destroy items by owner if:

- The inspection line refers to a receipt line and a receipt line ownership record, and the value of the **Ownership Registration Level** field for the warehouse and the items is Physical Item and Location or Location.
- The inspection line refers to a receipt line.
- The inspection line refers to a handling unit.

Inspection line refers to receipt line and receipt line ownership

Receipt line ownership records are maintained in the Receipt Line Ownership (whinh3521m000) session. On the inspection line, the field **Ownership Sequence** indicates that ownership data is present if the value is greater than 0.

In this case, after you fill in the approved, rejected, or destroyed quantities and save the inspection line, ERP LN inserts these quantities proportionally for the owners present in the Receipt Line Ownership (whinh3521m000) session.

Note that you cannot manually insert inspection results in the Receipt Line Ownership (whinh3521m000) session.

Inspection line refers to receipt line

If the inspection line refers to a receipt line without ownership records in the Receipt Line Ownership (whinh3521m000) session, complete the following steps:

1. Enter the quantities to be approved, rejected, or destroyed on the inspection line and save this data.
2. Enter the quantities to be approved, rejected, or destroyed for each owner as required in the Receipt Line Ownership (whinh3521m000) session, and save.
3. Approve the inspection line.

Note

The approved, rejected, and destroyed quantities in the Receipt Line Ownership (whinh3521m000) session cannot exceed the approved, rejected, and destroyed quantities of the inspection line, otherwise you cannot process the inspection.

Inspection line refers to handling unit

If the inspection line refers only to a handling unit, the **Ownership Sequence** and **Line** fields have the value 0.

After you fill the inspection line, ERP LN inserts the approved, rejected, or destroyed quantities in the Receipt Line Ownership (whinh3521m000) session.

This is possible because inspected handling units have references to receipt lines and receipt line ownership records.

Outbound inspections

In the Outbound Advice Ownership (whinh4128m000) session, you can enter quantities to be approved or rejected by owner for outbound inspections.

If these quantities exceed the quantities previously entered on the inspection line, when saving the ownership quantities, ERP LN prompts you to do one of the following:

- Proportionally distribute the rejected or approved quantities among the owners.
- Manually adjust the quantities per owner.

For rejected quantities, ERP LN generates adjustment orders.

By default, not-owned rejected inventory will be owned when destroyed. If you do not want destroyed inventory to be owned, in the **Rejected Inventory Paid By** field on the inspection line, select **Owner**.

Approved quantities are copied to the corresponding shipment lines.

Chapter 6
The administrative warehouse

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6

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To update the administrative warehouse

In various VMI scenarios, the party who manages the <u>VMI warehouse</u> or consignment warehouse defines the warehouse as a regular warehouse in his system. The other party, who owns the inventory in the warehouse or is responsible for supply planning, does not require registering every single activity involved in warehouse handling. For supply planning or invoicing purposes, this party is satisfied with a mere overview of the inventory levels and therefore defines the warehouse as an <u>administrative warehouse</u> in his ERP system.

If the customer manages the warehouse, the warehouse is defined as an administrative warehouse in the supplier's ERP system. If the supplier manages the warehouse, the warehouse is defined as an administrative warehouse in the customer's ERP system.

The administrative warehouse must be updated with the inventory levels of the "real" warehouse on a regular basis. The frequency and the required accuracy level of these updates depends on the applicable VMI scenario. For more information, refer to *Overview of VMI business scenarios (p. 2-1)* .

In the supplier's administrative warehouse, receipts are usually registered by means of transfer orders or receipt delivery messages after the receipts in the real warehouse are performed. Consumptions are registered through consumption records triggered by consumption messages from the customer. For more information, refer to *Inventory consumption - process overview (p. 6-8)* .

The customer's administrative warehouse is updated by automatic receipts triggered by receipt delivery messages after the receipts in the real warehouse are performed. Consumptions are registered through issues for outbound order lines based on the customer's originating production order or sales order. For more information, refer to *Method of Inventory Update (p. 6-2)* and *Consumption records (p. 5-3)* .

In the **Method of Inventory Update** field of the Logistics Terms and Conditions (tctrm1140m000) session, the following methods to update the VMI warehouse are available:

- **Receipts and Consumptions**
- **Inventory Balance**
- **Receipts, Consumptions and Inv. Balance**
- **Inventory Balance as Consumption**

Receipts and Consumptions

Selecting this option enables the following fields, which control how receipts and consumptions in the VMI warehouse update the inventory levels of the administrative warehouse:

- *Receiving Process (p. 6-2)*
- **Inventory Consumption Message Interval**
- **Inventory Consumption Aggregation Level**

Also, in the supplier's ERP system, a consumption record is created when the VMI warehouse is replenished. For more information, refer to *Inventory consumption - process overview (p. 6-8)* .

Receiving Process

The options of the **Receiving Process** field determine how receipts in the VMI warehouse are updated in the administrative warehouse:

- **Communication**
  The inventory of the customer's or supplier's administrative warehouse is updated after incoming messages, for example, the ReceiveDelivery message or the InventoryConsumption message. These are OAGIS based XML messages. Receiving these messages in ERP LN can trigger the creation of a receipt, or an issue, respectively, in the administrative warehouse.
  For more information, refer to
  - Receipt delivery messages
  - InventoryConsumption message
  - *Overview of VMI business scenarios (p. 2-1)*
  .

