



# Infor LN Sales User Guide for Sales Orders

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# About this Guide

This document provides an introduction to sales orders and explains the sales order procedure and functions.

## Assumed knowledge

Although you need no detailed knowledge of the LN software to read this guide, general knowledge of the LN functionality will help you understand this guide.

## References

Use this guide as the primary reference for sales orders. Use the current editions of these related references to research information that is not covered in this guide:

- *User Guide for Sales Master Data*
- *User Guide for Sales Quotations*
- *User Guide for Sales Contracts*
- *User Guide for Purchase and Sales Schedules*
- *User Guide for Margin Control*
- *User Guide for Retrobilling*
- *User Guide for Commissions and Rebates*
- *User Guide for Vendor Managed Inventory*
- *User Guide for Statistics*
- *User Guide for Kit Handling*
- *User Guide for CRM*
- *User Guide for Subcontracting*
- *User Guide for Terms and Conditions*
- *User Guide for Project Pegging*
- *User Guide for Demand Pegging*
- *User Guide for Pricing*
- *User Guide for Material Pricing*
- *User Guide for Price Stages*
- *Global Trade Compliance User Guide*
- *User Guide for Letters of Credit*

## 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: Introduction

## Overview of sales order handling

Sales orders are used to sell and deliver items or services to a sold-to business partner under certain terms and conditions. Sales orders can result from a variety of sources, such as **Contracts**, **Quotations**, **EDI**, and **Planning**. In Sales, you can create and modify orders.

After approval, a sales order is a legal obligation to deliver items according to the agreed terms and conditions, including specific prices and discounts.

### Sales order master data

Before you can carry out the sales order procedure, you must define the sales order parameters in the Sales Order Parameters (tdsls0100s400) session and specify the sales order master data.

For more information, refer to:

- Sales item data
- Sales organizational data
- General sales data

### Sales order procedure

The sales order procedure includes these steps:

- 1** The creation and communication of the sales order
- 2** The delivery of the sold goods
- 3** The invoicing of the sold goods
- 4** The transfer of the delivered sales order to the history database

For more information, refer to Sales order procedure.

### Sales order additional processes

A number of processes do not always occur in the sales order procedure, but can be applicable in specific situations.

For more information, refer to Sales orders - additional processes.

## Chapter 2: Procedure

### Sales order procedure

The sales order procedure covers the complete administrative procedure for selling *standard*, *customized*, and *generic* items.

The procedure includes these steps:

#### 1 Creating sales orders

Sales orders can be created as follows in the Sales Order (tdsls4100m900) session:

- Automatically, from a variety of sources, such as **Contracts**, **Quotations**, and **EDI**
- Based on a template or a catalog
- Copied from an existing order in the Copy Sales Order (tdsls4201s000) session
- Manually

#### 2 Approving sales orders

After sales orders are created, sales order approval is a mandatory step in the sales order procedure. The execution of the order procedure activities can start when a user approves the order, either in the **Approve Sales Orders (tdsls4211m000)** session, or by clicking **Approve** on the *appropriate* menu of the **Sales Orders (tdsls4100m000)** or **Sales Order (tdsls4100m900)** sessions.

If the **Use Confirmation** check box is selected in the **Order Terms and Conditions (tctrm1130m000)** session or the **Sold-to Business Partner (tccom4110s000)** session, the goods must be confirmed by the customer before the sales order can be approved.

#### 3 Printing sales order acknowledgements

After the order is registered and approved, you can print the sales order and send it to the sold-to business partner as an *order acknowledgment*. The **Print Sales Order Acknowledgements/RMAs (tdsls4401m000)** session is an optional session in the sales order procedure. After the sales order is printed, you can still modify the sales order.

#### 4 Releasing sales orders to Warehousing

After the sold-to business partner is informed about the sales order and the order is approved, you can release the sales order to Warehousing in the **Release Sales Orders to Warehousing (tdsls4246m000)** session. As a result, the warehousing department is informed about the goods that must be shipped.

When sales orders are released to the warehouse, several activities are triggered in Warehouse Orders, starting with warehouse order creation in the **Warehousing Orders (whinh2100m000)** session. The activities in Warehouse Orders depend on the warehouse order type that is linked to the sales order type.

To link a warehousing order type to a sales order type:

- a Link activities to a *warehousing procedure* in the **Activities by Procedure (whinh0106m000)** session.



**b** Link a warehousing procedure to a warehousing order type in the **Warehousing Order Types (whinh0110m000)** session.

**c** Link the warehousing order type in the **Sales Order Types (tdsls0594m000)** session.

It is not mandatory to release sales orders for cost and service items to Warehousing. This depends on the setting of the Release to Warehousing check box in the **Items - Sales (tdisa0501m000)** session. Direct deliveries are never released to warehousing.

## 5 Delivering the sold goods

You can record the deliveries of sold items in Warehousing or Sales.

- Warehousing

If the sales order is released to Warehousing, the delivery procedure is covered by the outbound procedure and the shipment procedure in Warehouse Orders.

When shipments are confirmed in Warehousing, the delivery/shipment data is reported back to Sales. You can view this data in these sessions:

- **Sales Order Lines - Monitor (tdsls4510m000)**
- **Sales Order Actual Delivery Lines (tdsls4106m000)**

- Sales

For noninventory items that are not released to Warehousing, you can record the deliveries in the Sales Deliveries (tdsls4101m200) session.

You can indicate whether the goods must be *customer approved* after the goods are delivered.

When the goods are delivered, the prices and discounts of the goods may be changed. Use the Change Prices and Discounts after Delivery (tdsls4122m000) session to maintain prices and discounts.

## 6 Invoicing the sold goods

Use the following sessions to invoice the sold items:

**a** You can view, enter and maintain sales order invoice lines and release them to Invoicing in the Sales Order Invoice Lines (tdsls4106m100) session.

**b** If you want to check the invoice data before it is sent to the invoice-to business partner or released to Invoicing, you can print a draft invoice in the Print Sales Draft Invoices (tdsls4447m000) session. If required, you can change the invoice data.

**c** You can release the order data for invoicing in the **Release Sales Orders/Schedules to Invoicing (tdsls4247m000)** session.

After release to Invoicing:

- The status of the invoicing data is **Confirmed** in Invoicing.
- The status of the invoice line is **Released** in Sales.

**d** Create an *invoicing batch* in the **Invoicing Batch** session. Only the lines of the selected invoicing data that have the **Confirmed** status will be processed.

**e** Process invoicing batches in a *recurring invoicing batch* in the **Compose/Print/Post Invoices (cisli2200m000)** session.

After invoices are posted:

- The status of the invoicing data is **Posted** in Invoicing.
- The status of the invoice line is **Invoiced** in Sales.

You can use the Change Prices and Discounts after Delivery (tdsls4122m000) session to change the prices and discounts for sales order lines that are released to Invoicing and for which the sales invoice status is **Confirmed**, **On Hold**.

## 7 Processing sales orders

At the end of the sales order procedure, all sales orders must be processed in the Process Delivered Sales Orders (tdsls4223m000) session. The processed sales orders are transferred from the regular database to the history database.

### Sales order workbenches

You can use these sessions to view the *sales order lines* that require an internal sales representative's attention and to execute the appropriate actions on the lines:

- Sales Order Intake Workbench (tdsls4601m200)  
To view the order lines for which specific *activities* are yet to be executed, or unconfirmed backorder quantities exist.
- Sales Order Fulfillment Workbench (tdsls4601m100)  
To view the order lines that are yet to be delivered and are almost due, or lines whose due date (planned delivery date) has passed.

## Sales order history

You can use sales order history to track the creation and modification of sales orders and installment orders. You can keep certain information after the original order is completed.

To register the history of orders that are created, canceled, or processed, select the Log Order History, Log EDI Order History and Log Actual Order Delivery History check boxes in the **Sales Order Parameters (tdsls0100s400)** session.

### Contents of history files

The order history includes these files:

- All created order (line) transactions. These orders and lines are not yet processed.
- All invoiced order (line)s. These are the processed orders and lines. When an order is invoiced, the history also includes the gross profit of the order line.

The history files are of these record types:

- **Intake**  
The order line was added, changed, or deleted.
- **Cancellation**  
The order line was canceled.
- **Turnover**  
The order line was processed in the Process Delivered Sales Orders (tdsls4223m000) session.

The fields in this table determine if, when, and how the order history files are updated:

Sales orders	
Field	Retrieved from session
Log Order History	<b>Sales Orders (tdsls4100m000)</b>
Log EDI Order History	<b>Sales Orders (tdsls4100m000)</b>
Start Logging Order History at	<b>Sales Orders (tdsls4100m000)</b>
Level of Order Intake History Logging	<b>Sales Order Parameters (tdsls0100s400)</b>
Log Actual Order Delivery History	<b>Sales Order Parameters (tdsls0100s400)</b>
Log Component History	<b>Sales Order Parameters (tdsls0100s400)</b>
Log Order History	<b>Sales Order Parameters (tdsls0100s400)</b>
Log EDI Order History	<b>Sales Order Parameters (tdsls0100s400)</b>
Start Logging Order History at	<b>Sales Order Parameters (tdsls0100s400)</b>
Level of Order Intake History Logging	<b>Sales Order Parameters (tdsls0100s400)</b>

### Deleting history files

You can restrict the total amount of history data with the Archive/Delete Sales Order/Schedule History (tdsls5201m000) session.

History files are the basis for statistics. Before you delete the history files, verify that the statistics are fully updated. If the history files are deleted before the update, you cannot fully update the statistics.

**Note:** You cannot modify the history data. It is only used for information purposes.

## Chapter 3: Additional processes

### Sales orders - additional processes

A number of processes do not always occur in the sales order procedure, but can be used optionally.

#### **Adding additional costs to a sales order**

Cost items are used to define surcharges such as freight, handling, and administrative fees. These costs can be put on a sales order so the order accurately reflects charges billed to a customer. Several cost items with additional costs can be assigned to an order by bringing them together in a *cost set*.

Additional costs can be order based or shipment based.

- Order based  
Additional costs are calculated for a sales order. After sales order approval, additional costs are placed on an order as extra cost (items) after the last item recorded.
- Shipment based  
Additional costs are calculated for a sales shipment. After confirmation of a shipment, a sales shipment cost order is generated containing all additional costs for one shipment.

For more information, refer to:

- Additional costs - order based
- Additional costs - shipment based

#### **Blocking and unblocking sales orders**

Several reasons can exist for blocking a sales order or a sales order line. An order can be held for more than one reason at any point in the sales order procedure.

For more information, refer to Blocking sales orders.

#### **Changing sales data after release to Invoicing**

In some cases, you can update sales invoice data after the sales data is released to Invoicing.

Depending on the invoice status, you can change:

- Sales order data in the Change Prices and Discounts after Delivery (tdsls4122m000) session.
- Installment data in the Sales Order Installments (tdsls4110m000) session.
- Rebate data in the Rebates (tdcms2550m000) session.

For more information, refer to Changing sales data after release to Invoicing .

### Creating direct delivery orders

On a sales order or service order, you can indicate whether you want the sold goods to be *directly delivered*. In case of a direct delivery, a sales order or service order results into a purchase order. Because the buy-from business partner delivers the goods directly to the sold-to business partner, Warehousing is not involved.

For detailed information on generating and processing direct delivery orders, refer to the following topics:

- Direct delivery sales orders
- Direct delivery service orders

### Creating freight orders from sales orders

The Freight package can be used to handle transportation requirements. During sales order entry, you can identify and choose the appropriate means of transportation and generate a freight order from a sales order.

The integration between Freight and Sales includes these topics:

- Integration between freight order control and sales  
In Freight Order Control, two types of planning exist:
  - Rough planning, which is used for long-term capacity planning.
  - Load building, which is the actual execution time plan of the shipments and loads. To ship the goods, Freight Order Control must know the shipments that must be moved over a period of time. If a freight order is created from Sales, the progress of the shipment and loads can be exchanged and information can be shared between Freight Order Control and Sales.
- Integration between freight invoicing and sales invoicing  
The freight rate that you must pay to the carrier, is called freight costs. You can invoice your business partner for the freight costs, based on:
  - **Freight Costs.**
  - **Freight Costs (Update Allowed).**
  - **Client Rates.**

For more information, refer to:

- Integration Freight Order Control and Sales
- Integration freight invoicing and sales invoicing

### Creating product variants

If you specify a *configurable item* on the sales order line, you can configure or link a *product variant*.

An item is configurable if the **Configurable** check box is selected in the **Items (tcibd0501m000)** session.

- **Manufactured** or **Product** items with the Default Supply Source set to **Assembly** in the **Items (tcibd0501m000)** session and **Generic** items, are always configurable.
- **Purchased** or **Product** items with the **Purchase Schedule in use** check box selected in the **Item - Purchase** session, can be configurable.

For more information, refer to Product variants in Sales.

### Items with Default Supply Source set to Job Shop

You must decide whether you want to use a Project Control project when producing product variants, or you want to use Product Configuration without PCS. A PCS project is used to plan, produce, and control the manufacturing process. Consequently, the structure of the product variant is generated by project. The advantage of using PCS is that it provides an item with a detailed cost roll-up, and the possibility of pegging. However, in high volume environments, a detailed cost roll-up is often not required. Furthermore, using PCS requires extra time to calculate the project costs and to delete the project structure afterwards.

If you want to use PCS for PCF, the **With PCS** check box in the **Items (tcibd0501m000)** session must be selected. To use PCF without PCS, the **With PCS** check box must be cleared.

After the product variant is configured in the **Product Configurator (tipcf5120m000)** session, you must use the Generate (Project PCS) Structure for Sales Orders (tdsls4244m000) session to generate the *project structure* and/or *product structure* for the product variant.

For more information, refer to How to use a product model in a sales order.

### Creating rush orders

Every company deals with rush requests from customers. These requests usually require special payment and delivery terms. To determine whether a rush request is reasonable or not, and to be able to inform the business partner about the delivery date of an order, standard rush order conditions must be defined for a company.

The two possible rush situations are:

- The customer asks for a rush delivery during the order entry itself.
- The customer asks you to rush an already issued order.

For more information, refer to Rush orders.

### Creating sales order lines from a catalog

You can create a new sales order line based on a *catalog*.

For more information, refer to Using catalogs in sales orders and quotations.

### Creating sales orders from a template

You can use sales order templates for recurring sales orders from the same (group of) business partner(s). You can generate sales orders or sales order lines based on an order template.

For more information, refer to Using templates in sales orders.

### Demand pegging

If the *demand pegging* functionality is used in a company, inventory is allocated when sales orders are created. In addition, a *specification* is linked to these orders.

For more information, refer to Demand pegging overview.

### Export compliance for sales orders

If *global trade compliance* is applicable for export documents, sales orders are validated to ensure that the export compliance information is valid and the required licenses are available.

For more information, refer to Export compliance for sales orders.

### Handling ATP/CTP

The ATP functionality is part of a more extensive order promising technique, called *capable-to-promise (CTP)*.

