



# Infor LN User Guide for Vendor Managed Inventory

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## About this Guide

This document provides an introduction to vendor managed inventory (VMI), describing the various VMI scenarios, and procedures. The item ownership and administrative warehouses for VMI scenarios are also explained.

### 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.

### References

Use this guide as the primary reference for vendor managed inventory. Use the current editions of these documents for information that is not covered in this guide:

- *User Guide for Sales Orders*
- *User Guide for Purchase and Sales Schedules*
- *User Guide for the Inbound Goods Flow*
- *User Guide for the Outbound and Shipment Goods Flows*
- *User Guide for Subcontracting*

### How to read this document

This document is assembled from online Help topics.

Text in italics followed by a page number represents a hyperlink to another section in this document.

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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) For more information, refer to Logistic service providers (LSP) - packaging item registration.

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, 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 more information, refer to Overview of VMI business scenarios Logistic service providers (LSP) - packaging item registration.

### 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 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 LN, you must define the responsibilities of your organization, suppliers and other business partners. The contracts that are defined by *item*, *business partner*, and *warehouse* include data that is relevant to these responsibilities. To set up VMI functionality, refer to:

- VMI customer role - setup
- VMI supplier forecast - setup

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 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*.

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### 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.

### VMI warehouse

In the previous example, warehouse A is the *VMI warehouse*. In the VMI scenarios that 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 *administrative warehouse*.

**Note:** Administrative warehouse is not one of the warehouse types that you can define in 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.

### **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 package, you can define ownership change rules. For more information, refer to Inventory ownership in Warehouse Management and Overview of terms and conditions.

## Chapter 2: Vendor Managed Inventory scenarios

### Overview of VMI business scenarios

LN supports numerous *vendor managed inventory (VMI)* 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 ownership	Warehouse management	Supply planning	For more information, see:
Full VMI	Supplier	Supplier	Supplier	<ul style="list-style-type: none"> <li>Full VMI</li> <li>Full VMI - procedure</li> </ul>
Planning by customer	Supplier	Supplier	Customer	Supply planning by customer
Planning by supplier	Customer	Customer	Supplier	Planning by supplier
Warehouse management by customer	Supplier	Customer	Supplier	<ul style="list-style-type: none"> <li>Warehouse management by customer</li> <li>Warehouse management by customer - procedure</li> </ul>
Financial ownership by supplier	Supplier	Customer	Customer	The consignment procedure

To set up VMI functionality, see:

- VMI customer role - setup
- VMI supplier forecast - setup

### 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 *VMI warehouse*, 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 *administrative warehouse* 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 or Time-based ownership change.

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.

**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 *sales schedules*, 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.

**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. This 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:

- [Supplier commits to supply plan](#) on page 13.
- [Customer sends call-off](#) on page 13.

**3 Customer approves supply**

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

**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.

**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.

**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.

**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 or Time-based ownership change.

**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. The 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.

**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.

**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.

**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*. For more information, refer to Automatic receipts.

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](#) on page 12.
- 2** [Invoicing](#) on page 12.
- 3** [Payment](#) on page 12.

## 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.

**1** Customer sends planned consumption to supplier

[Customer sends planned consumption to supplier](#) on page 11

**2** Supplier plans supply

[Supplier plans supply](#) on page 11

**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.

**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.

**5** Customer issues stock

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

**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.

**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 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.

- 1** Customer sends planned consumption to supplier  
[Customer sends planned consumption to supplier](#) on page 11
- 2** Supplier plans supply  
[Supplier plans supply](#) on page 11
- 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.
- 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 *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 and the supplier's administrative warehouses. The received quantities are inserted in the customer's purchase schedule for each supplier.
- 5** Customer issues stock  
The customer issues components for production or sales, because the customer is responsible for warehouse management for the VMI warehouse.
- 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.
- 7** Customer pays supplier  
The customer pays the supplier.

## Consignment

Consignment functionality applies if inventory ownership and storage are handled by various parties.

In case of consignment, at least one of the following situations applies:

- Supplier-owned inventory is stored at a user warehouse.
- User-owned inventory is stored at a customer warehouse.

Consignment inventory is, therefore, one of the following:

- Inventory you store that still belongs to a supplier. This type of inventory is also called consignment (not owned) inventory.

- Inventory you own that is stored and controlled by a customer. This type of inventory is also called consignment (owned) inventory.

### Warehouses

You can specify a warehouse for owned consignment inventory and not-owned consignment inventory in the **Warehouses (tcmcs0103s000)** session based on the following warehouse types:

- **Consignment (Not Owned)**  
A warehouse that is used for storing not-owned consignment inventory. Not-owned consignment inventory are goods owned by a supplier but stored in your warehouse without being paid for until after the goods are used or sold. You register the goods as consignment inventory.
- **Consignment (Owned)**  
A warehouse that is used for storing owned consignment inventory. Owned consignment inventory are goods owned by your company and stored in a customers warehouse without receiving payment until after the goods are used or sold. You do not register the goods as consignment inventory because the goods are still part of your inventory.

You can define multiple *consignment owned warehouses* for one ship-to business partner. It is recommended that you apply the following rules:

- The warehouses have different addresses.
- One of the warehouses has the same address as the ship-to business partner.

### Public warehousing

Public warehousing is a situation in which you pay a business partner to store your goods in their warehouse. Public warehousing also refers to a situation in which a business partner pays you to keep goods in your warehouse.

## Consignment (not owned) inventory

### Receipts

Usually, you receive consignment inventory based on a purchase order of type consignment replenishment. You can specify the purchase order type in the **Purchase Order Types (tdpur0194m000)** session. If the received inventory concerns consignment inventory, a consignment inventory line with status **Received** is created in the **Consigned Receipts (whwmd2550m000)** session.

Consignment inventory is almost always stored in a warehouse of type **Consignment (Not Owned)**. Consignment inventory can also be stored in a warehouse of type **Normal**.

### Issues

The value of the Issue Priority check box in the Item - Warehousing (whwmd4600m000) session determines which type of inventory is issued first. If consignment inventory is issued, LN creates:



- A purchase order of type consignment payment in the **Purchase Orders (tdpur4100m000)** session. Afterwards the purchase order is processed in the **Process Delivered Purchase Orders (tdpur4223m000)** session. As a result, Financials is instructed to pay for the used goods. In Accounts Payable, an invoice must be created manually and matched with the purchase order of type consignment payment.
- A consignment inventory line with the **Processed** status in the **Consigned Receipts (whwmd2550m000)** session.

If a shipment procedure is linked to the warehousing order type, LN determines whether and how much consignment inventory is concerned with the issue, when the shipment line is confirmed. If the confirmed shipment line contains quantity not shipped, and if the **Automatic Adjustment of Quantity Not Shipped** check box in the **Shipment Lines (whinh4131m000)** session is cleared, LN does not determine whether and how much of the not shipped quantity concerns consignment inventory. If the confirmed shipment line contains quantity not shipped and the **Automatic Adjustment of Quantity Not Shipped** check box in the **Shipment Lines (whinh4131m000)** session is selected, LN generates an adjustment order and determines whether and how much of the not shipped items on the adjustment order concern consignment inventory.