- **Automatic (Delivery Moments)**
  ERP LN creates and automatically confirms receipts into the customer's administrative warehouse. For more information, refer to *Automatic receipts (p. 6-3)* and *Setting up automatic receipts (p. 6-6)* .

- **Automatic (Received is Shipped)**
  The supplier's administrative warehouse is updated by means of transfer orders. For more information, refer to *Automatic receipts (p. 6-3)*

Inventory Balance

Not used in the current version.

Receipts, Consumptions and Inv. Balance

Inventory levels are updated based on the completed receipts and consumptions and on an inventory report. The latter is mainly used for reconciliation purposes. Note that the inventory balance message is not used in the current version.

Also, in the supplier's ERP system, a consumption record is created when the VMI warehouse is replenished. For more information, refer to *Inventory consumption - process overview (p. 6-8)* .

Inventory Balance as Consumption

Not used in the current version.

Automatic receipts

Automatic receipts automatically update the administrative warehouse with the inventory received in the "real" VMI warehouse.

The customer's administrative warehouse

For automatic receipts into the customer's administrative warehouse, you can generate automatic receipt records in the Initiate Automatic Receipts (whinh3223m000) session.

The generated receipt records are displayed in the Automatic Receipts (whinh3523m000) session. These records include data such as the warehouses in which the receipts are to take place, the item quantities, and the dates on which the automatic receipts are to take place. When the automatic receipt date is due, ERP LN performs the automatic receipts in the administrative warehouse.

Automatic receipts are based on purchase orders, contractual inventory levels, or demand forecast. While the automatic receipts are booked into the administrative warehouse, the goods listed on them are actually received in the "real" VMI warehouse managed by the supplier.

If the supplier performs supply planning, an automatic receipt can be based on the quantities listed in the demand forecast that the customer sends to the supplier, or the confirmed supply based on the demand forecast that the supplier sends to the customer.

For more detailed information about the automatic receipt creation process, see *The automatic receipt process (p. 6-4)* .

Various parameters determine how ERP LN creates automatic receipts. For more information, refer to *Setting up automatic receipts (p. 6-6)* .

The supplier's administrative warehouse

In this situation, the supplier plans replenishment and replenishes the warehouse, which is managed by the customer. The warehouse is defined as an administrative warehouse in the supplier's system. The supplier assumes that the quantities that he shipped equal the quantities received by the customer.

The supplier's administrative warehouse is updated by means of transfer orders. When the supplier issues goods to replenish the "real" warehouse, he creates a transfer order that is received into the administrative warehouse. When he confirms the shipments of the transfer order, ERP LN creates a receipt based on the transfer order and automatically confirms the receipt. The receipt quantities are equal to the confirmed quantities of the shipments.

The automatic receipt process

To create automatic receipts into the customer's administrative warehouse, ERP LN takes the following steps:

1. Based on the selection ranges or specific selections and the date ranges inserted in the Initiate Automatic Receipts (whinh3223m000) session, ERP LN creates combinations of buy-from business partners, warehouses, and items. ERP LN retrieves this data from the Warehouse - Item (whwmd2110s000) session and the Items - Purchase Business Partner (tdipu0110m000) session.

2. For these combinations, ERP LN checks the automatic receipt settings in the terms and conditions described in *Setting up automatic receipts (p. 6-6)* .

3. In the Automatic Receipts (whinh3523m000) session, ERP LN creates the automatic receipt records for the combinations of of buy-from business partners, warehouses, and items.

   The initial status of an automatic receipt record is **Open**.

   How ERP LN creates the automatic receipt records, and which data they include depends on whether the automatic receipt records are based on purchase orders, demand forecast, or contractual inventory levels, which is defined in the terms and conditions. If based on:

   - **Purchase orders**
     ERP LN calculates the automatic receipt dates as described in *Setting up automatic receipts (p. 6-6)* and stores these in the automatic receipt records. Note that the receipt quantities are not added to the automatic receipt records until ERP LN performs the actual receipt on the

automatic receipt date, which is described in the following steps of this procedure.

- **Forecast demand**
  ERP LN retrieves the planned receipt quantities from the Enterprise Planning package and stores these in the **Planned Receipt Quantity in Receipt Unit** field and the **Planned Receipt Quantity in Inventory Unit** of the Automatic Receipts (whinh3523m000) session. The automatic receipt dates are retrieved from Enterprise Planning or the receiving interval from the terms and conditions.

- **Contractual inventory levels**
  ERP LN calculates the automatic receipt dates from the delivery moments defined in the terms and conditions. Next, ERP LN retrieves the planned inventory level for the automatic receipt dates from the terms and conditions. The automatic receipt dates and planned inventory levels are then stored in the **Automatic Receipt Date** field and the **Planned Inventory Level** field, respectively, of the Automatic Receipts (whinh3523m000) session.

4. On the automatic receipt date, ERP LN carries out receipts for the automatic receipt records as follows:

- Create warehousing receipt lines for the automatic receipt records and link these to the purchase orders present for the business partners, warehouses, and items and date ranges specified by the user in the Initiate Automatic Receipts (whinh3223m000) session.