You can check the ATP/CTP for *plan items* during the *ATP/CTP horizon* as specified in the **Items - Planning (cprpd1100m000)** session. Before you can specify a plan item in the **Items - Planning (cprpd1100m000)** session, you must set the **Order System** field to **Planned** in the **Items (tcibd0501m000)** session.

To check an item's ATP/CTP at sales order entry:

- 1 Select the **CTP Check for Sales** check box in the **Planning Parameters (cprpd0100m000)** session. If this check box is selected, a capable-to-promise (CTP) check is performed when a sales order for an item is closed. If this check box is cleared, LN does not carry out any CTP check, regardless of the values of CTP-related parameters in the **Items - Planning (cprpd1100m000)** session.
- 2 Indicate the types of ATP and CTP checks that must be applied and specify the settings for the checks in the **Items - Planning (cprpd1100m000)** session.

If the free available inventory (ATP) and additional critical components and capacities (CTP) are insufficient to fulfill the order, various possibilities are presented to handle the shortage. One way to handle the shortage for a sales order is to propose a delivery schedule, which you can specify in the ATP Handling (cprrp4800m000) session.

You can also use the **ATP Handling (cprrp4800m000)** session to perform offline ATP/CTP checks. For instance, you can collect multiple orders in written form and then use the **ATP Handling (cprrp4800m000)** session to carry out ATP/CTP checks.

For more information, refer to Types of ATP and CTP checks.

### Handling backorders

If only a part of the goods or none of the goods listed on a sales order are shipped, *backorders* can be created.

A backorder can be created in the following modules:

- Sales Control

A backorder can be created as follows:

  - You manually enter a hold back quantity.
  - The *direct delivery* purchase order that is created for the sales order is not completely delivered.
- Inventory Handling

The shipping quantity can be decreased at two points in the Warehouse Orders module of Warehousing:

  - Before confirmation of the outbound advice.
  - Before confirmation of the shipment.

For more information, refer to Backorder handling for sales orders.

### Handling components

If you want to deliver *components* instead of main items, in the sales order procedure, you can define how components are handled.

For more information, refer to Overview of kit handling in Sales.

### Handling installment orders

Invoicing business partners is a normal and necessary part of business. Invoicing can be performed in a number of ways. Invoicing by *installment* enables you to send invoices for partial amounts or percentages of the total net amount before or after the ordered goods are actually delivered. To establish the installments, installment lines are linked to the sales order.

For more information, refer to Installments.

### Handling promotions

In Pricing under Common, *promotions* are defined for items and business partners. Promotions are used to offer extra discounts and/or free gifts (premiums) on sales orders or sales order lines.

To check whether a promotion is defined for the item and/or the business partner of a sales order, LN uses promotion matrices.

LN looks for valid promotions in the promotion matrices for which a *matrix sequence* number is defined. The retrieval of promotion matrices is controlled by the parameter settings in the **Pricing Parameters (tdpcg0100m000)** session.

To retrieve promotions from a promotion matrix, LN looks for promotion matrices with a *matrix definition* and *matrix attributes* that match the properties of the relevant sales order. Note that all of the matrix attributes must match the properties of the order. When found, the promotion linked to the promotion matrix is applied to the sales order.

**Note:** If you enter a sales order or a sales order line, you can display and select eligible and/or applied promotions in the Sales Order Promotion Data Link (tdsls4536m000) session.

For details on setting up promotions, refer to Setting up a promotion matrix.

### Handling return orders

If goods must be returned on a sales order, a *return order* can be created. A return order can only contain negative amounts. A number of steps are involved in the return order process.

For more information, refer to Sales return orders.

### Letters of credit for sales orders

If payment is to be made through a *letter of credit (L/C)*, an export or domestic sales letter of credit must be linked to a *sales order* or *sales order line*.

An order or order line linked to a letter of credit can only be approved if it is linked to an approved letter of credit. To be released, the order or order line must be linked to a letter of credit with status **Accepted**, which expresses that the seller accepts the terms of the letter of credit.



For more information, refer to Letter of credit and Export letter of credit procedure.

### Material prices on sales orders

If the **Material Pricing in Sales** check box is selected in the Material Price Parameters (tcmpr0100m000) session, after setting up the material pricing master data, LN can retrieve material price information and calculate *material prices* for a sales order line.

Linked material price information can be viewed in the Material Price Information (tcmpr1600m000) session.

For more information, refer to Material price information – sales orders.

### Project pegging

Project pegging in Sales includes the pegging of project costs for sales order lines and sales quotation lines. If project pegging is mandatory for the item on the sales order line or quotation line, a *peg* must be specified, which is a combination of project/budget, project element and/or project activity. For example, if demand is pegged for a sales order line, the goods are sold for and the costs are booked to the project, element, and activity on the sales order line.

For more information, refer to Project pegging in Sales.

### Retrobilling sales orders

If price changes are made to a sales contract or to an item because of price renegotiations, the *retrobilling* functionality can be used to re-invoice previously invoiced items for sales orders. Price differences are handled through retrobilled sales orders, which have an item quantity of zero and an order amount that includes the price difference.

For more information, refer to Retrobilling in Sales.

### Setting up and using alternative items

Whenever a stock shortage occurs for an item, you can offer the sold-to business partner an *alternative* item. To avoid the risk that an item becomes obsolete, you can first consume the available stock of the original item and then fill the remaining shortage with an alternative.

For more information, refer to Using alternative and replacement items.

### Specifying after-sales services

An item can be sold with the related after-sales services. You can use a sales quotation or sales order to specify the after-sales services that are applicable for the sold item after delivery.

You can specify these after-sales service related settings for an item:

- Create *physical breakdown*
- Link to *installation group*
- Add *warranty*
- Generate *service contract*

Based on the settings, the after-sales service actions are executed when a delivered after-sales service line (item) is processed to Service.

For more information, refer to Extended integration between Sales and Service for after-sales services.

### Static cross-docking order

If you want to fulfill an existing sales order for which no inventory is available, you can take inbound goods immediately from the receipt location to the staging location for issue. To initiate this process, you must generate a *cross-docking* order.

For more information, refer to Static cross-docking.

### Using consigned inventory

If you want to use *consigned* inventory in the sales order procedure, you can define how consigned inventory is handled.

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

### Using copy templates

In LN you can indicate whether copy templates are used in the copy sales order (line) process. With copy templates, you can specify how order (line) data is copied.

A copy template contains a standard set of *copy exceptions* with which you can complete the following:

- Copy existing orders to target orders in the Copy Sales Order (tdsls4201s000) session.
- Copy existing sales order lines to target order lines.
- Copy an original document's sales order lines to target order lines in the return order process.

For more information, refer to Copy templates.

### Using customer furnished materials

To enable customers or their suppliers to furnish the materials that are required to produce a specific customer item, you can implement **Customer Furnished Materials**. Furnishing of customer materials is initiated from a sales order line, which includes the item that contains customer furnished materials. The sales order line has a linked *demand peg* for the customer demand.

For more information, refer to Customer furnished materials in Sales and Procurement.

### Using price stages

You can use *price stages* to categorize the price based on the phase of the price-negotiation process. As long as the price is not final, price stages are used to allow the continuation of the order process, but with a restriction on the activities that you can perform during this process. The *blocking definition* that is linked to the price stage determines the phase at which the sales order line must be blocked or a signaling message must be displayed.

For more information, refer to Price stages - overview.

### Using priority simulations

*Order priority simulations* help you determine the priority by which sales orders are handled in the warehouse for delivery. You can use a priority simulation to calculate the priority by which inventory is allocated to orders. To set actual priorities for sales orders, you must accept the results of the simulation. You can modify these results before accepting them.

For more information, refer to *Order priority (simulations)*.

## Additional costs

### Additional costs - order based

Order-based *additional costs* are calculated for sales orders or sales order lines. After sales order approval, additional costs are placed on an order as extra cost (items) after the last item recorded.

The order-based additional costs procedure includes these steps:

#### 1 Generating sales order lines with additional costs

If an additional cost set with valid *additional cost lines* is found for an order (line), after sales order approval, these cost lines are added to the order as extra cost (items) in the **Sales Order Lines (tdsls4101m000)** session.

The following apply to these sales order lines:

- The **Additional Cost Line** check box is selected.
- The additional cost amount is displayed in the **Amount** field and the **Price** field is empty.
- If the sold-to business partner's Method of Additional Cost Calculation is **Header Based**, the position number is retrieved from the First Position Number for Additional Costs Sets field in the **Sales Order Parameters (tdsls0100s400)** session. Sales order lines with **Line Based** additional costs have regular position numbers.
- For sales order lines with **Line Based** additional costs, you can view the additional cost lines that are linked to the sales order line in the Additional Cost Lines per Sales Order Line (tdsls4527m000) session.

#### 2 Issuing the additional cost line items

Based on the value of the Release to Warehousing check box in the **Items - Sales (tdisa0501m000)** session, issuing the cost item is carried out in Warehousing or in Sales.

Therefore, either the **Release Sales Orders to Warehousing (tdsls4246m000)** or the **Sales Deliveries (tdsls4101m200)** activity must be executed for the sales order line.

If **Sales Deliveries (tdsls4101m200)** is not executed before **Release Sales Orders/Schedules to Invoicing (tdsls4247m000)**, the activity is set to **Executed** during execution of the **Release Sales Orders/Schedules to Invoicing (tdsls4247m000)** session. Therefore, it is not mandatory to execute **Sales Deliveries (tdsls4101m200)**.

#### 3 Releasing the additional cost lines to Invoicing

The Release Additional Cost Lines automatically to Invoicing upon field in the **Sales Order Parameters (tdsls0100s400)** session determines how the additional cost lines must be released to Invoicing.

#### 4 Processing the additional cost lines

Process the delivered sales order together with the additional cost lines in the **Process Delivered Sales Orders (tdsls4223m000)** session.

##### Note:

- Because **Line Based** additional cost lines are linked to a specific sales order line, they can be released or processed only together with the original sales order line. You cannot process the sales order line if not all linked additional cost lines are ready to be processed.
- If you copy a sales order (line), the linked additional cost lines are not copied to the new order (line). If you manually copy an additional cost line, a normal sales order line with a cost item will be generated.
- If a sales order line is deleted or canceled, the linked additional cost lines are also deleted or canceled. You can also manually delete or cancel an additional cost line.
- If a sales order line is split before delivery, additional cost lines are linked to each created sales order delivery line. These additional cost lines obtain a new position number, but the sequence number remains zero. Therefore, additional cost lines are not created at sequence level.
- Sales backorder lines can have linked additional cost lines. However, because the additional costs are calculated based on the ordered quantity and not based on the actual shipped quantity, the costs will be too high. A credit note is required to settle this.
- If the Release Additional Cost Lines automatically to Invoicing upon check box is selected in the **Sales Order Parameters (tdsls0100s400)** session, *installments* can include additional costs.
- If *customer approval* is implemented, you cannot use the additional costs functionality.

## Additional costs - shipment based

Shipment-based *additional costs* are calculated for sales shipments or shipment lines. After confirmation of a shipment (line), a sales cost order is generated based on the shipment (line). A sales cost order with the **Shipment** origin includes all additional costs for one shipment (line).

##### Note

- Multiple sales order lines and sales schedule lines can be linked to one shipment.
- The sales shipment cost order and the order/schedule lines that are linked to a shipment, receive a common shipment ID. Based on this ID, a complete shipment can be invoiced to the customer. The relevant order/schedule lines and the sales shipment cost order can be released to invoicing together.

The shipment-based additional costs procedure includes these steps:

#### 1 Generating a sales shipment cost order

If an additional cost set with valid *additional cost lines* is found for a shipment (line), the shipment-dependent and item-dependent additional costs are added to the shipments as separate shipment lines in the **Shipment Lines (whinh4131m000)** session. The additional shipment cost lines are generated in Warehousing. When the shipment is confirmed, a sales order with the **Shipment** origin is generated in the **Sales Orders (tdsls4100m000)** session.

The following apply to these sales orders:

- The sales order type and order series are retrieved from the **Shipment Cost Order Type** and **Shipment Cost Order Series** fields in the **Sales Order Parameters (tdsls0100s400)** session.
- The Shipment field is automatically filled for these orders in the **Sales Orders (tdsls4100m000)** session.
- Only cost and service items can appear on this sales order.
- The **Additional Cost Line** check box is selected for the generated sales order lines.
- The additional cost amount is displayed in the **Amount** field and the **Price** field is empty on the sales order line. The **Amount** can be changed until the activity **Sales Deliveries (tdsls4101m200)** is executed. After this, the delivered amount can be changed in the Change Prices and Discounts after Delivery (tdsls4122m000) or Change Prices and Discounts of Sales Invoice Lines (tdsls4132m000) sessions.

## 2 Approving the sales shipment cost order

The Automatic Approve Shipment based Cost Orders check box in the **Sales Order Parameters (tdsls0100s400)** session determines how the sales shipment cost order must be approved.

## 3 Issuing the additional cost line items

Based on the value of the Release to Warehousing check box in the **Items - Sales (tdisa0501m000)** session, issuing the cost item is carried out in Warehousing or in Sales.

Therefore, either the **Release Sales Orders to Warehousing (tdsls4246m000)** or the **Sales Deliveries (tdsls4101m200)** activity must be executed for the sales order line.

If **Sales Deliveries (tdsls4101m200)** is not executed before **Release Sales Orders/Schedules to Invoicing (tdsls4247m000)**, the activity is set to **Executed** during execution of the **Release Sales Orders/Schedules to Invoicing (tdsls4247m000)** session. Therefore, it is not mandatory to execute **Sales Deliveries (tdsls4101m200)**.

## 4 Releasing the sales shipment cost order to Invoicing

The sales shipment cost order and the order/schedule lines that are linked to a shipment have a common shipment ID. Based on this ID, you can invoice a complete shipment to the customer. If you select the Shipment check box in the **Release Sales Orders/Schedules to Invoicing (tdsls4247m000)** session, the sales shipment cost order and the order/schedule lines that are linked to the shipment, are released to Invoicing together.

The Release Additional Cost Lines automatically to Invoicing upon field in the **Sales Order Parameters (tdsls0100s400)** session determines how the sales shipment cost order must be released to Invoicing.

You can view the shipment IDs in these sessions:

- Sales shipment cost order  
**Sales Orders (tdsls4100m000)**
- Sales shipment cost order lines  
**Linked Order Line Data (tdsls4102s200)**
- Sales order lines  
**Sales Order Actual Delivery Lines (tdsls4106m000)**
- Sales schedule lines  
**Sales Schedule Actual Delivery Lines (tdsls3140m000)**

## 5 Processing the additional cost lines

Process the sales orders and sales schedules together with the additional cost lines in the **Process Delivered Sales Orders (tdsls4223m000)** and **Process Delivered Sales Schedules (tdsls3223m000)** sessions.

### Additional cost calculation for shipments/shipment lines

The calculation of additional costs for shipments/shipment lines is based on the value of the **Calculation Method** field in the **Sold-to Business Partner (tccom4110s000)** session. For the shipments, the **Calculation Method** must be **Header Based**; for the shipment lines, it must be **Line Based**.