If no shipment procedure is linked to the warehousing order type, and the last specified activity in the warehousing order type's outbound advice procedure is:

- The **Picking List (whinh4525m100)** session, LN determines whether and how much of the picked items concern consignment inventory if you indicate that picking can take place for a picking list.
- The **Warehouse Inspections Overview (whinh3122m000)** session, LN determines whether and how much of the approved items concern consignment inventory if you approve the inspected items during outbound inspection. If you reject inspected items during outbound inspection, LN generates an adjustment order and determines whether and how much of the rejected items on the adjustment order concern consignment inventory.

### Return consignment not-owned inventory

To return consignment not-owned inventory, you must create a purchase order of type consignment replenishment with a negative quantity. If the purchase order is released to Warehousing, and you generate an outbound advice for this order, LN creates a consignment inventory line with the **Allocated** status in the **Consigned Receipts (whwmd2550m000)** session.

If you return consignment inventory and the items are issued, LN does the following:

- Changes the status of the consignment inventory line from **Allocated** to **Processed**.
- Does not create a purchase order of type **Consignment Payment**.

However, if the last activity to be carried out for the warehousing order's order type is:

- **Warehouse Inspections Overview (whinh3122m000)** and you reject items, LN reduces the quantity on the allocated consignment inventory line. If the entire quantity of the allocated consignment inventory line is rejected, LN deletes this line. LN also creates an adjustment order for the rejected items.
- **Freeze/Confirm Shipments/Loads (whinh4275m000)** and the confirmed shipment line contains quantity not shipped, LN reduces the quantity on the allocated consignment inventory line. If the entire quantity of the allocated consignment inventory line is not shipped, LN deletes this line. If the **Automatic Adjustment of Quantity Not Shipped** check box in the **Shipment Lines (whinh4131m000)** session is selected, LN also creates an adjustment order for the not shipped items.

Because the rejected or not shipped items are not returned to the supplier, you must pay for these items. Therefore, LN creates for the rejected items or not shipped items:

- A purchase order of type consignment payment in the **Purchase Orders (tdpur4100m000)** session.
- A consignment inventory line with the **Processed** status in the **Warehousing Orders History (whinh2550m000)** session.

## Consignment (owned) inventory

If you deliver goods to a customer under a consignment agreement, you remain the owner of the goods (acting as supplier), but the goods are stored in the customer's warehouse.

### Transfer

To put own inventory in a customer's warehouse, you must create a sales order of type consignment replenishment. You can specify the sales order type in the **Sales Order Types (tdsls0594m000)** session. This sales order results in a warehousing order of *inventory-transaction type* **Transfer** because goods are transferred from one warehouse to another, where the receiving warehouse is a warehouse of type **Consignment (Owned)**.

### Invoicing of used consignment (owned) inventory

The customer pays for the consignment (owned) inventory at the time of use.

To get the correct balance sheet, you must create a sales order of type consignment invoicing to match the payment. You can specify the sales order type in the **Sales Order Types (tdsls0594m000)** session. This sales order reduces the inventory in the **Consignment (Owned)** warehouse, but physical shipment does not take place for this sales order. You can match the sales order of type consignment invoicing and the payment in the Accounts Receivable module.

## Consignment in Sales and Procurement

You can use *consigned* inventory, for which inventory ownership and storage are handled by different parties, and select either a basic or extended consignment setup.

### Extended consignment

In an extended consignment setup, *vendor managed inventory (VMI)* settings are laid down in a *terms and conditions agreement* between business partners. Therefore, if you want the item ownership to be *consigned*, in the Order Terms and Conditions (tctrm1130m000) session, set the Payment field to **Pay on Use** for a combination of item, *business partner*, and *warehouse* (Procurement) or **Ship-to Warehouse** (Sales).

When a (replenishment) order/schedule is created for the defined combination of item, business partner, and (ship to) warehouse, the **Payment** field on the order line/ schedule (line) is **Pay on Use**, as retrieved from the terms and conditions. When consignment inventory is consumed, the consumption can be linked to an existing order/schedule.

For each consumption, the following is generated:

- Procurement  
A *purchase payable receipt* that is linked to an existing receipt in the Purchase Payable Receipts (tdpur4130m000) or Purchase Payable Receipts for Schedules (tdpur3118m000) session.
- Sales  
A *consumption* line that is linked to an existing delivery in the Inventory Consumption (tdsls4640m000) session. After the consumption line is processed in the Process Inventory Consumptions (tdsls4290m000) session and invoicing is required, in the Sales Order Invoice Lines (tdsls4106m100) or the Sales Schedule Invoice Lines (tdsls3140m200) session, an invoice line linked to the sales order/schedule line is created for the consumption.

With extended consignment, you directly link the payment/invoicing for a consumption of consignment inventory to the replenishment order or schedule. The price for the payment/invoicing of consigned inventory is based on the price that is valid at the moment of replenishment or consumption, which you can specify in the Price Determination Based on field of the **Order Terms and Conditions (tctrm1130m000)** session.

**Note:**

If LN cannot link the consumption of consigned inventory to an existing order or schedule, the following happens:

- Procurement  
A **Purchase Payment** order is automatically generated. If no receipt is available yet, based on the number group for warehouse receipts, a receipt is generated in Procurement and a *purchase payable receipt* is created.
- Sales  
A **Consumption** order is automatically generated based on the Consignment Invoicing Order Type field in the **Sales Order Parameters (tdsls0100s400)** session.

For more information on:

- Terms and conditions, see Overview of terms and conditions.
- Inventory ownership, see Inventory ownership in Warehouse Management.

**Basic consignment**

In a basic consignment setup, the order and schedule procedures are split into a replenishment part and a payment/invoicing part.

Specify the following:

- Purchase order procedure  
In the **Purchase Order Type (tdpur0694m000)** session, create separate **Consignment Replenishment** and **Consignment Payment** order types and define their activities. Enter the order types in the Order Type for Consignment Replenishment and Order Type for Consignment Payment fields of the **Purchase Order Parameters (tdpur0100m400)** session.
- Purchase schedule procedure  
Select the Consigned check box in the **Purchase Contract Lines (tdpur3101m000)** session.
- In the Price Determination Based on field of the **Purchase Order Parameters (tdpur0100m400)** session, define how the price for the payment of *consignment inventory* is determined.
- Sales order procedure

In the **Sales Order Type (tdsls0694m000)** session, create separate **Consignment Replenishment** and **Consignment Invoicing** order types and define their activities.

Consignment replenishmentIf consigned inventory must be replenished:

- **Procurement**  
You handle the purchase orders/schedules up to the receipt of the goods. You need not pay for the goods before consumption, so no invoice is created yet.
- **Sales**  
You handle the sales order up to the delivery of the goods. You need not invoice the goods before the customer uses them, so no invoice is created yet.