- If no purchase orders are present, create purchase orders according to the **Receipt Triggered Order** field in the Order Terms and Conditions (tctrm1130m000) session. If the value in this field is **Not Allowed**, an error message appears and the automatic receipt is not performed for the automatic receipt record.

  Purchase orders are not present if the automatic receipts are based on forecast demand or contractual inventory levels. For more information, refer to *Purchase orders, forecast demand, or inventory levels (p. 6-6)*.

- Generate low volume lot or serial numbers if not present.

- Generate High volume scenario lot or serial numbers according to the lot and serial registration templates. For more information, refer to Lot and serial registration templates.

- Confirm the automatic receipt record.

- In the Automatic Receipts (whinh3523m000) session, set the status of the automatic receipt record and show the received quantities.

- Within the date range specified in the Initiate Automatic Receipts (whinh3223m000) session, ERP LN looks for automatic receipt dates. If an automatic receipt date is due, the automatic receipts for that date are performed. The process lies dormant until an automatic receipt date is due, or if the date range is expired.

> **Note**
>
> There are some variations in the way ERP LN retrieves the quantities to be received. This depends on whether the automatic receipt records are based on purchase orders, forecast demand, or contractual inventory levels. For more information, refer to *Purchase orders, forecast demand, or inventory levels (p. 6-6)* .

Purchase orders, forecast demand, or inventory levels

There are some variations in the way ERP LN retrieves the quantities to be received. This depends on whether the automatic receipt records are based on purchase orders, forecast demand, or contractual inventory levels. For automatic receipt records based on:

- **Purchase orders**
  ERP LN checks the purchase orders retrieved for the receipt records and receives the quantities listed on the purchase orders as described step 3 of the previous list.
- **Forecast demand**
  ERP LN creates receipt triggered purchase orders for the automatic receipt records and receives these into the warehouse. The quantities to be received are taken from the **Planned Receipt Quantity in Receipt Unit** field and the **Planned Receipt Quantity in Inventory Unit** as described in step 3.
- **Contractual inventory levels**
  ERP LN creates receipt triggered purchase orders for the automatic receipt records and receives these into the warehouse. The quantities to be received are determined by comparing the planned inventory level from the **Planned Inventory Level** field in the Automatic Receipts (whinh3523m000) session to the inventory on hand from the receiving warehouse. Note that if on the automatic receipt date the inventory level is within the contractual inventory levels, no receipt is performed.

Setting up automatic receipts

Creating automatic receipts into the customer's administrative warehouse requires the following settings in the Terms and Conditions module of the Common Data package:

- Terms and conditions must be linked to an active <u>purchase contract</u>.
- The terms and conditions are not expired.

  Multiple valid sets of terms and conditions can be present for the selection ranges that the user specifies in the Initiate Automatic Receipts (whinh3223m000) session. Terms and conditions have effective and expiry dates. If terms and conditions overlap, that is, range effective-expiry dates

overlap, ERP LN selects the terms and conditions with most recent effective date.

- In the Logistics Terms and Conditions (tctrm1140m000) session:
  - The value in field **Method of Inventory Update** is either of the following:
    - **Receipts and Consumptions**
    - **Receipts, Consumptions and Inv. Balance**
  - The value in field **Receiving Process** is **Automatic (Delivery Moments)**.
  - The **Delivery Moments** field determines whether creation of automatic receipts is based on purchase orders, demand forecast, or inventory levels. If the value is:
    - **Orders and Schedules**, creation of receipt records is based on purchase orders.
    - **Forecast or Inventory Levels**, creation of receipt records is based on demand forecast or <u>inventory levels</u>.

- In the Items - Purchase Business Partner (tdipu0110m000) session, the **Generate Order for Unexpected Warehouse Receipt** check box is selected.

- In the Order Terms and Conditions (tctrm1130m000) session, the **Receipt Triggered Order** field value is **Purchase Order** or **Purchase (Manual) Order**.

Automatic receipts based on purchase orders

In the Order Terms and Conditions (tctrm1130m000) session:

- If the **Use Confirmation** check box is selected, only confirmed purchase orders are used to create automatic receipts. If this check box is cleared, both confirmed and unconfirmed purchase orders are used.

- If you define a receiving interval in the **Receiving Interval** field of the Logistics Terms and Conditions (tctrm1140m000) session, ERP LN uses this interval to determine the automatic receipt dates. The automatic receipt date is the date on which ERP LN performs an automatic receipt.

  Note that purchase orders created between receipt intervals are not taken into account until the next automatic receipt date.

  If no receipt interval is defined, the planned receipt dates of the purchase orders are used to determine the automatic receipt dates. For more information, refer to *The automatic receipt process (p. 6-4)* .

Automatic receipts based on demand forecast

In the Planning Terms and Conditions (tctrm1135m000) session, do the following if automatic receipts must be based on demand forecast:

- Select the **Supply Planning by Supplier** check box.

- Select the **Use Confirmed Supply** check box if automatic receipts must only be based on confirmed supply.