The additional costs are calculated for sales orders and *sales schedules* if the **Calculate Additional Costs for Shipments** check box is selected in the **Inventory Handling Parameters (whinh0100m000)** session.

- Sales orders  
The additional costs are calculated with the cost set of the business partner (and/or item).
- If the **Calculation Method** is **Header Based** in the **Sold-to Business Partner (tccom4110s000)** session, the additional cost lines are based on totals per shipment and the link to the originating shipment line is not saved.
- If the **Calculation Method** is **Line Based**, the additional costs are calculated for every originating order line and the link to the originating shipment line is saved.
- Sales schedules  
The **Header Based** additional costs are calculated with the cost set of the business partner (and/or item). The additional cost lines are based on the totals per shipment and the link to the originating shipment is not saved.
- The **Line Based** additional costs are calculated for the cost set of the contract. This calculation is always independent of the **Calculation Method**. The generated additional cost lines are linked to the originating order line. The quantities of all the shipment lines can be added before the costs are calculated. This is applicable for serials in inventory that have multiple shipment lines per order line.

In the **Print Packing Slips (whinh4475m000)** and **Print Delivery Notes (whinh4477m000)** sessions, the header based additional costs are printed first. The line based additional costs are printed below the linked shipment line.

### Note:

- For confirmed shipment lines, the additional costs are recalculated if the status of the additional cost line is **Not Calculated**. If the status is **Modified**, LN checks if you want to recalculate additional costs or skip the recalculation. After the additional costs are recalculated, the **Additional Costs** field in the **Shipments (whinh4130m000)** session is set to **Calculated**.
- When you compose a shipment in the **Compose Shipment (whinh4231m000)** session, the related additional cost lines must be processed for the selected options.

If, on the *appropriate menu*, you click:

- **Split Line**, the status of the originating shipment line is reset to **Modified** and the additional cost lines are removed. While confirming the originating line, the additional costs are recalculated.
- **Move to Shipment**, the additional costs of the originating shipment line are moved to the new shipment line.

## Blocking sales orders

In Sales, you can block sales orders or sales order (component) lines.

Blocking occurs for reasons such as:

- The open *order balance* exceeds the customer's *credit limit*.
- The invoice to business partner has *overdue invoices*.
- The invoice to business partner is a doubtful customer.
- The sales order is created by an inexperienced operator.
- The invoice to business partner's *credit review period* is overdue.
- The sales order includes an invalid or doubtful zip code.
- The sales margin of one of the order lines is exceeded.
- The *gross margin* of the order is exceeded.
- The sales order is received through *electronic data interchange (EDI)*.
- The sales order fails the export *compliance* check.
- The sales order fails the *letter of credit (L/C)* check.
- The *price stage* of the order line prevents continuation of the order process.
- A general user-defined reason.

Blocking only gives a rough indication of the situation at that particular moment. A customer's overdue invoices during the order entry procedure may have been paid by the time the deliveries are specified.

### Setup and procedure

- 1 Specify the reasons for blocking a sales order or sales order (component) line and the reason categories in the Hold Reasons (tcmcs2110m000) session.
- 2 Specify when orders must be blocked and the reasons for blocking in the **Sales Order Parameters (tdsls0100s400)** session. If an order must be blocked for one of these reasons, the order is automatically blocked when it is created.
- 3 Specify the step at which the procedure is interrupted in the Block As of Activity field in the **Sales Order Types (tdsls0594m000)** session. When an order (component) line is blocked, the procedure for this order can only be partially carried out. If a blocking step is not specified in this session, the order procedure is not interrupted.

Sales orders and sales order (component) lines can also be manually blocked in these sessions:

- **Sales Order (tdsls4100m900)**
  - **Sales Orders (tdsls4100m000)**
  - **Sales Order Lines (tdsls4101m000)**
  - **Sales Order Line Components (tdsls4163m000)**
- 4 Blocked orders and (component) lines must be manually released in the Blocked Sales Order (Lines) (tdsls4520m000) session.

In the **Sales User Profiles (tdsls0139m000)** session, you can specify whether a user is authorized to unblock orders based on the type of hold placed on the order. You can specify whether a user:

- **Can Release Credit Held Orders**
- **Can Release Margin Held Orders**
- **Can Release Promotion Check Held Orders**
- **Can Release Generally Held Orders**

**Note:**

- You can display all blocked orders or select a range of orders to be displayed in the **Blocked Sales Order (Lines) (tdsls4520m000)** session. The selection criteria for a range of blocked order (lines) is specified in the **Select Blocked Sales Order (Lines) (tdsls4220m000)** session.
- Use the **Print Blocked Sales Order (Lines) (tdsls4420m000)** session to print a range of blocked order (lines). Use the **Print Released Sales Order (Lines) (tdsls0492m000)** session to print a range of released order (lines).
- In the **Blocked Sales Order (Line) History (tdsls0592m000)** session, information is displayed about sales orders and (component) lines that were previously blocked and released.

**Credit rating**

The continuation of a sales order can depend on the credit checking of the business partner. For every customer, you must select a *credit rating* in the **Invoice-to Business Partner (tccom4112s000)** session. The credit rating determines the action to be taken when you handle sales orders for the business partner and the resulting open invoice amount exceeds the business partner's credit limit.

If a sales order is blocked due to a credit check, these release types are available in the **Blocked Sales Order (Lines) (tdsls4520m000)** session:

- **Soft Release**

If the order (component) line is blocked due to a credit check and you select the soft type of releasing, the order is blocked again at the next phase if the criteria for that reason still apply to the sales order or order (component) line. If the order is blocked for another reason, you can only use this option to release the order.

- **Firm Release**

If a sales order (component) line is firm released, the order (component) line is released and is not blocked again for the same reason.

**Note:**

- The difference between the firm and soft type of releasing only applies to credit checking. For the other blocking reasons, these types of releasing give the same results.
- If the **Category** is **Credit Check** and the order (line) is **Firm Released**, the released amount (which is the total net amount of the sales order) is recorded in a blocking history record.

**Margin control**

If the **Margin Control** check box is selected in the **Sales Order Parameters (tdsls0100s400)** session, LN checks whether the *sales price* of an item on an order line or *quotation line* differs too much from the *target price*.

You can determine the action to be taken (blocking, signaling, or logging) in the **Margin Control Parameters (tdsls0120m000)** session. The target price is determined by the **Target Price for Margin Control** field in the **Sales Order Parameters (tdsls0100s400)** session.

**Note:** For margin control, the allowed deviation from the target price by upper and lower margins can be specified in the **Items - Sales (tdisa0501m000)** session.



### Compliance check failure

Sales order lines that are blocked because the export *compliance* check or the *letter of credit (L/C)* check failed, are displayed in the **Blocked Sales Order (Lines) (tdsls4520m000)** session with the **Hold Reason** value retrieved from the Pre-Defined Hold Reason - License Compliance Check or the Pre-Defined Hold Reason - Letter of Credit Check fields in the **Sales Order Parameters (tdsls0100s400)** session.

The blocked lines cannot be released in the **Blocked Sales Order (Lines) (tdsls4520m000)** session. To unblock a line, you must update the required compliance data and re-execute the compliance check, or an authorized user can manually override the block by using the Document Compliance Check Results (tcgtc1510m000) or Override Compliance Check Results Workbench (tcgtc1610m100) sessions.

### Price stages

Sales order lines that are blocked due to the *price stage*, are displayed in the **Blocked Sales Order (Lines) (tdsls4520m000)** session. The value of the **Hold Reason** field is retrieved from the *blocking definition* that is linked to the price stage.

Based on the blocking phase for the blocking definition, the sales order line can be blocked during these phases:

- Order entry
- Release to Warehousing
- Confirmation of shipment

**Note:** If the blocking phase is set to **ReLease** (to Warehousing), the sales order line can still be released to Warehousing if the **Allow Release to Warehouse** check box is selected for the hold reason and business partner type in the Hold Reason by Business Partner Type (tdsls0193s000) session. The blocking is applied to the related outbound order line.

The blocked lines cannot be released in the **Blocked Sales Order (Lines) (tdsls4520m000)** session. To unblock a line, you must update the price stage. Based on the new price stage, the order process can continue, a new blocking can be created, or only a signal may be displayed.

## Changing sales data after release to Invoicing

In some cases, you can update sales invoice data after the sales data is released to Invoicing.

Depending on the invoice status, you can change:

- Sales order data in the Change Prices and Discounts after Delivery (tdsls4122m000) and Change Prices and Discounts of Sales Invoice Lines (tdsls4132m000) sessions
- Installment data in the Sales Order Installments (tdsls4110m000) session
- Rebate data in the Rebates (tdcms2550m000) session

When the sales invoice data is changed, LN automatically updates:

- The invoice data in Invoicing. As a result, the sales invoice status is **Confirmed**.
- The business partner order balance.

### Changing sales order data

For sales order lines that are released to Invoicing and for which the sales invoice status is **Confirmed** or **On Hold**, you can use these sessions to change the prices and discounts:

- **Change Prices and Discounts after Delivery (tdsls4122m000)**  
For sales orders lines of the **Order Line** type, which are also known as total lines.
- **Change Prices and Discounts of Sales Invoice Lines (tdsls4132m000)**  
For sales orders lines of the **Order/Delivery Line** and **Backorder** types.

The sales invoice status is related to the **Price Changes Allowed after Delivery** check box, which is displayed in the **Sales Order Lines Monitor (tdsls4510m100)** and **Sales Order Actual Delivery Lines (tdsls4106m000)** sessions. See the following table for details on this check box:

Activity	Price Changes Allowed after Delivery	Sales invoice status
Enter sales order line in Sales	No	Not applicable
Confirm shipment in Warehousing, or maintain deliveries in Sales	Yes	Not applicable
Release to invoicing in Sales	Yes	Confirmed
Change sales (invoice) data in Sales	Yes	Confirmed
Compose invoice in Invoicing	No	Composed
Decompose invoice in Invoicing	Yes	On Hold
Change sales (invoice) data in Sales	Yes	Confirmed
Compose invoice in Invoicing	No	Composed
Print and post invoice in Invoicing	No	Posted

You can change these fields in the **Change Prices and Discounts after Delivery (tdsls4122m000)** and **Change Prices and Discounts of Sales Invoice Lines (tdsls4132m000)** sessions:

- **Price**
- **Discount %/ Line Discount**
- **Discount Amount**
- **Discount Code**
- **Amount**

### Changing installment data

You can use the **Sales Order Installments (tdsls4110m000)** session to change data for *installments* that are released to Invoicing and for which the invoice status is **Confirmed**, or **On Hold**.

You can change these fields in the **Sales Order Installments (tdsls4110m000)** session:

- **Description**
- **Amount**
- **Percentage**

- **Payment Terms**
- **Late Payment Surcharge**
- **Payment Method**

**Note:** When the invoice is composed in Invoicing, a sequence number is stored on the settled installment line. When the invoice is printed, the invoice number is stored on the installment line. This number is the invoice number of the goods.

### Changing rebate data

You can use the **Rebates (tdcms2550m000)** session to change data for *rebates* that are released to Invoicing and for which the invoice status is **Confirmed**, or **On Hold**.

When you change the **Rebate Amount** field, the **Rebate %** and **Growing %** fields are automatically changed to zero in the **Rebates (tdcms2550m000)** session.

## Export compliance for sales orders

If the **Trade Management** check box is selected in the **Implemented Software Components (tccom0100s000)** session and the **Export** check box is selected in the **Trade Management Parameters (tcgtc0100m000)** session, you can set up information for an item for which export compliance is applicable.

When an item is subject to *global trade compliance*, internal checks are executed to ensure that the export compliance information is valid and the required licenses are available. This is done during *sales order line* entry, contract deliverable activation, shipment freezing, or confirmation.

After a sales order line is checked for export compliance, the success and failure data is logged. If the export compliance check fails, the sales order line is blocked.

To allow the exclusion of documents from export compliance checks, you can specify document exceptions. For example, the exceptions can be specified by business partner, country, and document type.

### Sales order lines

When a sales order line is specified in the Sales Order (tdsls4100m900) session, an export compliance check is executed if these conditions apply:

- The **Internal Check** check box is selected on the **Trade Compliance** tab of the **Trade Management Parameters (tcgtc0100m000)** session
- The order type is not used for returning inventory, retrobilling, or consignment invoicing
- The warehouse is specified
- The ordered quantity or order amount are more than zero
- The Subject to Trade Compliance check box is selected for the item in the **Items (tcibd0501m000)** session
- The country of the ship-to address differs from the country of the ship-from address

If these conditions are met, and no exception is found in the Export Document Exceptions (tcgtc0130m000) session, an internal compliance check is executed for the sales order line. For this internal check, the application verifies whether an export license is available and valid in the Export Licenses (tcgtc0120m000) session and whether export compliance data is available and valid for the combination of item and ship-to country in the Item Outbound Compliance Data (tcgtc0110m000) session.

If the **Apply Quantity Limit** check box, or the **Apply Value Limit** check box is selected in the **Export Licenses (tcgtc0120m000)** session for the export license, quantity or value limits are checked. The sales order line's ordered quantity in inventory unit and net order line amount in order currency are used for this purpose. During shipment confirmation, export license consumptions are logged in the Export License Consumptions (tcgtc1520m000) session.

**Note:** If global trade compliance applies to the item of the sales order line, the Subject to Trade Compliance check box is selected for the line.

## Components

If the Component Handling field is set to **Sales BOM** or **Component Lines** in the **Sales Order Lines (tdsls4101m000)** session, *components* are linked to the sales order line. The export compliance check is executed only for the components that are shipped, and not for the main item. Consequently, the compliance check results are logged by component line.

These lines are blocked if a component fails the compliance check:

- **Sales BOM**  
The order line is blocked. Several components can fail the check, but only one sales order line blocking record is generated in the **Blocked Sales Order (Lines) (tdsls4520m000)** session. The order line cannot be unblocked before all failure results are removed for the component lines.
- **Component Lines**  
Instead of the order line, the order component line is blocked in the **Sales Order Line Components (tdsls4163m000)** session.

## Export compliance check

The compliance check can result in a success or failure, which you can view in the Document Compliance Check Results (tcgtc1510m000) session.

In case of success, the sales order (component) line is saved and the order procedure can start. The compliance check result is automatically approved.

In case of a failure, the line is saved and set to blocked. Consequently, the **Blocked** check box is selected for the line and the line is displayed in the **Blocked Sales Order (Lines) (tdsls4520m000)** session with the **Hold Reason** retrieved from the Pre-Defined Hold Reason - License Compliance Check field in the **Sales Order Parameters (tdsls0100s400)** session.

You cannot use the **Blocked Sales Order (Lines) (tdsls4520m000)** session to release lines if the hold reason category is set to **Compliance Check**. To unblock the line, you must update the required data and re-execute the export compliance check, or an authorized person can manually override the export block by using the **Document Compliance Check Results (tcgtc1510m000)** or **Override Compliance Check Results Workbench (tcgtc1610m100)** sessions.