You can only use the consignment replenishment part of the order/schedule procedure to replenish the consignment inventory.

Consignment payment/invoicingIf consigned inventory is used:

- **Procurement**  
You must pay for it. Carry out the consignment payment part of the purchase order/schedule procedure. When you consume consigned inventory, a **Purchase Payment** order is automatically generated. For each consumption, a *purchase payable receipt* is linked to the purchase order line in the Purchase Payable Receipts (tdpur4130m000) session.
- **Sales**  
You must invoice the customer for it. You must manually create a **Consignment Invoicing** sales order.

**Caution:** In a basic consignment setup, the payment/invoicing for a consumption is not directly linked to the replenishment order or schedule.

For more information, refer to Consignment.

## Chapter 3: Procedures

### 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
- VMI supplier forecast - setup
- 1** Customer sends planned consumption to supplier
  - a** In the **Sales Orders (tdsls4100m000)** session, the customer generates a sales order for the items that they will sell to their customer.
  - b** In the **Generate Order Planning (cprp1210m000)** 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.
  - c** In the **Approve Forecast to Supplier (cpvmi0202m000)** session, the customer approves the *forecast* data before sending this information to the supplier.
  - d** 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
- Planning by supplier
- 2** Supplier plans supply
  - a** In the **Accept Forecast from Customer (cpvmi0206m000)** session, the supplier accepts the *forecast* 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.
  - b** In the **Forecast Revisions from Customer (cpvmi0506m000)** session, the supplier checks and approves any *forecast* revisions that they receive from the customer.
  - c** In the **Generate Planned Supply based on Forecast (cpvmi1211m000)** session, the supplier generates *planned distribution orders* based on the approved forecast. If no planned orders are generated, rerun this session and select the **Print Exception Messages** check box.
  - d** 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 *terms and conditions agreement*.

- e In the **Planned Orders (cprrp1100m000)** session, the supplier transfers the planned distribution orders to warehouse transfer orders using the **Transfer Order Planning** option on the *appropriate* 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.
- f 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 **Approve** 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
- Planning by supplier

For more information, refer to Performing supply planning for your customer - Procedure in the *User Guide for Supply Planning by Supplier (U9482)*.

### 3 Customer approves supply

- a In the **Accept Confirmed Supply from Supplier (cpvmi0205m000)** session, the customer approves the confirmed supply from the supplier.
- b In the **Item Supplier Plan (cpvmi0530m000)** session, the customer views the *item-business-partner plan* created for the current item and supplier.

### 4 Supplier replenishes the customer's stock

- a 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 Warehousing package for details.
- b 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.

### 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](#) on page 37.

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.

## 6 Invoicing

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

- a** For the sales order with payment type **Pay on Receipt**, the supplier creates invoice lines in the **Sales Order Invoice Lines (tdsls4106m100)** session.
- b** In the **Release Sales Orders/Schedules to Invoicing (tdsls4247m000)** session, the supplier releases the invoice lines to Invoicing.
- c** In the **Invoicing Batch** session, the supplier creates an invoicing batch.
- d** In the **Compose/Print/Post Invoices (cisli2200m000)** session, the supplier creates the invoice. As a result, 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.

## 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 and receipt methods or the online Help of the Financials package.

# Warehouse management by customer - procedure

The steps involved in the Warehouse management by customer scenario are identical to those of the Full VMI 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.

## Step 5. Customer issues stock

- 1** The customer issues stock for *consumption*.
- 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](#) on page 37.

In the supplier's ERP system, a consumption record is created in the **Inventory Consumptions (tdsls4140m000)** session, either electronically after a *BOD* message from the customer or manually. This consumption record reduces the inventory levels in the administrative warehouse and handles the invoicing in the Invoicing module for the supplier. LN links the consumption record to the originating sales order to the customer. For more information, refer to Inventory consumption handling.

## 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, 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 **Invoicing Batch** session, the supplier creates an *invoicing batch*.
  - b In the **Compose/Print/Post Invoices (cisli2200m000)** session, the supplier creates the invoice. As a result, 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.

## The consignment procedure

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

The *VMI warehouse* is modeled as an *administrative warehouse* 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.

### 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. The 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.

### 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.

**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.

**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 *administrative warehouses*.

Also, in the supplier's ERP system, a consumption record can be 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 Invoicing module for the supplier. LN links the consumption record to the originating sales order to the customer. For more information, refer to Inventory consumption handling.

**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.

**6** Customer issues stock

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

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, LN generates a sales order of type **Consignment Invoicing** to create invoicing lines.

**7** Customer pays supplier

The customer pays the supplier.

## Chapter 4: To set up Vendor Managed Inventory

### VMI customer role - setup

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

The most important settings for the customer role are described below.

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

#### 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.

#### 2 Clusters

In the **Planning Clusters (tcecm1135m000)** 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.

#### 3 Warehouses

In the **Warehouses (whwmd2500m000)** session, set up the *VMI warehouse*. In the Supply planning by customer and the Full VMI scenarios, this is modeled as an *administrative warehouse*. Consider the following fields and check boxes:

- **Include in Enterprise Planning**

We recommend that you select this check box for scenarios in which the customer performs supply planning for the VMI warehouse, otherwise clear this check box.

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, clear this check box.

- **Inventory Management**

Select this check box if the customer performs inventory management:

- Planning by supplier
- Warehouse management by customer
- Consignment

For more information, refer to Overview of VMI business scenarios.

- **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
- Supply planning by customer

- **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**

#### 4 Item

To set up items:

- In the **Items (tcibd0501m000)** session, select **Purchased** or **Product** in the **Item Type** field and select **Planned** in the **Order System** field for all scenarios.
- In the **General** tab of the **Items - Planning (cprpd1100m000)** session, consider the following fields:
  - **Supply Source**  
Select **Item Source** for all scenarios. Therefore, the value of the **Actual Supply Source** field changes to **Purchase**.
  - **Ordering Warehouse**  
For all scenarios, enter the VMI warehouse specified in the previous step.
  - **Master Plan**  
We do not recommend 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 (whwmd4600m000)** session, you can specify whether and how the ownership of the inventory must be registered.  
For scenarios in which the supplier or an LSP performs warehouse management, and therefore the VMI warehouse is an *administrative warehouse* in the customer's ERP system, ownership registration on warehouse level should be sufficient.  
Otherwise, the required ownership registration level depends on whether the VMI warehouse contains owned and not-owned inventory, or inventory owned by various business partners. The scenarios in which the customer performs warehouse management are:
  - Planning by supplier
  - Warehouse management by customer
  - Consignment

- In the **Registration Level** field in the **Item Data by Warehouse (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 for each scenario.

## 5 Terms and conditions

- In the **Terms and Conditions (tctrm1600m000)** session, consider the following fields relevant to all scenarios:
  - In the **Terms and Conditions Type** field, select **Purchase**.
  - For search level 1, the recommended attribute for **Search Attribute 1** is **Item Group**, for **Search Attribute 2** it is **Warehouse**. In this way the terms and conditions apply to all items of the item group. Other attributes used 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 **Search Attribute 1** is **Item**, and for **Search Attribute 2** it is **Warehouse**. In the **Priority** field, set a higher priority than the one 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.