- In the **Replenishment Based On** field, do not select Manual or Inventory Level.

- If you define a receiving interval in the **Receiving Interval** field of the Logistics Terms and Conditions (tctrm1140m000) session, ERP LN uses this interval to determine the automatic receipt dates. The automatic receipt date is the date on which ERP LN performs an automatic receipt.

  If no receipt interval is defined, the planned receipt dates Enterprise Planning are used to determine the automatic receipt dates. For more information, refer to *The automatic receipt process (p. 6-4)* .

Automatic receipts based on inventory levels

In the Planning Terms and Conditions (tctrm1135m000) session, do the following if automatic receipts must be based on contractual inventory levels:

- Select the **Supply Planning by Supplier** check box.

- Select the **Send Forecast to Supplier** check box.

- In the **Replenishment Based On** field, select Manual or Inventory Level.

- Select a pattern code in the **Delivery Moments** field.
- Define minimum and/or maximum levels in the fields of the **Inventory Levels** tab.

Inventory consumption - process overview

In vendor managed inventory (VMI) environments, in the supplier's ERP system, consumptions are recorded in the Inventory Consumptions (tdsls4140m000) session and the Inventory Consumption Lines (tdsls4141m000) session.

Typically, these sessions are used to view and maintain consumption data in the supplier's administrative warehouse, which reflects the customer's warehouse.

In subcontracting environments, if the subcontractor issues materials that are supplied by the manufacturer, these issues are recorded as consumptions in the Inventory Consumptions (tdsls4140m000) session and the Inventory

Consumption Lines (tdsls4141m000) session in the manufacturer's administrative warehouse, which reflects the subcontractor's warehouse.

In this topic, supplier refers to the supplier or the manufacturer; customer refers to the customer or the subcontractor, and VMI warehouse refers to the customer's or the subcontractor's warehouse from which the customer or the subcontractor consumes goods supplied by the supplier or manufacturer.

Consumption records are generated or manually created. A consumption record shows the received quantities provided by the supplier and the subsequent consumptions of the customer.

A consumption record consists of a header section and one or more lines.

When the <u>VMI warehouse</u> is replenished, ERP LN generates a consumption header record. This occurs when the receipt based on the sales order that replenishes the VMI warehouse is confirmed.

The header section of a consumption record shows the name of the customer and the VMI warehouse, and the aggregated received and consumed item quantities. Consumption record header sections are viewed and maintained in the Inventory Consumptions (tdsls4140m000) session.

If a consumption is made by the customer or on behalf of the customer, a consumption line is created. Details of individual consumptions of an item are viewed and maintained in the Inventory Consumption Lines (tdsls4141m000) session.

Consumption lines are entered automatically after receiving the LoadInventoryConsumption <u>Business Object Document (BOD)</u>, or manually, resulting from an e-mail or a phone call from the customer.

After the consumption record is entered, the customer must be invoiced for the consumed quantities, if invoicing is applicable for the consumption, and the inventory levels of the administrative warehouse must be decreased. For more information, refer to *To process consumption (p. 6-10)* and *To process consumption - outline (p. 6-11)* .

Note

In the customer's ERP system, consumption records are generated in the Consigned Consumptions (whwmd2551m000) session. For more information, refer to *Consumption records (p. 5-3)* .

Setup

To record inventory consumptions in the supplier's administrative warehouse and to update the inventory levels and start up invoicing:

1. In the Implemented Software Components (tccom0100s000) session, select:
   - The **VMI (supplier side)** check box to maintain consumption records in VMI environments.
   - The **Subcontracting with Material Flow (manufacturer)** check box to maintain consumption records in subcontracting environments.

2. In the Terms and Conditions (tctrm1100m000) session, define terms and conditions for the relevant business partners, warehouses, and items.

3. In the **Method of Inventory Update** field of the Logistics Terms and Conditions (tctrm1140m000) session, to enable the creation of consumption records in the Inventory Consumptions (tdsls4140m000) session for subcontracting scenarios, select one of the following options:
   - **Receipts and Consumptions**
   - **Receipts, Consumptions and Inv. Balance**
   - **Inventory Balance as Consumption**

   For VMI scenarios, selecting these options is not required, but if you do not select any of these options, received quantities are not shown in the Inventory Consumptions (tdsls4140m000) session.

For further information on how to set up the VMI functionality, refer to: *VMI customer role - setup (p. 4-1)* and *VMI supplier role - setup (p. 4-7)* . For information on subcontracting, refer to Overview of subcontracting and the *User's Guide for Subcontracting (U9361A US)*.

To process consumptions

To determine whether invoicing is applicable, and if yes, to start up invoicing for the relevant customer, and to lower the inventory levels in the administrative warehouse, you must process the consumption records. To process inventory consumptions:

1. In the Inventory Consumption Lines (tdsls4141m000) session, from the **Specific** select **Process Consumption Line** to process selected consumption lines.

2. In the Inventory Consumptions (tdsls4140m000) session, from the **Specific** select **Process Inventory Consumptions** to process the consumption lines of the selected item.

3. Use the Process Inventory Consumptions (tdsls4290m000) session to process a range of consumption records.

After the consumptions are processed, the orders to which the consumptions are linked are shown in the Orders by Inventory Consumption Line (tdsls4142m000) session.