### Note:

On the *appropriate* menu in several sales sessions, you can use these commands:

- **Trade Compliance Information**, to view and maintain global trade information for the sales document in the Document Trade Compliance Information (tcgtc1100m000) session
- **Check Trade Compliance**, to force execution of the export compliance check

## Product variants in Sales

In Sales, you can generate *product variants* for *configurable items*, which are items that have the Configurable check box selected in the **Items (tcibd0501m000)** session.

In the **Items (tcibd0501m000)** session, **Manufactured**, **Purchased**, or **Product** items with the Default Supply Source set to **Assembly** and **Generic** items, are always configurable.

### Note:

For items with the *default supply source* set to **Assembly** in the **Items (tcibd0501m000)** session, the following are applicable:

- If the Sell Multiples of Same Configuration check box is cleared in the **Assembly Planning Parameters (tiapl0500m000)** session, the order quantity is limited to one on a sales order line. Only if the **Sell Multiples of Same Configuration** check box is selected in the **Assembly Planning Parameters (tiapl0500m000)** session, you can enter an item with an order quantity greater than one and sell multiples of the same assembly product variant, which results in several assembly orders linked to one sales order line. To identify the product variant, the various assembly orders and the sales order line have the same *specification*. These items are also called *assembly items*. For more information, refer to Selling multiples of product variants for assembly and Assembly items.
- The Configurator check box in the **Assembly Planning Parameters (tiapl0500m000)** session determines whether you must configure the item in Product Configuration or whether LN automatically generates a product variant for the item in the **Product Variants - Inventory (Assembly) (tiapl3600m000)** session.

### Linking product variants

If the item is a configurable item, you can choose to immediately configure the item at line entry in the **Sales Order Lines (tdsls4101m000)** and **Sales Quotation Lines (tdsls1501m000)** sessions. If you want to configure the product variant after the sales line is saved, on the *appropriate menu*, click **Configurator** to configure the product variant from the Product Configurator (tipcf5120m000) session.

You can also choose to link an existing product variant in the **Product Variant** field of the **Sales Order Lines (tdsls4101m000)** and **Sales Quotation Lines (tdsls1501m000)** sessions.

Product variants can be configured or selected here:

Default Supply Source	Item on sales order/quotation	Configure by PCF parameter	Configure product variant	Select product variant from session:
Job Shop	Generic	Not applicable	Product Configurator (tipcf5120m000)	Product Variants (tipcf5501m000)
Assembly	Generic	Selected	Product Configurator (tipcf5120m000)	Product Variants - Inventory (Assembly) (tiapl3600m000)
Assembly	Generic	Cleared	Not applicable	Product Variants - Inventory (Assembly) (tiapl3600m000)
Assembly	Manufactured/Purchased/Product	Selected	Product Configurator (tipcf5120m000)	Product Variants - Inventory (Assembly) (tiapl3600m000)

Default Supply Source	Item on sales order/quotation	Configure by PCF parameter	Configure product variant	Select product variant from session:
Assembly	Manufactured/Purchased/Product	Cleared	Not applicable	<b>Product Variants - Inventory (Assembly) (tiapl3600m000)</b>

**Note:** If LN is integrated with the Product Configuration Management configurator, the product variant is configured in *CPQ Configurator* and not in the **Product Configurator (tipcf5120m000)** session. For more information, refer to CPQ Configurator set up.

### Reusing product variants

On different sales order/quotation lines of the same sales order or quotation, a specific product variant can be used multiple times.

This functionality can only be used if the following settings are applicable:

- The Identifying Item Code check box is selected in the **Product Configuration Parameters (tipcf0100m000)** session.
- The Equate Project (PCS) with Sales Order check box is selected when generating a project structure for the configured item in the **Generate (Project PCS) Structure for Sales Orders (tdsls4244m000)** session.
- The Allow reuse of Configurations check box is selected in the **Product Configuration Parameters (tipcf0100m000)** session.

### Example

Generic item	Feature	Options
100: Chair X	Color	1: Red
		2: Blue
	Height	1: A
		2: B

Sales order/quotation after the configuration is saved:

Order	Position	Item	Description	Variant	Options chosen
123	5	Text	Classroom 1a	-	-
	10	100	Chair X	10	Color Red, Height A
	15	100	Chair X	11	Color Red, Height B
	20	Text	Classroom 1b	-	-
	25	100	Chair X	10	Color Red, Height A
	30	100	Chair X	11	Color Red, Height B

Sales order/quotation after the project structure is generated in the **Generate (Project PCS) Structure for Sales Orders (tdsls4244m000)** session:

Order	Position	Item	Description	Variant	Options chosen
	5	Text	Classroom 1a	-	-
123	10	100-1-A	Chair X, Color Red, Height A	10	Color Red, Height A
	15	100-1-B	Chair X, Color Red, Height B	11	Color Red, Height B
	20	Text	Classroom 1b	-	-
	25	100-1-A	Chair X, Color Red, Height A	10	Color Red, Height A
	30	100-1-B	Chair X, Color Red, Height B	11	Color Red, Height B

Checks applied in the example

- After configuration of order line 15, the same item is found on line 10. The new item code of position 10 (123/100-1-A) and the item code of line 15 (123/100-1-B) are different. Therefore, order line 15 is accepted.
- After configuration of order line 25, the same item with the same options is found on line 10. The new item code of position 10 and the item code of line 25 are the same: 123/100-1-A. Order line 25 can only be accepted if the **Allow reuse of Configurations** check box is selected.

The item code of position 10 and 25 are the same. In the **Items (tcibd0501m000)** session, the **Product Variant** for item 123/100-1-A is 10.

**Note:** The **Generic Item - Settings for Data Generation (tipcf3101m000)** session affects the expected result:

- In the example, the settings from this session are used: the selected options are part of the generated item code. If you select another option, a different customized item code is generated.
- If the settings for data generation are not specified in the **Generic Item - Settings for Data Generation (tipcf3101m000)** session, the customized item code is based on order number – item code, that is 123-100. In this case, position 15 would have resulted in an error message: the customized item code is the same as position 10 but the options are different.

### Updating sales order lines and sales quotation lines

When you insert an existing product variant on the sales order/quotation line, these fields are updated on the sales order/quotation line:

<b>Effectivity Unit</b>	For items with the <b>Default Supply Source</b> set to <b>Assembly</b> and an effectivity unit linked to the product variant in Assembly Planning.
<b>Warehouse</b>	For <b>Manufactured</b> , <b>Purchased</b> , or <b>Product</b> items with the <b>Default Supply Source</b> set to <b>Assembly</b> .
<b>Work Center</b>	For <b>Generic</b> items with the <b>Default Supply Source</b> set to <b>Assembly</b> .

<b>Price</b>	-
<b>Serial Number</b>	Is updated when the linked <i>assembly order</i> is sequenced. The sales order cannot be released to Warehousing without this number.
<b>Standard Cost</b>	Is updated after you do one of the following: <ul style="list-style-type: none"> <li>Click <b>Calculate Standard Costs</b> in the <b>Product Variants (Assembly) (tiapl3500m000)</b> session.</li> <li>Freeze the assembly order.</li> </ul>

**Note:** For **Manufactured**, **Purchased**, or **Product** items with the **Default Supply Source** set to **Assembly** and the **Sell Multiples of Same Configuration** check box selected in the **Assembly Planning Parameters (tiapl0500m000)** session, multiple assembly orders can be linked to one sales order line, which means the sales order line cannot be updated with a serial number. Therefore, Warehousing enters serial numbers in a *lot and serial set*, which you can view by clicking the **Lot and Serial Set** button in the **Sales Order Actual Delivery Lines (tdsls4106m000)** session. Using this set, multiple serials are linked to the delivery line.

### Updating product variants

When you change the **Planned Delivery Date** or the **Order Date/ Quotation Date** on the sales order/quotation line, the following fields are updated on the linked product variant:

Changed field on sales order/quotation line	Updated field on product variant	Update restrictions
<b>Planned Delivery Date</b>	<b>Requested Offline Date</b>	None
<b>Planned Delivery Date</b>	<b>Planned Offline Date</b>	<ul style="list-style-type: none"> <li>Product variant status is <b>Open</b>.</li> <li>No assembly orders exist.</li> </ul>
<b>Planned Delivery Date</b>	<b>Configuration Date</b>	<ul style="list-style-type: none"> <li>Product variant status is <b>Open</b>.</li> <li>No assembly orders exist.</li> <li>The <b>Configuration Date (PCS)</b> is set to <b>Delivery date</b> in the <b>Sales Parameters (tdsls0100s000)</b> session.</li> <li>The product variant is not configured by Product Configuration.</li> </ul>
<b>Order Date/ Quotation Date</b>	<b>Configuration Date</b>	<ul style="list-style-type: none"> <li>Product variant status is <b>Open</b>.</li> <li>No assembly orders exist.</li> <li>The <b>Configuration Date (PCS)</b> is set to <b>Order Date</b> in the <b>Sales Parameters (tdsls0100s000)</b> session.</li> <li>The product variant is not configured by Product Configuration.</li> </ul>

**Note:** For **Manufactured**, **Purchased**, or **Product** items with the **Default Supply Source** set to **Assembly** and the **Sell Multiples of Same Configuration** check box selected in the **Assembly Planning Parameters (tiapl0500m000)** session, multiple assembly orders can be linked to one sales order line, and therefore



multiple planned delivery dates can be applicable for a sales order line. As a result, date changes are not updated to the product variant.

### Unlinking product variants

On the sales order/quotation line, you can unlink a product variant.

Unlinking does not remove the product variant, but removes only the reference to the sales order or quotation on the product variant and on the assembly order, if applicable. In the **Product Variants (Assembly) (tiapl3500m000)** and **Product Variants (tipcf5501m000)** sessions, the **Reference Type** remains **Sales Order, Sales Quotation, Or Standard Variant**.

The unlinked product variant can be reused by another sales order/quotation.

#### Note:

For items with the **Default Supply Source** set to **Assembly**, the following are applicable:

- In the **Assembly Planning Parameters (tiapl0100s000)** session, the Allow Assembly Orders for unsold Product Variants check box determines when you can unlink product variants.
- If the item is rejected during warehouse inspection, the product variant status changes to **Canceled**. You can then cancel the linked sales order line or remove the product variant from the sales order line. If required, you can link another product variant.

## Using templates in sales orders

You can use sales order templates for recurring sales orders from the same (group of) business partner(s).

In the **Sales Order (tdsls4100m900)** session, you can specify a sales order based on a template. In the **Customer 360 (tdsmi1500m000)** session, you can generate a sales order based on a template for the selected business partner.

### Specifying sales order lines based on a template

To specify sales order lines based on a template:

- 1 Specify one or more sales order templates. For more information, refer to Sales order templates.
- 2 In the **Sales Order (tdsls4100m900)** session, specify sales order header data.
- 3 From the *appropriate* menu on the **Lines** tab, click **Sales Order Templates**.
- 4 LN verifies how many templates are available for the business partner. If only one template is available, the Sales Order Template (tdsls2605m000) session is started. If more templates are available, the Sales Order Templates (tdsls2505m000) session is started.
- 5
  - If the **Sales Order Template (tdsls2605m000)** session is started, you can copy all item lines, or a selection of item lines to the sales order by clicking **Copy All Item Lines** or **Copy Selected Lines**.
  - If the **Sales Order Templates (tdsls2505m000)** session is started, you can select a template and click **Copy All Item Lines** to copy all item lines to the sales order. To select specific item lines, double-click a template. The **Sales Order Template (tdsls2605m000)** session is started in which you can select the lines.

### Generating a sales order based on a template

To generate a sales order based on a template:

- 1 Specify one or more sales order templates.
- 2 In the **Customer 360 (tdsmi1500m000)** session, click **Sales Order Templates**.
- 3 LN verifies how many templates are available for the business partner. If only one template is available, the **Sales Order Template (tdsls2605m000)** session is started. If more templates are available, the **Sales Order Templates (tdsls2505m000)** session is started.
- 4 From the *appropriate* menu of these sessions, select **Generate Sales Order**. A sales order is generated based on the template for the selected business partner.

**Note:** If a sold-to business partner is specified in the **Sales Order Template (tdsls2605m000)** or **Sales Order Templates (tdsls2505m000)** sessions, you can generate a sales order from the template also from these sessions.

## Extended integration between Sales and Service for after-sales services

An item can be sold with the related after-sales services. You can use a sales quotation or sales order to specify the after-sales services that are applicable for the sold item after delivery.

You can specify these after-sales service related settings for an item:

- Create *physical breakdown*
- Link to *installation group*
- Add *warranty*
- Generate *service contract*

Based on the settings, the after-sales service actions are executed when a delivered after-sales service line (item) is processed to Service.

### Master data

To set up the extended integration:

- In the **Sales Quotation Parameters (tdsls0100s100)** session, select the Extended Service Integration check box.
- In the **Sales Order Parameters (tdsls0100s400)** session, select the Extended Service Integration check box.
- In the **Items - Service (tsmdm2100m000)** session, select the Process to Service after Delivery check box for the item.
- Optionally, in the **Sales Order Type (tdsls0694m000)** session, add the **Process After Sales Service Lines (tstdm2250m000)** session as an activity to the order type. If the **Automatic** check box is selected for this activity, after-sales service lines are automatically processed to Service.

### Procedure overview

- 1 After you specify and save a sales quotation in the **Sales Quotation (tdsls1600m000)** session or a sales order in the **Sales Order (tdsls4100m900)** session, after-sales service data is generated for the item in the After Sales Service (tstdm5600m000) session.
- 2 To view and modify the defaulted after-sales service data in the **After Sales Service (tstdm5600m000)** session, click **After Sales Service** on the *appropriate menu* in the **Sales Quotation (tdsls1600m000)** or **Sales Order (tdsls4100m900)** sessions.
- 3 If the **Process Status** is set to **DeLivered** for an after-sales service line (item), the line can be processed to Service using the Process After Sales Service Lines (tstdm2250m000) session. If this session is linked as an automatic activity to the order type, processing is performed automatically.
- 4 The after-sales service actions you specified for the sold item are executed in Service. To view the after-sales service data that is generated in Service and linked to the sold item, select a processed after-sales service line and click **Results** on the *appropriate menu* of the **After Sales Service (tstdm5600m000)** session.

You can use the **After Sales Service Workbench (tstdm5600m100)** session for an overview of the after-sales service data for sales quotations and orders and the related status.

### Notes

- Items cannot be delivered based on a sales quotation, so after-sales service actions cannot be executed for a sales quotation. However, you can copy a sales quotation's after-sales service data to a sales order when the quotation is processed to an order in the **Process Sales Quotations (tdsls1200m000)** session.
- If a sales order line includes *components*, separate after-sales service lines are generated for the components.
- If a sales order line includes a *lot and serial set*, this set is copied to the after-sales service line. When the after-sales service line is processed to Service, the lot and serial set is exploded into separate items for which the after-sales service actions are executed.
- If partial deliveries are applicable for a sales order line, the linked after-sales service line is set to **DeLivered** by the first invoice line that is generated. Subsequent deliveries/invoice lines generate additional after-sales service lines.
- If a final delivery is made, but a quantity is yet to be delivered for the sales order line, the sales *backorder* is used to generate new after sales service lines.