Preferably select the following check boxes for all scenarios:

- **Planning**
- **Order**
- **Logistics**
- **Invoicing**
- **Demand Pegging**

For example, setting up planning terms and conditions might not be necessary for scenario Supply planning by customer. The availability of these check boxes depends on the search attributes selected for the above search levels.

- In the **Payment** field of the **Order Terms and Conditions (tctrm1130m000)** session, select **Pay on Receipt** for scenario Planning by supplier. Otherwise, we recommend to select **Pay on Use**.
- In the **Planning Terms and Conditions (tctrm1135m000)** session, consider the following fields:

### General

- **Supply Planning by Supplier**

For the following scenarios, preferably clear this check box, because the customer performs supply planning:

- Consignment
- Supply planning by customer

Otherwise, select this check box.

- **Send Forecast to Supplier**

For the following scenarios, preferably clear this check box, because the customer performs supply planning, so the supplier does not need a forecast:

- Consignment
- Supply planning by customer

Otherwise, select this check box.

- **Aggregation Level**

For scenario Full VMI, preferably select **Detail**. For the following scenarios, the value is **Not Applicable**:

- Consignment
- Supply planning by customer

For the Planning by supplier scenario, set the aggregation level as required in your business environment.

- **Forecast Horizon**

For scenario Full VMI, 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

For the Planning by supplier scenario, set the forecast horizon as required in your business environment.

### **Confirmed Forecast**

- **Use Confirmed Forecast**

For the following scenarios clear this check box, because the customer performs supply planning and the supplier does not use forecasts:

- Consignment
- Supply planning by customer

Otherwise, select this check box.

- **Specify Confirmed Forecast by**

For scenario Full VMI, 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

For scenario Planning by supplier, select the value required in your business environment.

- **Base Confirmed Forecast on**

For scenario Full VMI, 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

For the Planning by supplier scenario, select the value required in your business environment.

### **Confirmed Supply**

- **Use Confirmed Supply**

For scenario Full VMI, 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

For the Planning by supplier scenario, select or clear this check box as required in your business environment.

- **Confirm Supply Horizon**

For scenario Full VMI, 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

For scenario Planning by supplier, set the time fence as required in your business environment.

### Planning

- **Replenishment Based On**

For scenario Full VMI, 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

For scenario Planning by supplier, select the value required in your business environment.

- The **Logistics Terms and Conditions (tctrm1140m000)** session allows you to specify how LN updates the *administrative warehouse* with the inventory levels of the "real" VMI warehouse for the following scenarios:

- Full VMI
- Supply planning by customer

Consider the following fields:

- **Method of Inventory Update**
- **Receiving Process**
- **Delivery Moments**

For more information, refer to To update the administrative warehouse.

- The **Invoicing Terms and Conditions (tctrm1145m000)** session allows you to determine how to perform invoicing. Fill the fields as required in your business environment. The **Receive Invoice** field only applies to the supplier role.

## 6 Purchase contracts

Terms and conditions are linked to purchase contracts. When you create a purchase contract, in the **Purchase Contracts (tdpur3100m000)** session:

- a In the **Buy-from Business Partner** field, insert the supplier.
- b In the **Terms and Conditions ID** field, link the appropriate terms and conditions.

## VMI supplier forecast - setup

Modelling the VMI scenarios relevant to your organization requires various parameter settings. If your organization buys goods on a VMI basis, set up the customer role, if it sells goods on a VMI basis, set up the supplier role.

The most important settings for the supplier role are described below.

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

### 1 Implemented software components

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

- Select the **Terms and Conditions** check box.
- If Enterprise Planning must allocate inventory based on forecasted demand from the customer, but replenishment is based on call-off, select the **Demand 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.

## 2 Clusters

In the **Planning Clusters (tcomm1135m000)** session, consider the following fields:

- **External**  
Select this check box if the supplier performs supply planning such as in the Full VMI, Planning by supplier, and Warehouse management by customer scenarios. Otherwise, we recommend to clear this check box.
- **Sold-to Business Partner**  
If the cluster is external (check box **External** is selected) insert the customer.
- **Ship-to Business Partner**  
Insert the appropriate ship-to business partner if the customer has various ship-to business partners.

## 3 Warehouses

In the **Warehouses (whwmd2500m000)** session, set up the *VMI warehouse*. In the Consignment, Warehouse management by customer, and Planning by supplier scenarios, this is an *administrative warehouse*. Consider the following fields and check boxes:

- **Planning Cluster**  
If the supplier performs supply planning, insert the external cluster defined in the **Planning Clusters (tcomm1135m000)** session. This typically applies to the Full VMI, Planning by supplier, and Warehouse management by customer scenarios.
- **Include in Enterprise Planning**  
Preferably select this check box if the supplier performs supply planning for the VMI warehouse.
- **Inventory Management**  
Preferably select this check box if the supplier performs inventory management, as in scenarios:
  - Full VMI
  - Supply planning by customerFor more information, refer to Overview of VMI business scenarios.
- **Business Partner**  
If you cleared the **Inventory Management** check box, select the business partner (customer) who must carry out inventory management. This applies to scenarios:
  - Planning by supplier
  - Warehouse management by customer
  - Consignment
- **External Site**  
Preferably 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 the current 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 the current field (located in the **External Site** group box), enter the business partner who represents the customer.

- **Ship-to**

If you selected **yes** for **External Site** and the customer has various ship-to business partners for whom the supplier performs supply planning, insert the appropriate ship-to business partner.

#### 4 Item

To set up items:

- In the **Items (tcibd0501m000)** session, preferably select **Planned** in the **Order System** field for scenarios in which the supplier performs supply planning:
  - Full VMI
  - Planning by supplier
  - Warehouse management by customer
- 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 [Clusters](#) on page 31 if the supplier performs supply planning.
  - **Supply Source**  
Preferably select **Distribution** if the supplier performs supply planning. For *direct deliveries*, value **Item Source** is required.
  - **Ordering Warehouse**  
For all scenarios, enter the VMI warehouse specified in [Warehouses](#) on page 31.
  - **Master Plan**  
It is not required 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 (whwmd4600m000)** session, you can specify whether and how the ownership of inventory is registered.  
If the customer performs warehouse management, so the VMI warehouse is an *administrative warehouse* in the supplier's ERP system, ownership registration on warehouse level is sufficient.  
Otherwise, the required ownership registration level depends on whether the VMI warehouse contains owned and not-owned inventory, or inventory owned by various business partners. The scenarios in which the customer performs warehouse management are:
  - Planning by supplier
  - Warehouse management by customer
  - Consignment
- In the **Registration Level** field in the **Item Data by Warehouse (whwmd2510m000)** details session, you can specify whether and how the ownership of the inventory must be registered for a warehouse



- item combination. For information about the ownership registration levels relevant to each scenario, see above.