How ERP LN processes consumption - outline

Step 1: Link consumption record to replenishment order

To determine whether invoicing is applicable, and if yes, to start up invoicing for the relevant customer, ERP LN links the consumption record to the order with which the item was received in the VMI warehouse as follows:

1. Subcontracting reference present on consumption line?

   If yes, the consumption is linked to the corresponding purchase material supply line. For more information, refer to *Subcontracting order (p. 6-12)* and *Process returns (p. 6-11)* .

   If no, see the following step.

2. Customer order reference present? If yes, the consumption is linked to that order. For more information, refer to *VMI order (p. 6-12)* and *Process returns (p. 6-11)* .

   If no, see the following step.

3. **Invoicing Required** check box selected on consumption line?

   If yes, search for a **Pay on Use** sales order line to which to link the consumption.
   - If found, refer to *VMI order (p. 6-12)* .
   - If not found, create a consignment invoicing sales order to settle the invoicing of the consumed quantity. For more information, refer to *Consignment invoicing orders (p. 6-13)* .

   If no, lower the inventory level without invoicing.

Step 2: Process returns

If the **Return** check box is selected on the consumption line, no invoicing is required.

For consumption lines that contain a customer order number, ERP LN only updates the inventory levels.

If payment is of type **Pay on Use** for the sales order found, an invoicing line is created, but on this invoicing line the returned consumption quantity is shown in the **Returned Consumption Quantity** field of the Sales Order Invoice Lines (tdsls4106m100) session, and no invoicing takes place. For further information on invoicing lines, refer to *VMI order (p. 6-12)* .

If the subcontracting reference is filled, the consumption line's **Processed** check box is selected, and no further action is taken.

Note

The search order listed above is leading. If, for example, a subcontracting reference and a customer order number are filled on the consumption line, the

customer order number will be ignored, even if a search on subcontracting reference fails.

Subcontracting order

To link a consumption line to a <u>subcontracting purchase order</u>, ERP LN first uses the subcontracting reference, and then the item of the inventory consumption to find the relevant material supply line that corresponds to the subcontracting purchase order. The material line whose item matches the inventory consumption line's item is selected.

For costing purposes, the used materials must be booked on the correct subcontracting purchase order. Therefore, the **Subcontracting Reference** field in the Inventory Consumption Lines (tdsls4141m000) session is mandatory.

Usually, the subcontractor is not invoiced for materials that are supplied by the manufacturer that the subcontractor consumes to produce the items for the manufacturer.

For consumption lines linked to an **Operation Subcontracting** material supply line or an **Item Subcontracting** material supply line, the **Consumed Quantity** field in the Purchase Order Material Supply Lines (tdpur4116m000) session is manually or automatically updated after receipt of a consumption message from the subcontractor, which in turn triggers the update of the inventory levels.

For further information about the order flow between the manufacturer and the subcontractor, and operation subcontracting and item subcontracting, refer to To subcontract operations (manufacturer's side) and Item subcontracting - procedure or the *User's Guide for Subcontracting (U9361A US)*.

Note

ERP LN only searches for a subcontracting order if, in the Implemented Software Components (tccom0100s000) session, **Subcontracting with Material Flow (subcontractor)** is selected.

VMI order

In <u>vendor managed inventory (VMI)</u> environments, the customer order reference is not mandatory. If an inventory consumption line contains a customer order reference, ERP LN searches for a sales order line where the customer order, position, and sequence match the customer order reference, to determine the payment.

If the payment found is **Pay on Use**, inventory levels are updated and invoicing applies. If invoicing applies, ERP LN creates invoicing lines in the Sales Order Invoice Lines (tdsls4106m100) session for the order lines to which the

consumption line is linked. For more information, refer to *Link consumption record to replenishment order (p. 6-11)* .

If the payment found is **Pay on Receipt** or **No Payment**, only the inventory levels are updated.

If no customer order reference is available and the **Invoicing Required** check box is selected, the following applies:

1. ERP LN searches for the oldest sales order with payment type **Pay on Use** that is not yet fully consumed. If a matching sales order line is found, ERP LN creates an invoice line linked to that sales order line.

2. If no matching line is found, ERP LN creates a consignment invoicing sales order, which is a sales order whose order type is defined as the consignment invoicing order type. This is done by selecting the order type in the **Consignment Invoicing Order Type** field of the Sales Order Parameters (tdsls0500m400) session.

If a **Pay on Use** sales order line is used and the total consumed quantity exceeds the ordered quantity, ERP LN creates an invoicing line for the part that "fits". For the remainder, ERP LN searches for other **Pay on Use** sales order lines to create invoicing lines. For the consumed quantities for which no sales order line is found, ERP LN creates a consignment invoicing sales order.

For each invoice line created, ERP LN updates the inventory levels with the invoiced quantities.

> **Note**
>
> ERP LN only searches for **Pay on Use** sales order lines if, in the Implemented Software Components (tccom0100s000) session, **Ownership External** is selected.