## Copy templates

You can use copy templates when copying sales orders (lines). A copy template is used to specify how order (line) data is copied. The template includes a standard set of *copy exceptions*.

Copy templates can be used when you copy:

- Existing orders to target orders in the Copy Sales Order (tdsls4201s000) session
- Existing sales order lines to target order lines
- An original document's sales order lines to target order lines in the return order process

Copy exceptions can be sales order header or sales order line fields. If a field is not specified as a copy exception, it is automatically copied from the source order (line) to the target order (line).

#### Sales order header

For sales order header fields, you can specify these copying actions:

- **Prompt**  
The selected field can be manually specified in the Copy Sales Orders - Prompts (tdsls4201s100) session. The default value is retrieved from the source order.
- **Retrieve Default**  
A default value is retrieved based on standard defaulting logic.
- **Copy From...**  
The date that must be copied to the target sales order. This is only applicable for date fields.

#### Sales order line

For sales order line fields, you can specify these copying actions:

- **Retrieve Default**  
A default value is retrieved.
- **Copy From...**  
The quantity that must be copied to the target sales order line. This is only applicable for the **Ordered Quantity** field.
- **Copy From Original**  
The components that are linked to the source order line are copied to the target order line. This is only applicable for **Component Lines**.

### Using copy templates

- 1 In the **Sales Order Parameters (tdsls0100s400)** session, select the Prompt for Copy Templates check box.
- 2 In the **Sales Order Copy Template - Exceptions (tdsls4690m000)** session:
  - a Specify a template header. Specify the template code and the effectivity period for the Copy Template.
  - b Click **Save**. By default, several sales order header and sales order line *copy exceptions* are linked.
  - c On the **Header Exceptions** tab, specify the copy exceptions of the Header Exceptions (tdsls4191m000) session.
  - d On the **Line Exceptions** tab, specify the copy exceptions of the Line Exceptions (tdsls4192m000) session.
- 3 In the Copy Template for Sales Orders and Copy Template for Sales Return Orders fields of the **Sales User Profiles (tdsls0139m000)** and **Sales Order Parameters (tdsls0100s400)** sessions, link a default *copy template* for sales orders and return orders.
- 4 In the **Copy Sales Order (tdsls4201s000)** session, specify a copy template.
- 5 The Copy Sales Orders - Prompts (tdsls4201s100) session is automatically started when you click **Copy** in the **Copy Sales Order (tdsls4201s000)** session and if a copy template is used in which the value of the **Copy Action** field is set to **Prompt** for the linked copy exceptions.

#### Note

- This session is started only if the target sales order is a new sales order. If you copy to an existing target sales order, the prompts are not displayed.
- Recheck the values you specify in the fields, because the session does not run a check prior to the execution of the **Copy** action.

You can print the sales order copy templates with the copy exceptions and copy actions using the Print Sales Order Copy Templates (tdsls4490m000) session.

**Note:** You can also copy sales orders and the related lines in the **Copy Sales Order (tdsls4201s000)** session without using copy templates. A standard set of copy exceptions is used, based on which the order data is copied. These are the default copy exceptions linked to a template header when you specify and save the header data. See step 2.

## Order priority (simulations)

You can use *order priority simulations* to calculate the priority sequence in which inventory is allocated to orders. For example, if insufficient inventory is available, you can use a priority simulation to sort sales orders according to the order delivery priority.

In the Order Priority Method field of the **Sales Order Parameters (tdsls0100s400)** session, you can specify the method that is used to determine the order priority.

- **Simulation**  
Simulated order priorities are defined in simulation codes. The simulation code includes a sort sequence and a sort mode. You can select six fields for each code to sort *sales orders*. Default fields are retrieved from the *sales order lines*, but you can also use fields from sales orders and *business partners*.
- **Delivery Date**  
The order priority is determined by the planned delivery date and the simulations are not used.

### Example

Simulation code AA includes the following sort sequences:

- 1 = Planned receipt date
- 2 = Sold-to business partner

If, for both sort sequences, the **Sort Mode** field is Ascending in the **Priority Simulation (tdsls4124s000)** session, sales orders with the oldest planned receipt date are delivered first. If orders exist with the same planned receipt date, the sales orders with a sold-to business partner that appears first in the alphabet are next executed, and so on.

### Specifying and using order priority (simulations)

Complete these steps:

- 1 Specify priority simulation codes in the Priority Simulations (tdsls4524m000) session.
- 2 Generate delivery priorities for sales orders in the Generate Sales Order Priority Simulations (tdsls4229s000) session.

- 3** In the Sales Order Priority - Simulations (tdsls4126m000) session, you can change priority simulations for sales orders of a simulation code and item combination.
- 4** Process the simulated order priorities to actual sales orders in the Process / Delete Sales Order Priority Simulations (tdsls4226s000) session. You can also delete the generated simulations.
- 5** Optionally, change the order priority of actual deliveries in the Sales Order Priorities (tdsls4129m000) session.

## Chapter 4: Rush orders

### Rush orders

Every company deals with rush requests from customers. These requests usually require special terms of payment and delivery. To determine whether a rush request is reasonable and to inform the business partner about the delivery date of an order, standard rush order conditions must be specified for a company.

The following rush situations are available:

- The customer asks for a rush delivery during order entry
- The customer asks you to rush an already issued order

#### Master data

Before you can specify a *rush order*:

- 1 Specify rush *delivery terms* and rush *payment terms* in the **Rush Delivery Terms** and **Rush Payment Terms** fields of the **Sales Order Parameters (tdsls0100s400)** session. These default terms can still be changed on the rush order header or rush order line.
- 2 Because the *availability type* affects the lead time, specify the **Availability Type** field in the **Sales Order Parameters (tdsls0100s400)** session.
- 3 If the **Mandatory Entry of Change Codes** check box is selected in the **Sales Order Parameters (tdsls0100s400)** session, specify a *change type* for rush orders in the Change Types (tdsls0198m000) session, and a *change reason* for rush orders in the Change Reasons (tdsls0197m000) session to clarify why the sales order changed.

#### Rush order creation

To create a rush order, or to convert an existing normal order into a rush order, click:

- **Rush Order** in the **Sales Orders (tdsls4100m000)**, or **Sales Order (tdsls4100m900)** sessions. As a result, LN selects the **Rush Order** check box in these sessions. When an order is rushed, all linked sales order (delivery) lines are rushed as well.
- **Rush Order Line** in the **Sales Order Lines (tdsls4101m000)** session. As a result, LN selects the **Rush Order Line** check box in this session.
- **Rush Delivery Line** in the **Sales Order Planned Delivery Lines (tdsls4101m100)** session. As a result, LN selects the **Rush Delivery Line** check box in this session.
- **Rush Component** in the **Sales Order Line Components (tdsls4163m000)** session. As a result, LN selects the **Rush Component** check box in this session.

If a sales order is defined as a rush order, the Order Priority is one (1).

**Note:**

- If you want to automate the processing of a rush order, you must specify automatic activities for the order type. For more information, refer to Flexible sales order processing.
- You can convert an existing sales order into a rush order as long as you can change the linked warehousing order.
- The setting of the **Rush Order** check box on the sales order header is defaulted to the relevant check box of the linked sales order lines and/or delivery lines. However, you can change the setting of this check box on the sales order (delivery) line. As a result, you can define a separate order line, or delivery line as a rush line.

**Restrictions**

You cannot rush:

- Return orders, collect orders, retrobilled orders, and consignment invoicing orders
- Sales order lines that are not released to Warehousing
- Backorder lines

**Rush orders and Warehousing**

After the rush order is released to Warehousing:

- The **Rush Order** check box is selected in the **Outbound Order Lines (whinh2120m000)** session. These outbound order lines have the highest priority when generating and processing the outbound advice.
- If the **Rush Orders only** check box is selected in the **Generate Outbound Advice (whinh4201m000)** session, a purchase order advice is generated for these lines first. To speed up the outbound process for rush orders, you can then click **Direct Outbound** in the **Process Outbound Advice (whinh4200m000)** session. As a result, all outbound process steps that usually take place before confirmation of the shipment, are skipped. In other words, LN creates a shipment line after processing the outbound advice.



## Chapter 5: Direct deliveries

### Direct delivery

On a sales order or service order, you can indicate whether you want the sold goods to be *directly delivered*. In case of a direct delivery, a sales order or service order results in a purchase order. Because the buy-from business partner delivers the goods directly to the sold-to business partner, Warehousing is not involved.

For detailed information on generating and processing direct delivery orders, refer to the following topics:

- Direct delivery sales orders
- Direct delivery service orders

#### Modifying direct delivery purchase orders

Fields on the generated purchase order (line) that are filled by Sales or Service are disabled and cannot be manually changed.

As long as no receipts are executed, you can change the following fields on the purchase order line from Sales or Service:

- **Ordered Quantity**
- **Planned Receipt Date**
- **Receipt Address**

#### Deleting direct delivery purchase orders

You cannot delete a direct delivery purchase order from Sales or Service. You can delete a direct delivery purchase order line only manually in Procurement. However, if the service order receives the **ReLeased** status, you can no longer delete the linked direct delivery purchase order.

#### Note:

- If the direct delivery purchase order is deleted, the deletion is communicated to Service in the **Related Orders (tsmdm4500m000)** session.
- You cannot delete a service order line to which a direct delivery purchase order line is linked. You must first manually delete the direct delivery purchase order line.

#### Canceling direct delivery purchase orders

You cannot cancel a direct delivery purchase order line in Procurement. You must cancel the linked sales order line in Sales or the linked service order line in Service to cancel the direct delivery purchase order line.

However, if receipts are executed for the purchase order, you can no longer cancel the linked sales order line or service order line.

## Direct delivery sales orders

To generate and process *directly delivery* sales orders:

### 1 Delivery Type

To create a direct delivery sales order:

- The **Allow Purchase Orders** check box must be selected for the sales order type in the **Sales Order Types (tdsls0594m000)** session.
- The **Delivery Type** field must be **Direct Delivery** in the **Sales Order Lines (tdsls4101m000)** session or the **Sales Order Planned Delivery Lines (tdsls4101m100)** session.

The **Direct Delivery** delivery type can be selected as follows in these sessions:

- Automatically, if the ordered quantity is equal to or greater than the quantity defined in the **Direct Delivery from Quantity** field of the **Items - Sales (tdisa0501m000)** session
- Manually, by selecting **Direct Delivery**
- By selecting **Generate Direct Delivery Order** from the **Inventory Shortage Menu (tdsls4830s000)** session that appears if an inventory shortage exists for the item

### 2 Create a purchase order advice

After the sales order line is approved and the **Generate Purchase Order Advice for Sales Order (tdsls4240m000)** session is linked as an activity to the order type in the **Sales Order Type (tdsls0694m000)** session, a *purchase order advice* is or must be generated for the sales order line in the **Generate Purchase Order Advice for Sales Order (tdsls4240m000)** session.

This step is not applicable if the **Generate Purchase Orders (tdsls4241m000)** session is linked as an activity to the order type instead of the **Generate Purchase Order Advice for Sales Order (tdsls4240m000)** session.

### 3 Create a direct delivery purchase order

A purchase order must be generated for the direct delivery sales order. How the purchase order is generated, depends on whether a purchase order advice already exists for the sales order line.

- No purchase order advice

You can generate purchase orders for direct delivery sales orders in the **Generate Purchase Orders (tdsls4241m000)** session. Select the **Direct Delivery** check box and specify the fields in the **Direct Delivery** group box.

- Existing purchase order advice

If you want LN to convert the generated purchase order advice automatically to a purchase order, you must select the **Convert Purchase Advice automatically to Purchase Order** check box in the **Sales Order Parameters (tdsls0100s400)** session. If this check box is cleared, you must manually confirm and transfer the purchase order advice to a purchase order in the **Confirm Purchase Order Advice (whina3211m000)** session and the **Transfer Purchase Order Advice (whina3212m000)** session.

LN uses these fields from the **Purchase Order Parameters (tdpur0100m400)** session to generate direct delivery purchase orders:

<b>Order Series for Direct Delivery</b>	Order Series for Direct Delivery
<b>Order Type for Direct Delivery</b>	Order Type for Direct Delivery

After a purchase order is generated, the status of the originating sales order line is Awaiting direct delivery in the **Sales Order Lines Monitor (tdsls4510m100)** session.

#### 4 Receive a direct delivery order

If you use *advance shipping notices* and you click **Receive Direct Delivery Lines** in the **Shipment Notices (whinh3100m000)** session, receipts for items that are purchased for a direct delivery sales order, are inserted in the Purchase Receipts (tdpur4106m000) session. If you do not use advance shipment notices, you must manually specify the receipts for direct delivery sales orders in the **Purchase Receipts (tdpur4106m000)** session.

You cannot confirm receipts in the **Purchase Receipts (tdpur4106m000)** session before the lot and serial set, if lots and serials must be registered, is complete.

#### 5 Communicate the deliveries to Sales

Run the Update Sales / Service Order with Delivery Information (tdpur4222m000) session to communicate the item, quantity, lot and serial information back to Sales for final receipts.

For each purchase order receipt line that is registered in the **Purchase Receipts (tdpur4106m000)** session, a sales order delivery line is created in the **Sales Order Line (tdsls4101m900)** and the **Sales Order Actual Delivery Lines (tdsls4106m000)** sessions.

#### 6 Send the sales invoice to the sold-to business partner

After receipts are booked in Procurement and communicated to Sales through the **Update Sales / Service Order with Delivery Information (tdpur4222m000)** session, you can release the sales order data for invoicing in the **Release Sales Orders/Schedules to Invoicing (tdsls4247m000)** session.

#### 7 Process a direct delivery order

Process the purchase order in the **Process Delivered Purchase Orders (tdpur4223m000)** session and the sales order in the **Process Delivered Sales Orders (tdsls4223m000)** session.

### Direct delivery sales orders and related orders

- Return orders

If you want to return items that are received for the direct delivery sales order, you must manually enter a direct delivery sales return order in the **Sales Order (tdsls4100m900)** session.

A direct delivery purchase return order can be generated based on the Return Order Type for Direct Deliveries field in the **Purchase Order Parameters (tdpur0100m400)** session. Next, the normal procedure for the *purchase order type* applies.

- Freight orders

If you want to use Freight to manage and plan your direct deliveries, you can generate *freight orders* for direct deliveries. For more information, refer to Generating freight orders for direct delivery sales orders.

- Backorders

After deliveries are communicated to Sales and less is received than ordered, a confirmed backorder is generated in Procurement irrespective of the setting of the Confirm Back Orders automatically check box in the **Purchase Order Parameters (tdpur0100m400)** session.

It depends on the setting of the Confirm Back Orders automatically check box in the **Sales Order Parameters (tdsls0100s400)** session if you must first manually confirm the backorder in Sales.