## 5 Terms and conditions

- In the **Terms and Conditions (tctrm1600m000)** session, consider the following fields relevant to all scenarios:

- In the **Terms and Conditions Type** field, select **sales**.
- For search level 1, the recommended attribute for **Search Attribute 1** is **Item Group**, and for **Search Attribute 2** it is **Ship-to Business Partner**. In this way the terms and conditions apply to all items of the item group. Other attributes used 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 **Search Attribute 1** is **Item** and for **Search Attribute 2** it is **Ship-to Business Partner**. In the **Priority** field, set a higher priority than the one 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.

- For most scenarios, preferably select the following check boxes:

- **Planning**
- **Order**
- **Logistics**
- **Invoicing**
- **Demand Pegging**

For example, setting up planning terms and conditions might not be necessary for scenario Consignment. The availability of these check boxes depends on the search attributes selected for the above search levels.

- In the **Payment** field of the **Order Terms and Conditions (tctrm1130m000)** session, select **Pay on Receipt** for scenario Planning by supplier. Otherwise, select **Pay on Use**.
- In the **Planning Terms and Conditions (tctrm1135m000)** session, consider the following fields:

### General

- **Responsible for Supply Planning**

For the following scenarios, preferably select this check box, because the supplier performs supply planning:

- Full VMI
- Planning by supplier
- Warehouse management by customer

Otherwise, clear this check box.

- **Forecast received from Customer**

For the following scenarios, preferably select this check box if the supplier performs supply planning and the supplier is to receive a *demand forecast* from the customer:

- Full VMI
- Planning by supplier
- Warehouse management by customer

### Confirmed Forecast

- **Use Confirmed Forecast**

Select this check box if 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, select **Message**. For the following scenarios, this field is unavailable because the **Use Confirmed Forecast** check box is cleared:

- Consignment
- Supply planning by customer

For scenario Planning by supplier select the value required in your business environment.

#### **Confirmed Supply**

- **Confirm Supply**

Preferably select this check box if the supplier is to send a confirmation of the forecast to the customer.

- **Confirmed Supply Based On**

Preferably select **Confirmed Forecast** if you must define the type of demand on which a supplier's confirmed supply is based.

- **Confirm Supply Horizon**

For scenario Full VMI, preferably set the widest possible time fence. Otherwise, set the time fence as required in your business environment.

#### **Planning**

- **Replenishment Based On**

For the Full VMI scenario, preferably select **Confirmed Supply**. Otherwise, select the value required in your business environment.

- The **Logistics Terms and Conditions (tctrm1140m000)** session allows you to specify how LN updates the *administrative warehouse* with the inventory levels of the "real" VMI warehouse. This applies to the following scenarios:

- Planning by supplier
- Warehouse management by customer
- Consignment

Consider the following fields:

- **Method of Inventory Update**
- **Receiving Process**
- **Delivery Moments**

For further information on these fields, see To update the administrative warehouse.

- The **Invoicing Terms and Conditions (tctrm1145m000)** session allows you to determine how to perform invoicing. You can fill the fields as required by your organization. For further information on these fields, see the online Help of the Terms and Conditions module of Common.

## **6 Sales contracts**

Terms and conditions are linked to sales contracts. When you create a sales contract, in the **Sales Contracts (tdsls3500m000)** session:

- a In the **Sold-to Business Partner** field, insert the customer.
- b In the **Terms and Conditions ID** field, link the appropriate terms and conditions.

## Chapter 5: Ownership

### 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
- Time-based ownership change

#### 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 Guide for Terms and Conditions (/guides/U9499AUS).

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 Warehousing 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 differs from the Warehousing terminology:

Usage in Common	Usage in Warehousing
<b>Pay on Receipt</b>	<i>Company owned</i>
<b>Pay on Use</b>	<i>Consigned</i>
<b>No Payment</b>	<i>Customer owned</i>

## 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 handling and To update the administrative warehouse. For information on updating the customer's administrative or "real" VMI warehouse, see [Consumption records](#) on page 37 and To update the administrative warehouse.

### 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 *warehouse transfer* 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 **Item Data by Warehouse (whwmd2110s000)** 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 *cluster* 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, therefore, the customer becomes the owner.

## Consumption records

If the issue is a consumption according to the **Usage at Warehouse Transfer** parameter, 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, 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.

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

- A *purchase payable receipt* 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.
- *Integration transactions* 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 LN decides which stock is to be issued, see To determine the stock to be issued.

**Note:** If an issue for a consumption is performed on the sales side, that is, in the supplier's *administrative warehouse*, LN creates a consumption record in the **Inventory Consumptions (tdsls4140m000)** session. For more information, refer to Inventory consumption handling.

## 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 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, 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](#) on page 38
- [To process inventory ownership change orders](#) on page 39

## To generate inventory ownership change orders

To generate inventory ownership change orders, 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](#) on page 39. If the ownership change is after the latest receipt, check if:
  - The **Ownership Transfer Date** is present.
  - The **Ownership Transfer Date** is before the **Date**.
  - The status is lower than **Processed**.
  - The ownership is **Consigned**.
  - The owner is identical to the *buy-from business partner*.
- 3** For matching receipts, create inventory ownership change orders for received quantities not allocated to an outbound order for which *outbound advice* is present.  
 If outbound advice is present, 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.
- 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 **Type of Order** field and the **Order Line** field refer to the change order. The status of the consumption record is **Allocated**.
- If the **Directly Process Created Orders** check box is selected, [To process inventory ownership change orders](#) on page 39.

### 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, 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](#) on page 38, 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 *appropriate* 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, 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:

Re- ceipt	Item	Qty	Owner	Buy-from busi- ness partner	Receipt date	Ownership change date	Destination owner
1	X	200	Business partner A	BP A	March 12	March 22	Purchase of- fice 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:

- **Item Data by Warehouse (whwmd2110s000)**



- **Item - Warehousing (whwmd4600m000)**
- **Items - 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 Physical Item and Location**, and locations or stock points are blocked, LN cannot determine whether the inventory of a specific owner is blocked. If the ownership registration level is not **Location, Physical Item Or Physical Item and Location**, and handling units are blocked, 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, LN checks the following fields:

### 1 Ownership fields

The settings of the ownership fields in the **Outbound Order Lines (whinh2120m000)** session and the Issue Priority field in the **Item Data by Warehouse (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.

### 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.

### 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](#) on page 42.

### 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, LN checks the priority, the *sourcing percentages*, and the cumulative consumption percentages of the business partners supplying the item. In addition, 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 Using 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, 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*.

#### **No stock or insufficient stock owned by selected business partner available**

If no stock owned by the selected priority 1 business partner is available, 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, 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**

#### **Item Data by Warehouse (whwmd2110s000)**

- **Issue Priority**

The values of the **Payment** or the **Internal Payment** fields determine whose stock must be issued in the sense that they determine the value of the **Ownership** field. In turn, if the value of the **Ownership** field is **Customer Owned**, 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](#) on page 44.

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](#) on page 44.