Consignment invoicing orders with origin **Consumption**

Sales consignment invoicing orders that are generated to invoice consumptions have origin **Consumption**. The order type used for the consignment invoicing order is retrieved from the **Consignment Invoicing Order Type** field in the Sales Order Parameters (tdsls0100s400) session.

Updating inventory levels for this order is handled by Warehouse Management, because warehouse activities are part of the order procedure of a sales consignment invoicing order.

If a consignment invoicing order is released to Warehouse Management, processing the resulting outbound order lines handles inventory level adjustments. It is recommended that the activities of the warehousing order type linked to the consignment invoicing order type are set to automatic. For more information, refer to To define warehousing procedures.

For sales consignment invoicing orders, the price is always based on the consumption date.

You cannot cancel or delete sales orders with origin **Consumption**. Corresponding lines cannot be canceled, deleted, or added. Also, the item and the quantity cannot be changed.

Prices and discounts

When ERP LN creates an invoicing line, ERP LN determines prices and discounts based on the values of the originating line, using either the consumption date or the replenishment date, depending on the **Price Determination Based on** parameter setting in the Order Terms and Conditions (tctrm1130m000) session.

When a consignment invoicing order is created, ERP LN uses only the consumption date.

For the originating lines and the consignment invoicing lines, ERP LN uses standard price and discount functionality.

Pay on Use sales order lines

For sales order lines with payment type **Pay on Use**, the activity **Release to Invoicing** is part of the order procedure. Therefore, such sales order lines:

- Are eligible to register consumptions.
- Are eligible for invoicing, that is, invoicing lines are created for the consumption lines to which they are linked.
- Can have the **Self Billing** check box selected.

Note

Invoicing is not available for consignment replenishment orders. A consignment replenishment order is a sales order with an order type for which the **Consignment Replenishment** check box is selected in the Sales Order Types (tdsls0594m000) session.

For consignment replenishment orders, the **Release to Invoicing** activity is not part of the order procedure. Therefore, consumptions cannot be invoiced using the original sales order, but are invoiced using a consignment invoicing order. For more information, refer to *Consignment invoicing orders (p. 6-13)* .

Appendix A
Glossary

A

address

A full set of addressing details, which include the postal address, access numbers for telephone, fax, and telex, e-mail and Internet address, identification for taxation purposes, and routing information.

administrative warehouse

A warehouse that offers a view of a warehouse that is managed by a business partner. An administrative warehouse corresponds with a physical warehouse controlled by the business partner's system. In that physical warehouse, the inbound and outbound processing takes place. The administrative warehouse mirrors the inventory levels present in the business partner's warehouse.

Administrative warehouses are used in situations such as the following:

■   The warehouse is located at your site, but a supplier manages and possibly owns the inventory until you use the items.

■   The warehouse is located at a customer's site. You own the inventory until the customer uses the items, but the customer manages the inventory.

■   The warehouse is located at a subcontractor's site. You own the unfinished goods present in the warehouse, but the subcontractor manages the inventory.

Administrative warehouse is not one of the warehouse types that you can define in ERP LN, setting up an administrative warehouse requires various paramter settings.

allocation

The reservation of inventory against a demand prior to the outbound process.

You can allocate a quantity of inventory to a business partner or a particular demand order.

> **Note**
> The documentation sometimes states that a particular demand object, such as a sales order, is *allocated to* a business partner, order, or reference. That phrase actually means that ERP LN must fill the demand object with *supply that was allocated to* that particular business partner, order or reference.

Business Object Document (BOD)

An XML message used to exchange data between enterprises or enterprise applications. The BOD is composed of a noun, which identifies the message content, and a verb, which identifies the action to be taken with the document. The unique combination of the Noun and the Verb forms the name of the BOD. For example, noun ReceiveDelivery combined with verb Sync results in BOD SyncReceiveDelivery.

business partner

A party with whom you carry out business transactions, for example, a customer or a supplier. You can also define departments within your organization that act as customers or suppliers to your own department as business partners.

The business partner definition includes:
- The organization's name and main address.
- The language and currency used.
- Taxation and legal identification data.

You address the business partner in the person of the business partner's contact. The business-partner status determines if you can carry out transactions. The transactions type (sales orders, invoices, payments, shipments) is defined by the business partner's role.

buy-from business partner

The business partner from whom you order goods or services; this usually represents a supplier's sales department. The definition includes the default price and discount agreements, purchase-order defaults, terms of delivery, and the related ship-from and invoice-from business partner.

Synonym: buy-from supplier

buy-from supplier

See: *buy-from business partner (p. A-2)*

cluster

A group of entities that are not necessarily related to one financial company or logistic company.

In Enterprise Planning, clusters are used for groups of warehouses, connected by supplying relationships.

company owned

Goods owned by your organization. A type of ownership behavior pertaining to goods in inventory or on order, which is set for standard business processes based on standard attributes such as terms of delivery and point of title passage. After your customer receives or stores the goods, the customer will take ownership of the goods. If you purchase goods from your supplier, you become the owner after receipt or storage of the goods.

See also: ownership

consigned

A type of ownership behavior pertaining to goods in inventory or on order.

If you are a customer, consigned goods are goods delivered by the supplier that you do not own and for which you have not paid. You become the owner, and payment is due, when you use or sell the goods, or after a given number of days after you receive the goods.