**Note**

- You can change the backorder quantity in Sales until receipts are executed.
- You can also generate a *freight order* for a direct delivery backorder.
- You cannot cancel a direct delivery backorder in Procurement.
- You can only delete a direct delivery backorder in Procurement. However, the deletion is not communicated to Sales.

**Note:** If you use the Enterprise Modeler Content Pack with LN, consider using the MPL0050 (Generate Purchase Orders for Sales Order) *wizard* to specify direct delivery settings. You can execute this predefined wizard from the **Wizards by Project Model (tgwzr4502m000)** session after you specified the *business function model* for your company.

## Chapter 6: Cross-docking

### Static cross-docking

To fulfill an existing sales order for which no inventory is available, inbound goods can be immediately taken from the receipt location to the staging location for issue. This process is called *cross-docking*.

These types of cross-docking are available:

- Static
- Dynamic
- Direct material supply

In this topic, only static cross-docking is handled.

To generate cross-docking orders:

#### 1 Create a cross-docking sales order

- Set the **Delivery Type** field to **Cross-docking** in the **Sales Order Lines (tdsls4101m000)**, **Sales Order Planned Delivery Lines (tdsls4101m100)**, or **Sales Order Line Components (tdsls4163m000)** session.

The **Cross-docking** delivery type can be specified as follows in these sessions:

- Manually, by selecting **Cross-docking**
- By selecting **Generate Cross-dock Order** from the **Inventory Shortage Menu (tdsls4830s000)** session that appears when an inventory shortage exists for the item
- After you run the **Generate Purchase Order Advice for Sales Order (tdsls4240m000)** session with the **Warehouse** check box selected for sales order lines that have the **Delivery Type** field set to **Warehouse**

The **Allow Purchase Orders** check box must be selected for the sales order type in the **Sales Order Types (tdsls0594m000)** session.

#### 2 Create a purchase order advice

After the sales order line is approved and if the **Generate Purchase Order Advice for Sales Order (tdsls4240m000)** session is linked as an activity to the order type in the **Sales Order Type (tdsls0694m000)** session, a *purchase order advice* must be generated for the sales order line in the **Generate Purchase Order Advice for Sales Order (tdsls4240m000)** session.

This step is not applicable if the **Generate Purchase Orders (tdsls4241m000)** session is linked as an activity to the order type instead of the **Generate Purchase Order Advice for Sales Order (tdsls4240m000)** session.

#### 3 Create a cross-docking purchase order

A purchase order must be generated from the sales order. How the purchase order is generated, depends on whether a purchase order advice already exists for the sales order line.

- No purchase order advice  
You can generate cross-docking orders in the **Generate Purchase Orders (tdsls4241m000)** session. Select the **Cross-docking** check box and specify the fields in the **Purchase Order** group box.
- Existing purchase order advice  
To automatically convert the generated purchase order advice to a purchase order, select the **Convert Purchase Advice automatically to Purchase Order** check box in the **Sales Order Parameters (tdsls0100s400)** session. If this check box is cleared, you must manually confirm and transfer the purchase order advice to a purchase order in the **Confirm Purchase Order Advice (whina3211m000)** and **Transfer Purchase Order Advice (whina3212m000)** sessions.

The calculation of the **Planned Receipt Date** for the purchase order:

**Planned Delivery Date** in the **Sales Orders (tdsls4100m000)** session + **Cross-dock Lead Time** in the **Item Data by Warehouse (whwmd2110s000)** session.

#### 4 Release the cross-docking order to Warehousing

Release the purchase order to Warehousing in the **Release Purchase Orders to Warehousing (tdpur4246m000)** session.

Release the sales order to Warehousing in the **Release Sales Orders to Warehousing (tdsls4246m000)** session.

#### Note:

For a cross-docking order, several purchase order line details can be linked to one sales order line, or several sales order planned delivery lines can be linked to one purchase order line. Therefore, if you make changes to the sales order (delivery) line, the link with the purchase order line (detail)(s) can be broken.

When you change sales or purchase order lines that are linked, a message is displayed about the link between the sales order and the purchase order.

When you cancel or delete sales or purchase order lines that are linked, the link is broken.

When you cancel or delete a sales order line for which a purchase order advice exists, the purchase order advice is deleted.

## Chapter 7: Sales orders and freight orders

### Integration Sales and Freight

The Freight package can be used to handle transportation requirements. During sales order entry, you can identify and choose the appropriate means of transportation and generate a freight order from a sales order.

#### Integration between Freight Order Control and Sales

In Freight Order Control, these types of planning are available:

- Rough planning, which is used for long-term capacity planning.
- Load building, which is the actual execution time plan of the shipments and loads. To ship the goods, Freight Order Control must know the shipments that must be moved over a period of time. If a freight order is created from Sales, the progress of the shipment and loads can be exchanged and information can be shared between Freight Order Control and Sales.

For more information, refer to Integration Freight Order Control and Sales .

#### Integration between freight invoicing and sales invoicing

Based on the Rate and Carrier/LSP Selection at Order Line parameter in the **Freight Rates and Costs Parameters (fmfr0100m000)** session, during sales order entry or sales quotation entry, a carrier is automatically or manually selected. Several factors, such as invoicing method, item, freight class, service level, transport type, and transport means group, determine the freight invoice amount, which is calculated in Pricing. The calculated invoice amount is printed on the order acknowledgement.

The freight invoice amount that you must pay to the carrier, is called freight costs. You can invoice your business partner for the freight costs, based on:

- **Freight Costs**
- **Freight Costs (Update Allowed)**
- **Client Rates**

For more information, refer to Integration freight invoicing and sales invoicing.

## Integration Freight Order Control and Sales

To identify and choose the appropriate means of transportation, freight orders can be generated from sales orders that are manually created, generated, or that originate from a converted *sales quotation*.

If a freight order is created from a sales order, the progress of the shipment and loads can be exchanged and information can be shared between Freight Order Control and Sales.

### Sales quotation settings

To enable the generation of freight orders from sales orders that originate from a converted sales quotation, and to provide the necessary freight related information when the quotation is converted to a sales order, specify these fields in the **Sales Quotation Lines (tdsls1501m000)** session:

- Select the **Gen. Freight Orders** check box
- Enter a service level in the **Freight Service Level** field if you want the same service level to be used in the freight order as in the sales order.
- Select the **Carrier Binding** check box if you want the same carrier to be used in the freight order as in the sales order.
- Enter a date in the **Planned Delivery Date** field. This date can be considered as the *planned load date*.
- Enter a date in the **Planned Receipt Date** field.

**Note:** After the **Planned Delivery Date** is specified on the sales quotation line, Freight determines if the transportation lead time is sufficient. A message is displayed if the goods cannot be delivered in time. You can either change the **Planned Receipt Date**, or select another carrier.

Freight orders cannot be generated from quotations, but only from sales orders. In the **Sales Quotation Lines (tdsls1501m000)** session, you specify all freight-related data to provide the necessary information when the confirmed quotation is converted to a sales order in the **Process Sales Quotations (tdsls1200m000)** session.

### Sales order settings

To enable the generation of freight orders from sales orders, these settings must be applied in the **Sales Order Lines (tdsls4101m000)** or **Sales Order Planned Delivery Lines (tdsls4101m100)** session:

- Select the **Generate Freight Order from Sales** check box.
- Select the **Carrier Binding** check box if you want the same *carrier* to be used in the freight order as in the sales order.
- Enter a service level in the **Freight Service Level** field if you want the same service level to be used in the freight order as in the sales order.
- Enter a date in the **Planned Delivery Date** field. This date can be considered as the *planned load date*.
- Enter a date in the **Planned Receipt Date** field.

#### **Note:**

Freight orders generated for sales orders are of the single-shipment type if:

- The sales order type of the sales order is associated with a warehousing order type for which the Single Order per Shipment check box is selected.
- The **Single Shipment Order** check box is selected for the freight order type associated with the sales order.
- The Single Order per Shipment check box is selected for the default warehousing order type of the sales order.



### Generating freight orders from sales orders

If the **Generate Freight Order from Sales** check box is selected in the **Items - Sales Business Partner (tdisa0510m000)** session and a sales order is generated for the item – sales business partner combination, after approval, LN checks whether **Generate Freight Orders (tdsls4222m000)** is linked as an activity to the order type in the **Sales Order Type - Activities (tdsls0560m000)** session to determine the freight order generation method. The freight order can be manually or automatically generated for the sales order.

After a freight order is generated from a sales order (delivery) line, the status of the freight order is **Expected**. The information that goes to the freight order includes only shipping related data, such as customer-requested date, addresses, shipping constraints, carrier, route, delivery terms, and planning responsibility. The original sales order number, position, and sequence number can be referenced in the freight order line. The calculated freight costs can be returned to the sales order (delivery) line.

When a load plan is created for the freight order, the status of the freight order is **Planned**. The load plan can be made actual only in Freight and the status of the freight order can be **Actual** after the sales order (delivery) line is released to Warehousing. On the *appropriate* menu of the **Sales Order Lines (tdsls4101m000)** or **Sales Order Planned Delivery Lines (tdsls4101m100)** session, you can click:

- **Freight Details**, to start the Freight Order Line Status Overview (fmfoc2601m000) session. In this session, you can view freight details, such as information about shipments and loads, the used carrier, the dates on which the shipments will be executed, and the quantities to be shipped.
- **Linked Information**, to start the Linked Order Line Data (tdsls4102s200) session, in which you can view linked freight orders.

**Note:**

- You cannot create freight orders for retrobilled orders, or cost orders as these order types require no shipment.
- If you want to modify, block, delete, or cancel a sales order and linked freight order, the status of the corresponding freight order must be **Expected**, **Planned**, or **Actual**.

Due to the type of transport, or the availability of the carrier, the **Planned Receipt Date** can differ from the date as specified on the sales order (delivery) line. In the **Sales Orders (tdsls4100m000)** session, you can click Printing and then Orders with Deviation in the Shipment Dates to start the **Print Orders with Deviating Shipment Dates (fmlbd3450m000)** session. With this session, you can generate a difference report listing all orders for which the original dates differ from those in the load plan of Freight.

## Generating freight orders for direct delivery sales orders

On a sales order or sales quotation, you can indicate whether you want the sold goods to be *directly delivered*. By means of a purchase order that is linked to a sales order, the buy-from business partner delivers the goods directly to the sold-to business partner. A direct delivery by-passes your warehouse.

You can use Freight to manage and plan your direct deliveries.

### Direct delivery orders

If you want to generate *freight orders* for direct deliveries, the following applies:

- The freight order must be generated from the purchase order and not from the sales order.

Therefore, if the Delivery Type field is **Direct Delivery** in the **Sales Order Lines (tdsls4101m000)** session:

- The activity **Generate Freight Orders (tdsls4222m000)** is no longer linked to the sales order.
- The **Generate Freight Order from Sales** check box is renamed into the **Generate Freight Order from Sales** check box. Whether this check box must be selected, is defaulted from the **Generate Freight Orders from Purchase** check box in the **Items - Purchase Business Partner (tdipu0110m000)** session.
- If, in the **Sales Order Lines (tdsls4101m000)** session, the **Delivery Type** field is set to **Direct Delivery** after a freight order was generated, the freight order is deleted.
- Either the Invoice for Freight check box can be selected in the **Sales Order Lines (tdsls4101m000)** session, or the Invoice External Business Partner check box can be selected in the **Purchase Orders (tdpur4100m000)** session. You cannot select both check boxes.
- Sales order fields, such as **Carrier/LSP**, **Route**, and **Freight Service Level**, are leading. Therefore, these fields must be specified on the sales order and not on the purchase order. The purchase order data is unavailable.
- To calculate the freight invoice amount for the direct delivery, click **Freight Amount** in the **Sales Order Lines (tdsls4101m000)** session. The purchase office that is linked to the buy-from business is used for this calculation. LN displays the calculated freight invoice amount in the Freight Amount field of the **Sales Order Lines (tdsls4101m000)** session.

**Note:** After the **Planned Delivery Date** is entered on the sales order line, LN determines whether the transportation lead time is sufficient to deliver the goods in time. To calculate the transportation time, the ship-from business partner's ship-from address and the ship-to business partner's ship-to address are used. If the goods cannot be delivered in time, you must change the **Planned Receipt Date** or select another carrier on the order line.

If a freight order is linked to a direct delivery order, the date fields have different names in the various modules. See this table:

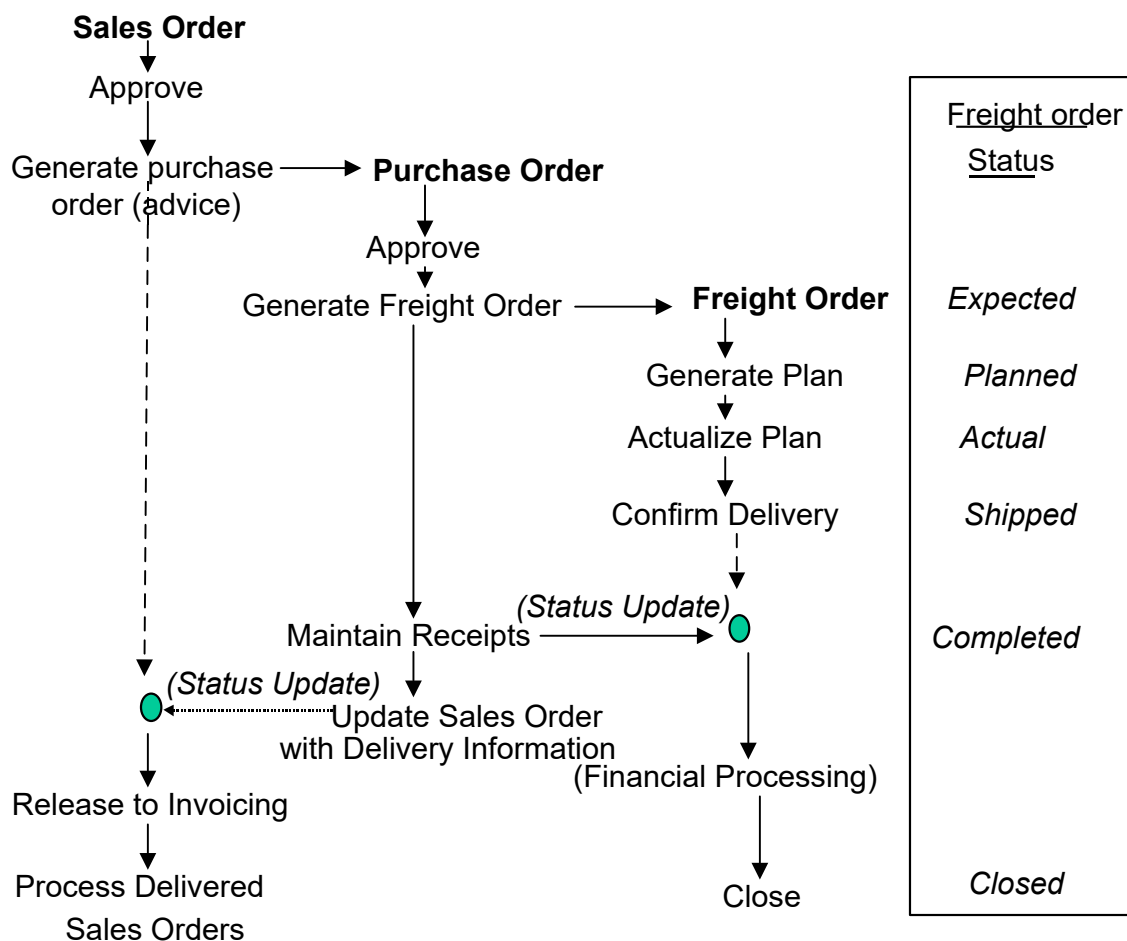
-	Sales	Purchase	Freight	ASN
Moment of shipment of the goods from the supplier.	planned delivery date	load date	load date	shipping date
Moment of receipt of the goods by the sold-to business partner.	planned receipt date	planned receipt date	unload date	planned delivery date

### Freight orders

- After a direct delivery purchase order is generated for the sales order, a freight order can be generated for the direct delivery order in the **Generate Freight Orders (tdpur4220m000)** session. For details on creating a direct delivery sales order, refer to Direct delivery sales orders.
- The purchase order number as well as the sales order number are displayed on the freight order.
- When the freight order is generated, it is linked to the sales order line in the **Linked Order Line Data (tdsls4102s200)** session and to the purchase order line in the **Purchase Order Line - Linked Information (tdpur4502s000)** session.
- When the purchase order is received in the **Purchase Receipts (tdpur4106m000)** session, freight-related fields must be specified in this session, such as the carrier that is used for freight cost calculation. After final receipt, you must communicate the direct delivery information to the sales order by means of the **Update Sales / Service Order with Delivery Information (tdpur4222m000)** session.