### 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	<ul style="list-style-type: none"> <li>• <b>Free</b> Outbound advice without ownership restrictions.</li> <li>• <b>Owned Inventory First</b> Outbound advice for company-owned inventory first, then not-owned inventory, if insufficient owned inventory available.</li> <li>• <b>Not Owned Inventory First</b> Outbound advice for not-owned inventory first, then company-owned inventory, if insufficient not-owned inventory available.</li> </ul>
	<b>Consigned</b> Outbound advice for inventory with ownership <i>consigned</i> .	The issue priority is overruled.
	<b>Company Owned</b> Outbound advice for inventory with ownership <i>company owned</i> .	The issue priority is overruled.

Value in field:	Corresponding value in fields:	
<b>Preferred</b>	<b>Company Owned or Consigned</b>	<ul style="list-style-type: none"> <li>• <b>Free</b> Outbound advice for consigned inventory of specified business partner, then company-owned inventory, if insufficient not-owned inventory available.</li> <li>• <b>Owned Inventory First</b> Outbound advice for consigned inventory of specified business partner first, then company-owned inventory, if insufficient consigned inventory for specified business partner is available.</li> <li>• <b>Not Owned Inventory First</b> 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.</li> </ul>
	<b>Consigned</b>	The issue priority is overruled.
	<ol style="list-style-type: none"> <li><b>1</b> Outbound advice for consigned inventory of specified business partner.</li> <li><b>2</b> If not available, outbound advice for consigned inventory.</li> </ol>	
<b>Restricted</b>	<b>Restricted</b> Outbound advice for customer owned inventory from the business partner specified in the <b>Issue from Business Partner</b> 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, LN must determine from whose inventory the items will be issued for consumption. The following example shows how 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, 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.

Consumption	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.

Con- sump- tion	Consumed BP1		Consumed BP2		Consumed BP3		Description
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 *customer owned* or *consigned* 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 (whwmd4600m000)**
- **Items - Warehousing Defaults (whwmd4101s000)**
- **Item Data by Warehouse (whwmd2510m000)**
- **Item - Warehousing (whwmd4500m000)**
- **Item 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, 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.

LN issues items according to the issue strategy. For more information, refer to To determine the stock to be issued.

## Ownership records

*Ownership records* are maintained in ownership sessions that you can access from the *appropriate* menu of the object session:

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

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. 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 *appropriate* 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, 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](#) on page 37.

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 perform inventory adjustments](#).

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 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 perform inventory adjustments](#).

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.

## Chapter 6: The administrative warehouse

### To update the administrative warehouse

In various VMI scenarios, the party who manages the *VMI warehouse* 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 *administrative warehouse* 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.

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. When you process the consumption records, LN initiates invoicing, if applicable, and reduces the inventory of the administrative warehouse. To register the inventory reduction, LN creates a sales order of type **Sales (Manual)** and a shipment, which you can view in the **Item - Warehouse - Inventory Transactions (whinr1510m000)** and the **Inventory Consumptions (whina1514m000)** session. For more information, refer to Inventory consumption handling.

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](#) on page 51 and [Consumption records](#) on page 37.

#### Method of Inventory Update

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](#) on page 52
- 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 handling.

### 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 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
  -
- **Automatic (Delivery Moments)**  
LN creates and automatically confirms receipts into the customer's administrative warehouse. For more information, refer to Automatic receipts and Setting up automatic receipts.
- **Automatic (Received is Shipped)**  
The supplier's administrative warehouse is updated by means of transfer orders. For more information, refer to Automatic receipts

### 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 handling.

#### Inventory Balance as Consumption

Not used in the current version.

## Automatic receipts

Automatic receipts update the normal (non-administrative) *warehouses* with the inventory received in the "real" VMI warehouse. Automatic receipts are used to restrict receipt processing.

### 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, LN performs the automatic receipts in the administrative warehouse.

Automatic receipts are based on purchase orders, contractual *inventory levels*, or *demand forecast*.

If the supplier performs supply planning for the customer, 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.

Various parameters determine how LN creates automatic receipts. For more information, refer to Setting up automatic receipts.

### The supplier's administrative warehouse

In this situation, the supplier plans replenishment and replenishes the warehouse, which is managed by the customer, where the warehouse is a real/ physical warehouse. 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, 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

## Creating automatic receipt records

To create automatic receipts into the customer's administrative warehouse, LN:

- 1 Creates combinations of buy-from business partners, warehouses, and items based on the selections specified in the **Initiate Automatic Receipts (whinh3223m000)** session. LN retrieves this data from the **Item Data by Warehouse (whwmd2110s000)** session and the **Items - Purchase Business Partner (tdipu0110m000)** session.
- 2 Checks the automatic receipt settings in the terms and conditions for these combinations. For more information, refer to Setting up automatic receipts.
- 3 Creates the automatic receipt records in the **Automatic Receipts (whinh3523m000)** session for these combinations.

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

## Receipt record basis

How LN creates the automatic receipt records, and which data they include depends on the type of data the automatic receipt records are based on. If based on:

- Purchase orders  
LN:
  - 1 Calculates the automatic receipt dates as described in Setting up automatic receipts.
  - 2 Stores these in the automatic receipt records.
  - 3 Adds the receipt quantities to the automatic receipt records when actually performing the receipt on the automatic receipt date, see [Performing automatic receipts](#) on page 55.
- Forecast demand  
LN:
  - 1 Retrieves the planned receipt quantities from the Enterprise Planning package.
  - 2 Stores these in the following fields of the **Automatic Receipts (whinh3523m000)** session:
    - **Planned Receipt Quantity in Receipt Unit**
    - **Planned Receipt Quantity in Inventory Unit**
  - 3 Retrieves the automatic receipt dates from Enterprise Planning or the receiving interval from the terms and conditions.
- Contractual inventory levels  
LN:
  - 1 Calculates the automatic receipt dates from the delivery moments defined in the terms and conditions.
  - 2 Retrieves the planned inventory level for the automatic receipt dates from the terms and conditions.
  - 3 Stores the automatic receipt dates and planned inventory levels in the **Automatic Receipt Date** field and the **Planned Inventory Level** field, respectively, of the **Automatic Receipts (whinh3523m000)** session.

### Performing automatic receipts

On the automatic receipt date, LN performs receipts for the automatic receipt records as follows:

- 1 Create warehousing receipt lines for the automatic receipt records.
- 2 Link the receipt lines to the purchase orders present for the business partners, warehouses, items, and date ranges specified by the user in the **Initiate Automatic Receipts (whinh3223m000)** session.
- 3 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](#) on page 55.
- 4 Generate *low volume* lot or serial numbers if not present.
- 5 Generate *high volume* lot or serial numbers according to the lot and serial registration templates. For more information, refer to Lot and serial registration templates.
- 6 Confirm the automatic receipt record.
- 7 In the **Automatic Receipts (whinh3523m000)** session, set the status of the automatic receipt record and show the received quantities.
- 8 Within the date range specified in the **Initiate Automatic Receipts (whinh3223m000)** session, 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.