If you are a supplier, consigned goods are goods that you delivered to your customer, but the customer will not take ownership or pay until he uses or sells the goods, or until a given period of time after receipt of the goods has passed.

The period of time between the receipt of the goods and the date on which the customer becomes the owner, and payment is due, is laid down in the contract drawn up between the supplier and the customer.

See also: ownership

Synonym: Pay on Use

consumption

The issue from the warehouse of consigned items by or on behalf of the customer. The customer's purpose is to use these items for sale, production, and so on. After the items are issued, the customer becomes the owner of the items and the customer must pay the supplier.

customer owned

A type of ownership behavior pertaining to goods in inventory or on order. Customer owned goods are goods whose ownership will not change during any of the inbound or outbound warehousing processes.

For example, a customer sent you some components that you, as a subcontractor, will use to manufacture a product for this customer. The customer owns the components while they are stored in your warehouse and throughout all the logistic and production processes involved in manufacturing and delivering the product to the customer.

See also: ownership

demand forecast

The item quantity that is forecast to be sold in a plan period, on the basis of seasonal patterns and/or historical demand data.

The demand forecast is part of the demand plan for a plan item or channel.

demand forecast

The level of demand that is expected in future periods.

The demand forecast is based on historical demand data and can be used to determine the optimal safety stock and reorder point.

See: safety stock, reorder point

direct delivery

The process in which a seller orders goods from a buy-from business partner, who must also deliver the goods directly to the sold-to business partner. By means of a purchase order that is linked to a sales order or a service order, the buy-from business partner delivers the goods directly to the sold-to business partner. The goods are not delivered from your own warehouse, so Warehouse Management is not involved.

A seller can decide for a direct delivery because:

- There is a shortage of available stock.
- The ordered quantity cannot be delivered in time.
- The ordered quantity cannot be transported by your company.
- Costs and time are saved.

forecast

The demand for an item, calculated by the customer that purchases that item, and aggregated to forecast periods according to the agreed terms and conditions.

The customer sends the forecast to the supplier that plans the item supply.

handling unit

A uniquely identifiable physical unit that consists of packaging and contents. A handling unit can contain items registered in Warehouse Management and other handling units. A handling unit has a structure of packaging materials used to pack items, or is a part of such a structure.

A handling unit includes the following attributes:

- Identification code
- Packaging item (optional)
- Quantity of packaging items (optional)

If you link an item to a handling unit, the item is packed by means of the handling unit. The packaging item refers to the type of container or other packing material of which the handling unit consists. For example, by defining a packaging item such as Wooden Crate for a handling unit, you specify that the handling unit is a wooden crate.

See: handling unit structure

integration transaction

A financial transaction that is generated through ERP LN packages other than Financials. For each logistic transaction that must be reflected in Financials, ERP LN generates an integration transaction, for example, Purchase/Receipt, Production/WIP Transfer, and Project/Costs of Goods Sold. ERP LN posts the integration transaction to the ledger accounts and dimensions defined in the integration mapping scheme.

inventory commitment

The reservation of inventory for an order without taking into account the physical storage of the goods within the warehouse. Previously referred to as hard allocation.

inventory date

A date that is assigned to items when they are stored. You can use inventory dates to retrieve items based on FIFO (First In First Out) or LIFO (Last In First Out), without carrying out extensive lot control.

The meaning of the inventory date is connected to the outbound priority of LIFO, FIFO, or the product expiry date of the item.

With outbound priority LIFO or FIFO, the default for the inventory date is the system date; however, you can overwrite this so that the inventory date does not have to be equal to the storage date. If the item has a particular shelf life, the inventory date is the product expiry date defined for the item.

inventory level

The inventory quantity that can be available in a warehouse. In VMI or subcontracting scenarios, warehouse supply can be based on inventory levels laid down in contracts between suppliers and customers.

inventory ownership change order

A commission to change the ownership of goods from the supplier, that is, the buy-from business partner, to the own company, if the ownership is time based. See also ownership.

An inventory ownership change order consists of an order header providing general information and one or more order lines providing details about the items involved. In addition, if resulting from the ownership change relocation is required involving adjustments of the handling unit structure, line handling information is also provided.

Time based change orders are generated by users for items due for ownership change. Infor ERP LN uses change orders to generate financial transactions related to the ownership change and to track the whereabouts of inventory.

item

In ERP LN, the raw materials, subassemblies, finished products, and tools that can be purchased, stored, manufactured, sold, and so on.

An item can also represent a set of items handled as one (kit), or exist in multiple product variants (generic item).

You can also define nonphysical items, which are not held in inventory but can be used to post costs or to invoice services to customers. Examples of nonphysical items:

- Cost items (for example, electricity)
- Service items
- Subcontracting items
- List items (menus/options)

item supplier plan

A time-phased overview of the demand and supply for an item related to a specific supplier.

ERP LN provides item supplier plans to work with vendor managed inventory. The item supplier plan displays data such as the forecast you sent to the supplier and the confirmed supply information the supplier sent back to you.