## Procedure

The procedure for direct delivery orders with linked freight orders is explained in this diagram:



## Note:

The freight order that is linked to a direct delivery purchase order is deleted if any of these actions are performed for the direct delivery purchase order:

- Updated by Sales Control. You must generate a new freight order, if required.
- Deleted in Purchase Control.
- Canceled by Sales Control.

## Integration freight invoicing and sales invoicing

If a sales company is responsible for the transportation of goods and hires a *carrier* to transport the goods, after transportation, the carrier sends an invoice to the sales company. The freight rate that a company must pay to the carrier is called freight costs. You can invoice your business partner, for whom you arranged transportation services, for freight.

### Master data

If you want to invoice your business partner for freight, specify the following master data:

- **Items - Sales Business Partner (tdisa0510m000)**  
Select the **Invoice for Freight** check box. The value of this check box is defaulted to the **Invoice for Freight** check box in the **Sales Order Lines (tdsls4101m000)** session, **Sales Order Planned Delivery Lines (tdsls4101m100)** session, and **Sales Quotation Lines (tdsls1501m000)** session.
- **Sold-to Business Partner (tccom4110s000)**  
Select the **Invoice Business Partner for Freight** check box. The value of this check box is defaulted to the **Freight Costs to be Invoiced** check box in the **Sales Orders (tdsls4100m000)** session, or the **Invoice for Freight** check box in the **Sales Quotations Overview (tdsls1500m000)** session.
- **Invoice-to Business Partner (tccom4112s000)**  
Set the **Invoice for Freight Based On** field to one of the following:
  - **Freight Costs**  
If you want the freight costs for an order, shipment, or load to be based on the best information currently available. The freight invoice amount is based on a *carrier rate book* in Pricing. These costs are also known as estimated freight costs.
  - **Freight Costs (Update Allowed)**  
If you want the freight costs to be invoiced after matching the carrier invoice to a certain load or shipment. Initially, the freight invoice amount is based on a carrier rate book in Pricing. These costs are also known as actual freight costs.
  - **Client Rates**  
If you want the freight invoice amount to be based on a *client rate book* in Pricing. This rate book stores freight service rates for a specific business partner.

### Cost plus invoice

If the **Invoice for Freight Based On** field is **Freight Costs** or **Freight Costs (Update Allowed)**, and if you want to add a cost plus amount or a cost plus percentage to the invoice, specify these fields in the **Invoice-to Business Partner (tccom4112s000)** session:

- **Additional Percentage**  
The percentage with which the freight invoice amount must be increased
- **Additional Amount**  
The amount with which the freight invoice amount must be increased

### Invoicing methods

A company can invoice freight rates to the external business partner, based on:

- **Freight Costs**
- **Freight Costs (Update Allowed)**
- **Client Rates**

#### Freight Costs

The freight invoice amount is calculated based on the best information currently available (estimated freight costs). These freight costs are retrieved from a carrier rate book in Pricing and are updated each time a change is made to an order, shipment, or load. When the sales invoice is released to Invoicing, with the calculated amount on the sales order (delivery) line, the freight invoice is also released to Invoicing. In Invoicing, the order invoice is merged with the freight invoice and sent as one invoice.

If the freight invoice is released to Invoicing before the sales invoice is released, one invoice is sent for goods sold and one for goods transported.

#### Freight Costs (Update Allowed)

The freight amount for the order (delivery) line, or quotation line is prorated based on the entire load in Freight. First, the freight costs (estimated freight costs) are determined, based on the carrier rate books in Pricing. In a later stage, after the carrier invoice is received and matched in Accounts Payable, you can specify the actual costs. After the sales invoice is released to Invoicing, with the prorated amount on the sales order (delivery) line, which are the freight costs, the freight invoice is also released to Invoicing.

If the freight invoice is released to Invoicing before the sales invoice is released, one invoice is sent for goods sold and one for goods transported.

If the sales order (delivery) line is invoiced with the freight costs before the actual costs are received from the carrier, you can invoice the customer with the difference between the estimated freight costs and the actual costs.

**Note:** If you want to invoice your business partner with the difference, an additional invoice can be generated. The invoice is based on the data you specify in the **If amount greater than** or **If greater than** fields of the **Freight Invoicing Parameters (fmfri0100m000)** session.

#### Client Rates

If the invoicing method is **Client Rates**, the freight invoice amount is based on fixed agreements with customers about the freight rates that can be charged to them in order to be compensated for the freight costs that a company must pay to the carrier.

#### Freight (invoice) amount calculation

To calculate a freight invoice amount, carriers and corresponding freight rates are selected based on the Rate and Carrier/LSP Selection at Order Line parameter in the **Freight Rates and Costs Parameters (fmfrc0100m000)** session, which can be **Interactive**, **Cheapest**, or **Prioritized**.

**Note:** If the Show Calculation Log check box is selected in the **Sales Quotation Lines (tdsls1501m000)**, **Sales Order Lines (tdsls4101m000)**, or **Sales Order Planned Delivery Lines (tdsls4101m100)** session, you can view how the freight amount is calculated in a freight amount calculation log.

**Interactive**

During sales order entry or sales quotation entry, you can zoom to Freight to select the most suitable *carrier*. Based on several factors, such as invoicing method, item, freight class, service level, transport type, and transport means group, the freight invoice amount is retrieved from a rate book in Pricing.

To retrieve a carrier, in the **Sales Quotation Lines (tdsls1501m000)**, **Sales Order Lines (tdsls4101m000)**, or **Sales Order Planned Delivery Lines (tdsls4101m100)** sessions:

- 1** Select the **Invoice for Freight** check box.
- 2** Click the Freight Amount button behind the **Freight Amount** field. The Freight Rates (fmfr0530m000) session starts.
- 3** Select the most suitable carrier and service level combination, and click OK.

After you made your selection from the **Freight Rates (fmfr0530m000)** session, the following fields are automatically specified in the **Sales Quotation Lines (tdsls1501m000)**, **Sales Order Lines (tdsls4101m000)** session, or **Sales Order Planned Delivery Lines (tdsls4101m100)** sessions:

- **Carrier/LSP**
- **Freight Service Level**
- Freight Amount

**Cheapest OR Prioritized**

During sales order/quotation entry or update, the carrier with the lowest rates or with the highest priority is automatically selected. The freight invoice amount is automatically calculated or recalculated.

**Note:**

- If the Freight Amount Binding check box is selected in the **Sales Quotation Lines (tdsls1501m000)**, **Sales Order Lines (tdsls4101m000)**, or **Sales Order Planned Delivery Lines (tdsls4101m100)** session, the **Freight Amount** is recalculated only if the ordered quantity changes. Other changes do not affect the freight amount.
- During confirmation of a final shipment, the freight amount is left unchanged. During confirmation of a nonfinal shipment, the freight amount is divided pro rata across the delivery lines.
- The freight amount is based on the ordered quantity and ordered amount, not the delivered quantity.

## Chapter 8: Backorders

### Backorder handling for sales orders

If a final delivery is made for a sales order (delivery) line and only a part of the goods or none of the goods are shipped, a *backorder* is created.

A backorder can be created in Sales or in Warehousing.

#### Sales

In Sales, a backorder can be created as follows:

- You manually enter a hold back quantity.
- The *direct delivery* purchase order that is created for the sales order is not completely delivered.

#### Hold back quantity

In the **Sales Order Lines (tdsls4101m000)** and **Sales Order Planned Delivery Lines (tdsls4101m100)** sessions, you can manually hold back a part of the ordered quantity. Holding back a part of the ordered quantity always results into a backorder.

A hold back quantity allows you to identify up front what the expected backorder will be. In this way, you can assign limited stock to several business partners instead of to only one business partner. When you release a sales order line to Warehousing, the **Ordered Quantity** minus the **Hold Back Quantity** is released.

After a sales order line is released to Warehousing for which you specified a hold back quantity in the **Sales Order Lines (tdsls4101m000)** or **Sales Order Planned Delivery Lines (tdsls4101m100)** session:

- 1 A backorder is generated in the **Maintain and Confirm Backorders (tdsls4125m000)** session when a final delivery is executed for the sales order (delivery) line. The **Hold Back Quantity** is not filled yet in the **Maintain and Confirm Backorders (tdsls4125m000)** session.
- 2 The **Back Order Quantity** field is updated with the remaining quantity in the **Maintain and Confirm Backorders (tdsls4125m000)** and the **Sales Order Lines (tdsls4101m000)**, or **Sales Order Planned Delivery Lines (tdsls4101m100)** session. The remaining backorder quantity is calculated as follows: **Ordered Quantity- Delivered Quantity**.
- 3 You must confirm the backorder (sequence) line manually in the **Maintain and Confirm Backorders (tdsls4125m000)** session, or the backorder is automatically confirmed if the **Confirm Back Orders automatically** check box is selected in the **Sales Order Parameters (tdsls0100s400)** session.
- 4 After the backorder is confirmed:
  - A new (delivery) line is generated with a new sequence number and the **Back Order Quantity** check box selected in the **Sales Order Lines (tdsls4101m000)** or **Sales Order Planned Delivery Lines**

(tdsls4101m100) session. These lines can be processed as regular sales order lines and are also displayed in the **Maintain and Confirm Backorders (tdsls4125m000)** session.

- The **Hold Back Quantity** of the parent sales order line is deleted in the **Sales Order Lines (tdsls4101m000)** or in the **Sales Order Planned Delivery Lines (tdsls4101m100)** session.

- 5 If, required, you can specify a **Hold Back Quantity** for the newly created backorder line. Consequently, the previous steps are repeated when you release a sales order (delivery) line to Warehousing.

You cannot specify a **Hold Back Quantity** for:

- Items with a commitment policy
- Order (lines) with shipping constraints
- Cost items
- Service items
- List items
- Subcontracted items
- Equipment items
- Generic items
- Collect orders
- Return order lines
- Total order lines, which have linked delivery lines
- Order lines with an order quantity of zero

**Note:**

- If you select the **Confirm Back Orders automatically** check box in the **Sales Order Parameters (tdsls0100s400)** session, the backorder is automatically confirmed.
- If you select the **Release Back Orders automatically to Warehousing** check box in the **Sales Order Parameters (tdsls0100s400)** session, the confirmed backorder is automatically released to Warehousing.

### Direct delivery orders

If a *direct delivery* purchase order is generated for a sales order, you can report deliveries back from Procurement to Sales with the Update Sales / Service Order with Delivery Information (tdpur4222m000) session.

If less is received than ordered, the following are applicable:

- 1 The **Back Order Quantity** field is filled in the **Maintain and Confirm Backorders (tdsls4125m000)** session and the **Sales Order Lines (tdsls4101m000)** session or **Sales Order Planned Delivery Lines (tdsls4101m100)** session. The backorder quantity is calculated as follows: **Ordered Quantity - Delivered Quantity**.
- 2 You must manually confirm the backorder (sequence) line in the **Maintain and Confirm Backorders (tdsls4125m000)** session, or the backorder is automatically confirmed if the **Confirm Back Orders automatically** check box is selected in the **Sales Order Parameters (tdsls0100s400)** session. Consequently, a new line is generated with a new sequence number and the **Back Order Quantity** check box selected in the **Sales Order Lines (tdsls4101m000)** or **Sales Order Planned Delivery Lines (tdsls4101m100)** session. This line is also displayed in the **Maintain and Confirm Backorders (tdsls4125m000)** session with the same position number and another sequence number.
- 3 A confirmed backorder is automatically generated in Procurement, which is linked to the backorder in Sales. You can view the backorder in the **Purchase Order Line Details (tdpur4101m200)** and the **Confirmed Purchase Backorders (tdpur4101m800)** sessions.



## Warehousing

A backorder can be created by Warehousing if, for example, the goods are damaged in the warehouse or the truck that must pick up the goods has insufficient loading capacity.

In such cases, the quantity of the shipment created from the sales order must be decreased. The quantity can be decreased before confirmation of the outbound advice and before confirmation of the shipment.

When the modified shipment receives the **Confirmed** status:

- 1 A backorder is generated and displayed in the Maintain and Confirm Backorders (tdsls4125m000) session with the **Back Order Quantity** field filled.
- 2 You must manually confirm the backorder (sequence) line in the **Maintain and Confirm Backorders (tdsls4125m000)** session, or the backorder is automatically confirmed if the **Confirm Back Orders automatically** check box is selected in the **Sales Order Parameters (tdsls0100s400)** session.
- 3 After confirmation, a new (delivery) line is generated with a new sequence number and the **Back Order Quantity** check box selected in the **Sales Order Lines (tdsls4101m000)** or **Sales Order Planned Delivery Lines (tdsls4101m100)** session. The line can be processed as a regular sales order line and is also displayed in the **Maintain and Confirm Backorders (tdsls4125m000)** session.

Deliveries are displayed in the Sales Order Lines - Monitor (tdsls4510m000) and Sales Order Actual Delivery Lines (tdsls4106m000) sessions.

Warehousing cannot create backorders for:

- Order (lines) with shipping constraints
- Collect orders
- Return order lines
- Order lines with linked delivery lines
- Order lines with an order quantity of zero

### Example

Order	Position	Sequence	Ordered	Delivered	Backorder
102	10	0	25	15	10
102	10	1	10	7	3
102	10	2	3	3	0

The backorder quantity of the parent line always determines the ordered quantity of the next line.