### Purchase orders, forecast demand, or inventory levels

How LN retrieves the quantities to be received depends on the type of data the automatic receipt records are based on. If based on:

- Purchase orders  
LN:
  - 1 Checks the purchase orders retrieved for the receipt records.
  - 2 Receives the purchase order quantities as described in [Receipt record basis](#) on page 54.
- Forecast demand  
LN:
  - 1 Creates receipt triggered purchase orders for the automatic receipt records.
  - 2 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** field of the **Automatic Receipts (whinh3523m000)** session. For more information, refer to [Receipt record basis](#) on page 54.
- Contractual inventory levels  
LN:
  - 1 Creates receipt triggered purchase orders for the automatic receipt records.
  - 2 Receives these into the warehouse.
  - 3 Determines the quantities to be received 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. If on the automatic receipt date the inventory level is within the contractual inventory levels, LN performs no receipt.

## 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 package:

- Terms and conditions must be linked to an active *purchase contract*.
- 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, 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 *inventory levels*.
- 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, LN uses this interval to determine the automatic receipt dates. The automatic receipt date is the date on which 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.

### 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, LN uses this interval to determine the automatic receipt dates. The automatic receipt date is the date on which 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.

### 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 handling

In *vendor managed inventory (VMI)* and *subcontracting* environments, consumptions are recorded to view and maintain consumption data in the supplier's or manufacturer's *administrative warehouse*. This warehouse mirrors the customer's or subcontractor's warehouse from which the customer/subcontractor consumes materials supplied by the supplier/manufacturer.

Handling inventory consumptions includes the creation and processing of these *consumptions*.

**Note:** 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 master data

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

- 1 In the **Implemented Software Components (tccom0100s000)** session, select:
  - The **VMI (supplier side)** check box to maintain consumptions in VMI environments.
  - The **Subcontracting with Material Flow** and **Subcontracting with Material Flow** check boxes to maintain consumptions in subcontracting environments.
- 2 In the **Terms and Conditions (tctrm1100m000)** session, specify terms and conditions for the relevant business partners, warehouses, and items.
- 3 In the **Schedule Terms and Conditions (tctrm1131m000)** session, select the External Packing Slip is Mandatory check box if the consumption line must include an external packing slip for a schedule. If the

Duplicate External Packing Slip Allowed check box is selected for a combination of sold-to business partner, ship-to business partner, and item, an external *packing slip* can be used that is already used.

- 4 To create consumptions for subcontracting scenarios in the **Inventory Consumptions (tdsls4140m000)** session, you can set the values in the Method of Inventory Update field of the **Logistics Terms and Conditions (tctrm1140m000)** session to:

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

If, for VMI scenarios, you do not specify this optional field, received quantities are not displayed in the **Inventory Consumptions (tdsls4140m000)** session; material consumptions are updated through *backflushing*.

For further information on how to set up the VMI functionality, see VMI customer role - setup and VMI supplier forecast - setup. For information on subcontracting, see Overview of subcontracting.

## Consumptions

Consumption records are generated or manually created. They show the received quantities provided by the supplier and the subsequent consumptions by the customer.

A consumption record includes a header and one or more lines.

- **Consumption header**  
When the *VMI warehouse* is replenished, LN generates a consumption header. Headers of consumption records contain the name of the customer, the VMI warehouse, and the aggregated received and consumed item quantities. You can view and maintain these headers in the Inventory Consumptions (tdsls4140m000) session.
- **Consumption line(s)**  
When the customer consumes material, a consumption line is created. You can view and maintain details of individual consumptions in the Inventory Consumption Lines (tdsls4141m000) session.
- Consumption lines are generated after receiving the *LoadInventoryConsumption Business Object Document (BOD)*, or you can manually create them based on an e-mail or phone call from the customer.

After the consumption is specified, it must be processed to:

- Invoice the customer for the consumed quantities, if invoicing is applicable.
- Decrease the inventory levels of the administrative warehouse.

For more information, refer to Processing consumptions.

**Note:** In the customer's LN system, consumptions are generated in the **Consigned Consumptions (whwmd2551m000)** and **Inventory Consumptions (whina1514m000)** sessions. For more information, refer to [Consumption-based ownership change](#) on page 36.

## Prices and discounts

- **Sales order**  
LN determines prices and discounts based on the values of the originating sales order line, using the consumption or replenishment date. This calculation is based on the Price Determination Based on parameter setting in the **Order Terms and Conditions (tctrm1130m000)** session.

- Sales schedule

LN checks the Link Consumption Invoice Lines To field in the **Sales Schedule Parameters (tdsls0100s500)** session, which can be set to **Schedule Header** or **Schedule Requirement Line**.

Depending on the value of the **Link Consumption Invoice Lines To** field, prices and discounts are retrieved from these lines:

- **Schedule Header**

The first schedule line of the sales schedule to which the consumption is linked. Information from successive schedule lines is not considered.

- **Schedule Requirement Line**

The schedule line or planned warehouse order line to which the consumption is linked.

**Note:**

- In the Sales Order Invoice Lines (tdsls4106m100) session, consumption invoice lines are linked to a sales order line. In the Sales Schedule Invoice Lines (tdsls3140m200) session, consumption invoice lines are linked to a sales schedule header, or a sales schedule line/ planned warehouse order line.
- The price for sales consignment invoicing orders is based on the consumption date.

**Pay on Use sales order/schedule lines**

Sales order/schedule lines for which the payment type is **Pay on Use** and the activity **Release to Invoicing** is part of the order procedure, can:

- Register consumptions.
- Be invoiced, that is, invoicing lines are created for the consumption lines to which they are linked.
- Have the **Self Billing** check box selected.

**Note:**

This is applicable in an extended consignment setup, in which you directly link the invoicing for a consumption of consignment inventory to the replenishment order or schedule.

In a basic consignment setup, in which the order and schedule procedures are split into a replenishment and invoicing part, these rules apply:

- Invoicing is not available for consignment replenishment orders, which are sales orders for which the Consignment Replenishment check box is selected in the **Sales Order Types (tdsls0594m000)** session.
- Because for consignment replenishment orders **Release to Invoicing** is not part of the order procedure, consumptions can be invoiced using a **Consignment Invoicing** sales order. These are sales orders for which the Consignment Invoicing check box is selected in the **Sales Order Types (tdsls0594m000)** session.

For more information, refer to Consignment in Sales and Procurement.

## Processing consumptions

To determine whether invoicing is applicable, to start up invoicing for the relevant customer, and to lower the inventory levels in the administrative warehouse, you must process the inventory consumptions. During processing, LN links the consumption to the (replenishment) order or schedule of the item that is received in the VMI warehouse.

You can process:

- Consumption lines, by selecting **Process Consumption Line** from the *appropriate* menu in the **Inventory Consumption Lines (tdsls4141m000)** session.
- Consumption lines of an item, by selecting **Process Inventory Consumptions** from the *appropriate* menu in the **Inventory Consumptions (tdsls4140m000)** session.
- A range of consumptions in the **Process Inventory Consumptions (tdsls4290m000)** session.