You can compare an item supplier plan with an item order plan. The difference is, that the item order plan displays demand and supply from *all* suppliers and customers and the item supplier plan displays demand and supply for a *specific* supplier.

location

A distinct place in a warehouse where goods are stored.

A warehouse can be divided into locations to manage the available space, and to locate the stored goods. Storage conditions and blocks can be applied to individual locations.

outbound advice

A list generated by ERP LN that advises you the location and lot from which goods must be picked and possibly issued, taking into account factors such as blocked locations and the outbound method.

outbound priority

The information that determines the sequence of locations from which an item must be retrieved.

ownership record

An ownership record specifies the owner of the items listed on any of the following objects:

- Receipt line
- Outbound advice line
- Shipment line
- Cycle counting order line
- Adjustment order line

These objects can include items from various owners, and some of the items can be company owned. A separate ownership record is manually or automatidcally created for each owner. For example, if a receipt line has inventory for two owners, two ownership records are present for the receipt line.

Pay on Use

See: *consigned (p. A-3)*

planned distribution order

An order in Enterprise Planning for an internal supplier or sister company to deliver a quantity of an item.

purchase contract

Purchase contracts are used to register specific agreements with a buy-from business partner that concern the delivery of specific goods.

A contract is comprised of:

- A purchase contract header with general business partner data, and optionally, a linked terms and conditions agreement.
- One or more purchase contract lines with price/discount agreements and quantity information that apply to an item or price group.

purchase payable receipt

Indicates when billing is applicable for purchased goods and contains the payable and invoicing details for an order or schedule. By means of purchase payable receipts, updates to and from the Accounts Payable module are handled.

If the payment for the purchased goods is set to **Pay on Use**, the payable receipt is generated when inventory related to a purchase order or a purchase schedule is consumed, that is, issued from the warehouse. If the payment is set to **Pay on Receipt**, the payable receipt is generated the moment the purchased goods are received.

purchase schedule

A timetable of planned supply of materials. Purchase schedules support long-term purchasing with frequent deliveries and are usually backed by a purchase contract. All requirements for the same item, buy-from business partner, ship-from business partner, purchase office, and warehouse are stored in one schedule.

RosettaNet

A standards organization that develops and publishes XML-based standards for electronic messaging in the areas of supply chain management, manufacturing, and so on.

sales schedule

A timetable of planned supply of materials. Sales schedules support long-term sales with frequent deliveries. All requirements for the same item, sold-to business partner, ship-to business partner, and delivery parameter are stored in the same sales schedule.

self-billing

The periodic creation, matching, and approval of invoices based on receipts or consumption of goods by an agreement between business partners. The sold-to business partner pays for the goods without having to wait for an invoice form the buy-from business partner.

sourcing percentage

A percentage used to calculate how orders are divided among suppliers.

subcontracting

Hiring certain services from another party, for example the execution of a part of a project or an operation of a production order.

Subcontracting is considered as purchasing a subcontracting item.

subcontracting

Allowing another company (the subcontractor) to carry out work on an item. This work can concern the entire production process, or only one or more operations in the production process.

subcontracting purchase order

In ERP LN, subcontracting is considered as purchasing a service from a subcontractor. Therefore, when subcontracting, a subcontracting purchase order is generated to record the subcontracted operation(s) and the associated costs.

supply chain

The physical entities, people, and processes that lead from acquiring raw materials from suppliers to providing finished products to meet customer requirements.

terms and conditions agreement

An agreement between business partners about the sale, purchase, or transfer of goods, in which you can define detailed terms and conditions about orders, planning, logistics, invoicing, and allocation/hard pegging, and define the search mechanism to retrieve the correct terms and conditions.

The agreement includes the following:

- A header with the type of agreement and the business partner(s).
- Search levels with a search priority and a selection of search attributes (fields) and linked terms and conditions groups.
- One or more lines with the values for the search levels' search attributes.
- Terms and conditions groups with detailed terms and conditions about orders, planning, logistics, invoicing, and allocation/hard pegging for the lines.

vendor managed inventory (VMI)

Vendor managed inventory is an inventory management method according to which the supplier usually manages the inventory of his customer or subcontractor. Sometimes, the supplier manages the supply planning as well. Alternatively, the customer manages the inventory but the supplier is responsible for supply planning. Inventory management or inventory planning can also be subcontracted to a logistics service provider (LSP).

The supplier or the customer may own the inventory delivered by the supplier. Often, the ownership of the inventory changes from the supplier to the customer when the customer consumes the inventory, but other ownership transfer moments occur, which are laid down by contract.

Vendor-managed inventory reduces internal costs associated with planning and procuring materials and enables the vendor to better manage his inventory through higher visibility to the supply chain.

VMI warehouse

A warehouse in which goods are held in consignment. The supplier owns the inventory. From the supplier's perspective, this is a warehouse usually located at the customer's; but usually the supplier is responsible for warehouse management or supply planning, or both. From the customer's perspective, this is a warehouse usually on his premises that is usually managed by the supplier or for which the supplier performs supply planning, or both.

warehouse

A place for storing goods. For each warehouse, you can enter address data and data relating to its type.

warehouse transfer

A warehousing order to move an item between warehouses.

A warehouse transfer consists of a warehousing order of inventory transaction type **Transfer**.

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