After the consumptions are processed, the orders and schedules that are linked to the consumptions are displayed in the Orders by Inventory Consumption Line (tdsls4142m000) session.

**Note:** You can start all of these sessions from the Inventory Consumption (tdsls4640m000) session.

### Processing procedure

When processing consumptions:

- 1 If a **Subcontracting Reference** is specified for the consumption line, the consumption is linked to the corresponding purchase material supply line in the **Purchase Order Material Supply Lines (tdpur4116m000)** session.
- 2 If a **Reference**, **Shipment Reference**, or both fields are specified, LN searches for a matching sales schedule for a combination of these fields, and links the consumption to the schedule. If a schedule cannot be located, a message is displayed.
- 3 If a **Packing Slip** is available, LN searches for a matching sales schedule shipment and links the consumption to the schedule. If a schedule shipment cannot be located, a message is displayed.
- 4 If a **Customer Order** is available and a matching sales order is located, the consumption is linked to the order using the order's payment conditions.
- 5 If a matching sales order cannot be located, LN checks whether a matching sales schedule (line) can be linked to the consumption using the **Customer Order** or **Customer Contract Reference**.
- 6 If the **Invoicing Required** check box is selected, LN searches for a **Pay on Use** sales order line to which the consumption can be linked. If the Invoicing Required check box is cleared on the consumption line, LN automatically lowers the inventory level. For more information, refer to [Adjusting inventory level in the administrative warehouse](#) on page 61.
- 7 If a **Pay on Use** sales order line cannot be located, LN searches for a **Pay on Use** sales schedule line to which the consumption can be linked.
- 8 If a **Pay on Use** sales schedule line cannot be located, a consignment invoicing sales order is created to settle the invoicing of the consumed quantity.

For more information, refer to Linking consumptions to the replenishment order/schedule.

### Processing returns

- If the **Return** check box is selected on the consumption line, no invoicing is required.
- If the sales order found is **Pay on Use**, an invoicing line is created that is not invoiced. On the invoicing line, the returned consumption quantity is displayed in the **Returned Consumption Quantity** field of the **Sales Order Invoice Lines (tdsls4106m100)** session.
- If the **Subcontracting Reference** is filled or the returned item is a *packaging item*, the consumption line's **Processed** check box is selected, and no further action is taken.
- To return quantities, you must manually create a sales return order and link it to the relevant order/schedule. For more information, refer to Sales return orders.

### Adjusting inventory level in the administrative warehouse

LN automatically updates the inventory levels of the administrative warehouse without performing the outbound and shipment procedures. To register the inventory reduction, a sales order of type **Sales (Manual)** and a shipment are created.

You can view this sales order and shipment in the **Item - Warehouse - Inventory Transactions (whinr1510m000)** and **Inventory Consumptions (whina1514m000)** sessions. The ownership of the sales order is **Customer Owned**, because invoicing and payment is performed based on the originating **Pay on Use** sales order/schedule, the consignment invoicing order, or the *subcontracting purchase order*.

## Linking consumptions to the replenishment order/schedule

A consumption record must be linked to a replenishment subcontracting order, or a VMI order or schedule. If a consumption cannot be linked to a replenishment order/schedule, a sales consignment invoicing order is generated to settle the invoicing of the consumed quantity.

### Subcontracting order

To link a consumption line to a *subcontracting purchase order*, LN first utilizes the subcontracting reference, and then the consumed item to locate the relevant material supply line matching the subcontracting purchase order. The material line with an item that matches the inventory consumption line's item is selected.

For costing purposes, the used material 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 material that is supplied by the manufacturer and consumed by the subcontractor to produce the items for the manufacturer.

For consumption lines that are linked to an *operation subcontracting*, *item subcontracting*, or *service subcontracting* material supply line, the Consumed Quantity field is updated in the **Purchase Order Material Supply Lines (tdpur4116m000)** session, after receipt of a consumption message from the subcontractor. Consequently, the inventory levels are updated. For more information, refer to [Adjusting inventory level in the administrative warehouse](#) on page 61.

### VMI order or schedule

To link a consumption line to a *vendor managed inventory (VMI)* order or schedule, LN uses the combination of reference and shipment reference to search for a matching sales schedule. Next, the packing slip is used to search for a matching sales schedule shipment. Finally, the customer order/schedule reference is included in the search.

In a VMI environment, the customer order or schedule reference is not mandatory. If an inventory consumption line includes a customer order/schedule reference, LN searches for a sales order or sales schedule with a matching **Customer Order** or **Customer Contract Reference**. If a matching reference number is not located,

LN searches for the first sales schedule line with a matching **Customer Schedule Number**. Consumption lines are linked to this specific sales schedule, although consecutive schedule lines can have a different customer schedule reference.

If the payment is set to **Pay on Use**, inventory levels are updated and invoicing is triggered. For the order/schedule lines linked to the consumption line, LN creates invoicing lines in the Sales Order Invoice Lines (tdsls4106m100) or the Sales Schedule Invoice Lines (tdsls3140m200) session.

If the payment is set to **Pay on Receipt** or **No Payment**, only the inventory levels are updated. For more information, refer to [Adjusting inventory level in the administrative warehouse](#) on page 61.

If no packing slip or customer order/contract/schedule reference is available and the **Invoicing Required** check box is selected:

- 1 LN searches for the oldest sales order/schedule with payment type **Pay on Use** that is not yet fully consumed. If a matching sales order/schedule line is found, LN creates an invoice line linked to that sales order line or sales schedule (line).
- 2 If no matching line is found, LN creates a consignment invoicing sales order based on the Consignment Invoicing Order Type field in the **Sales Order Parameters (tdsls0100s400)** session.

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

For each invoice line created, LN updates the inventory levels with the invoiced quantities. For more information, refer to [Adjusting inventory level in the administrative warehouse](#) on page 61.

**Note:** LN searches for **Pay on Use** sales order/schedule lines only if the Ownership External check box is selected in the **Implemented Software Components (tccom0100s000)** session.

### **Sales consignment invoicing orders with origin Consumption**

If a consumption cannot be linked to a replenishment order, a sales consignment invoicing order is generated to settle the invoicing of the consumed quantity. For these orders, their origin is **Consumption** and their order type is retrieved from the **Consignment Invoicing Order Type** field in the **Sales Order Parameters (tdsls0100s400)** session.

Updating inventory levels for these orders is handled by Warehousing, because warehouse activities are part of the order procedure of a sales consignment invoicing order.

After a consignment invoicing order is released to Warehousing, inventory level adjustments are handled by the outbound process. You must set the activities of the warehousing order type that are linked to the consignment invoicing order type to automatic. For more information, refer to [To define warehousing procedures](#).

#### **Note:**

- The price for sales consignment invoicing orders is based on the consumption date.
- You cannot cancel or delete sales orders for which the origin is **Consumption**, nor cancel, delete, or add corresponding lines or change the item and quantity.

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