## Chapter 9: Installments

### Installments

*Installment* invoicing is used to generate invoices for partial amounts or percentages of the total net amount before or after the ordered goods are delivered for a sales order. To create the installments, installment lines are linked to the sales order.

#### Installment types

The **installment type** determines when an installment line is added to an invoice.

- Advance invoice installment  
An **Advance Invoice** must be paid for by the sold-to business partner before goods can be delivered. The invoice is a legal document.
- Advance payment request installment  
An **Advance Payment Request** is a request to a sold-to business partner to pay a certain amount or percentage in advance before goods can be delivered. No tax is calculated and the invoice is not a legal document. This type of installment can be used only for order header-based installments.
- Normal installments  
**Normal** installments are invoiced before or at the delivery of goods.
- Guarantee installments  
**Guarantee** installments can only be invoiced after all goods are delivered and the nonguarantee installments are invoiced.

#### Installment procedures

In LN, these installment procedures are supported:

- Order header-based installments  
Installments that are created and invoiced without a link to the sales order lines. When order lines are invoiced, the settlement process is used to link the order line invoices to the already invoiced installment on a first invoiced, first settled basis. If you use this procedure, all lines of a sales order must have the same tax code.
- Prorate-based installments  
Installments that are generated based on an *installment plan*. When an installment is transferred to Invoicing, the installment is prorated across the order lines by creating multiple billable lines. These billable lines are handled together and result in one invoice for the customer. If you use this procedure, the lines of a sales order can include different tax codes.

For more information, refer to:

- Order header-based installments
- Prorate-based installments

## Order header-based installments

Order header-based *installments* are created and invoiced without a link to the sales order lines. When order lines are invoiced, the settlement process is used to link the order line invoices to the already invoiced installment invoice on a first invoiced, first settled basis. Using this procedure, all lines of a sales order must have the same tax code.

### Installment master data and procedure

To specify, maintain, and view installments:

- 1 Select the Installments Implemented check box and specify the installment parameters on the **Installments** tab of the **Sales Order Parameters (tdsls0100s400)** session.
- 2 Enter a sales order and specify **Direct Settlement** or **Indirect Settlement** in the Invoicing by Installments field of the **Sales Order (tdsls4100m900)** session.
- 3 Add the sales order lines and click **Installments** on the *appropriate menu* of the **Sales Order (tdsls4100m900)** session.
- 4 In the Sales Order - Installments (tdsls4600m100) session, specify an installment schedule for the sales order.
- 5 After the goods are delivered and all nonguarantee installments are invoiced, close installments in the **Sales Order - Installments (tdsls4600m100)** session. Next, invoices can be created for guarantee installments.
- 6 Process installments in the **Process Delivered Sales Orders (tdsls4223m000)** session.

#### Note:

- You can create default installment schedules in the **Installment Schedule (tcmcs2640m000)** session. You can copy these schedules to *sales order installments*.
- In the Update Paid Amounts on Advance Installments (tdsls4200m000) session, the paid amounts for advance installments are updated. After all advance installments for a sales order are fully paid, the sales order procedure can continue.

### Installment settlements

Invoiced installments are settled (subtracted from the goods amount) if the goods are delivered and the goods invoice is printed. Settled amounts indicate the amount of the goods invoice that is covered by the installment.

#### Settlement types

The following types of settlement exist:

- **Direct Settlement**

Delivered goods can be invoiced although not all installments are invoiced yet. When the goods are invoiced, the invoiced amounts on the installment lines are subtracted from the goods amount on the invoice.

With direct settlement, the following are immediately visible:

- Revenue from the sale of goods in Invoicing
- Turnover of the goods in the **Sales Order Actual Delivery Line History (tdsls4556m000)** session.

- **Indirect Settlement**

Delivered goods cannot be invoiced before the sales order installment is closed. When the order is closed, the invoiced amounts on the installment lines are subtracted from the goods amount on the invoice.

The following are applicable for indirect settlement:

- The revenue from the sale of goods is visible in Invoicing after the sales order installment is closed.
- Turnover of the goods is logged in the **Sales Order Actual Delivery Line History (tdsls4556m000)** session after the sales order installment is closed. If the sales order installment is not closed yet, in the **Sales Order Line History (tdsls4551m000)** session, turnover is temporarily booked on the **Item for Advance Payment Installments, Item for Normal Installments, or Item for Guarantee Installments**, as specified in the **Sales Order Parameters (tdsls0100s400)** session.

You can view the settlements for an installment in the Installment - Settlements (tdsls4513s000) session. After the goods invoice is printed in Invoicing, the settlements for the invoiced installments are displayed in this session.

**Note:**

- Guarantee installments are settled before they are invoiced, because they are always invoiced after the goods invoice is sent.
- When invoicing a (+) sales order line, the (-) installments are first settled up to the total installment amount.
- When invoicing a (-) sales order line, the (+) installments are first settled up to the total installment amount.

### Installment corrections

Settled amounts, which indicate the amount of the goods invoice that is covered by the installment, are the basis for calculating the installment corrections. The correction amount, which is calculated when a sales order installment is closed, is the difference between the total invoiced installment amount and the settled goods invoice amount. It is calculated as follows:

Goods amount to be invoiced - installment amount to be settled.

A correction installment is created only if the goods amount to be invoiced is less than the installment amount to be settled. In this case, the amount for which the customer is invoiced is too high and a reverse **Correction - Advance Invoice, Correction - Advance Payment Request, Correction - Normal, Or Correction - Guarantee** is created.

Correction advance installments or **Correction - Normal** installments can be specified only after the original installments are composed or invoiced. In this way, Invoicing can always retrieve the correct currency information. **Correction - Guarantee** installments can be specified before the original installment is released to Invoicing, because guarantee installments are handled after the goods are shipped and the sales order installment is closed. The **Correction - Guarantee** installment line cannot be released to Invoicing before

the original **Guarantee** installment is released to Invoicing. In this way, when composing the invoice for the correction guarantee, the correct invoice information can be retrieved from the original guarantee.

Manually specified correction installments are settled against the goods invoice.

### Example

Line	Installment type	Installment amounts
1	Normal	200
2	Normal	400
3	Normal	-50
4	Guarantee	300
Total sales order installment		850

Line	Sales order amounts
1	150
2	500
3	80
4	-10
Total sales order	720

Direct settlement is applicable.

The correction process:

- 1** Installment line one is invoiced. Invoice amount = 200.
- 2** Installment line two is invoiced. Invoice amount = 400.
- 3** Sales order line one is invoiced. The goods amount of 150 is settled against the invoiced installment line one.
  - Remaining goods amount to be settled =  $150 - (150) = 0$ .
  - Invoice amount = 0.
- 4** Installment line three is invoiced. Invoice amount = -50.
- 5** The sales order installment is closed.
  - Goods amount to be invoiced =  $500 + 80 - 10 = 570$ .
  - Installment amount to be settled =  $50 + 400 - 50 + 300 = 700$ .
  - Correction amount =  $570 - 700 = -130$ .
- 6** The correction installment is invoiced. Invoice amount = -130.
- 7** Correction installment line five is manually created for the guarantee installment. Correction amount = -300.
- 8** Correction installment line six is manually created and is of the normal installment type. Correction amount = 170.
- 9** Installment line four is invoiced. Invoice amount = 300.

- 10** Sales order line two is invoiced. The goods amount of 500 is settled against the invoiced installments as follows:
- a** Against installment line three for an amount of -50. Remaining goods amount to be settled =  $500 - (-50) = 550$ .
  - b** Against installment line five for an amount of -300. Remaining goods amount to be settled =  $550 - (-300) = 850$ .
  - c** Against installment line one for an amount of 50. Remaining goods amount to be settled =  $850 - (50) = 800$ .
  - d** Against installment line two for an amount of 400. Remaining goods amount to be settled =  $800 - (400) = 400$ .
  - e** Against installment line four for an amount of 300. Remaining goods amount to be settled =  $400 - (300) = 100$ .
  - f** Against installment line six for an amount of 100. Remaining goods amount to be settled =  $100 - (100) = 0$ .
- Invoice amount = 0.
- 11** Sales order line three is invoiced. The goods amount of 80 is settled against the manually inserted installment line six.
- Remaining goods amount to be settled =  $80 - (70) = 10$ .
  - Invoice amount = 10.
- 12** Sales order line four is invoiced. All installments are settled. Invoice amount =  $-10 + 10 = 0$ .

## Tax for order header-based installments

Several *installment lines* can be linked to a *sales installment order*.

The following tax data must always match between the installment lines and the sales order lines:

- **Tax Country**
- **Tax Code**
- **Business Partner Tax Country**

An exception to this are the installment lines of the type **Advance Invoice**. The tax code for these installment lines can differ from the tax code of the sales order lines, provided the tax percentage, tax country, BP tax country, and *ledger account* match.

### Tax for Advance Invoice installments

To automatically retrieve a specific tax code for **Advance Invoice** installment lines in the **Sales Order Installments (tdsls4110m000)** session, you can specify *tax code exceptions* in the Tax Exceptions by Country (tctax1100m000) and Tax Exceptions by Country Set (tctax1101m000) sessions. The **Order Origin** of these tax exceptions must be set to **Sales Advance**.

When an **Advance Invoice** installment line is created, LN first searches for a matching tax exception. If the tax exception's tax percentage, tax country, BP tax country, and ledger account match for the installment line and the sales order lines, the tax exception's tax code is used on the installment line. Else, the tax code of the sales order lines is used.

**Note:** You can always manually change the **Tax Code** for **Advance Invoice** installment lines in the **Sales Order Installments (tdsls4110m000)** session.

## Prorate-based installments

Prorate-based installments are generated based on an *installment plan*. When an installment is transferred to Invoicing, the installment is prorated across the order lines by creating multiple billable lines. These billable lines are handled together and result into one invoice for the customer. Using this procedure, the lines of a sales order can include different tax codes.

### Installment master data and procedure

- 1 Select the Installments Implemented check box and specify these parameters on the **Installments** tab in the **Sales Order Parameters (tdsls0100s400)** session:
  - Goods Acceptance Date Mandatory for Guarantee Installments
  - Include Additional Costs in Installments
- 2 Specify installment plans in the **Installment Plan (tcmcs2645m000)** session.
- 3 Link an installment plan in the **Installment Plan** field of the **Invoice-to Business Partners (tccom4512m000)** session.
- 4 Specify a sales order and lines in the **Sales Order (tdsls4100m900)** session and specify these fields:
  - Select **Installment Plan** in the Invoicing by Installments field.
  - Specify an installment plan in the Plan field.
- 5 Save the sales order, which initiates the generation of installments based on the installment plan in the **Installments (cisli8620m000)** session. To start this session click **Installments** on the *appropriate menu* in the **Sales Order (tdsls4100m900)** session.
- 6 Approve the sales order. Consequently, the linked installment lines are also approved.
- 7 Transfer the installment lines to Invoicing in the **Installments (cisli8620m000)** session. Consequently, billable installment lines are created and the installments are prorated across the sales order lines.
- 8 Invoice the installments in Invoicing.
- 9 Release the sales order lines to Warehousing in the **Release Sales Orders to Warehousing (tdsls4246m000)** session. The advance installments must be paid to release a sales order line to Warehousing.
- 10 Release the sales order lines to Invoicing in the **Release Sales Orders/Schedules to Invoicing (tdsls4247m000)** session. Except for **Guarantee** installments, the prorate installments must be invoiced to release a sales order line to Invoicing.
- 11 Process the sales order in the **Process Delivered Sales Orders (tdsls4223m000)** session. The installments must be closed to process a sales order.

**Note:**

- Installments are invoiced, settled, and corrected in Invoicing.
- Guarantee installments can be transferred to Invoicing in the **Installments (cisli8620m000)** session, only after the sales order lines are delivered and invoiced.
- If a sales order line is modified, the linked billable installment lines must also be updated. However, the lines cannot be updated if they are too far in the process. Settlement and correction installments are used to handle the differences.

- The settlement of the advance installment invoice with the goods invoice is also prorated to each order line.
- If the installment invoice cannot be completely settled with the goods invoice, correction installments are generated when the installments are closed.

### Settlement example

	Line	Item	Quantity	Price	Amount	Tax
SO line	1	I1	600	1	600	0%
SO line	2	I2	200	2	400	0%

An **Advance Invoice** installment is created for 20% of the order amount ( $1000 \times 20\% = \text{EUR } 200$ ):

	Line	Item	Quantity	Price	Amount	Tax	Total	Settlements	Amount Due
Advance 1 (20%)	1				200	0%			220

Sales order lines 1 and 2 are both shipped and invoiced.

Settlements:

	Line	Item	Quantity	Price	Amount	Tax	Total	Settlements	Amount Due
Settlement Invoice 1 ( SO line 1)	1	I1	600	1	600	0%	660	132	528
Settlement Invoice 2 ( SO line 2)	1	I2	200	2	400	0%	440	88	352

### Correction example

Invoiced Installment		Sales order line changes			Corrections in billable installment		
Seq.	Amount	Seq.	Amount	User Action	Seq.	Amount	Action
1	100	1	100	Canceled	1	-100	Credit
2	200	2	250	Changed	2	50	Debit
		3	200	Added	3	-	No action
		3	200	Canceled	3	-	No action



Invoiced Installment	Sales order line changes			Corrections in billable installment		
	4	50	Added	4	50	Debit

## Tax for prorate based installments

Several *installment lines* can be linked to a *sales installment order*.

The following tax data are retrieved from the sales order lines and cannot be changed by the user:

- **Tax Country**
- **Tax Code**
- **Business Partner Tax Country**

An exception to this are the installment lines of the type **Advance Invoice**. The tax code for these billable installment lines can differ from the tax code of the sales order lines, provided the tax percentage, tax country, BP tax country are same.

### Tax for Advance Invoice installments

To automatically retrieve a specific tax code for **Advance Invoice** installment lines in the **Billable Installment Lines (cisl8130m000)** session, you can specify *tax code exceptions* in the Tax Exceptions by Country (tctax1100m000) and Tax Exceptions by Country Set (tctax1101m000) sessions. The **Order Origin** of these tax exceptions must be set to **Sales Advance**.

When an **Advance Invoice** billable installment line is created (when transferring an advance invoice installment to Invoicing), LN first searches for a matching tax exception. If the tax exception's tax percentage, tax country, BP tax country match for the installment line and the sales order lines, the tax exception's tax code is used on the installment line. Else, the tax code of the sales order lines is used.

## Chapter 10: Return orders

### Sales return orders

If goods must be returned on a sales order, a *return order* can be created. A return order can include only negative amounts.

To use return orders:

- 1 Specify a sales order type for return orders  
Specify a *sales order type* for return orders in the **Sales Order Types (tdsls0594m000)** session.  
In the **Return Order** field, specify one of the following:
  - **Return Inventory**  
An order type that is used for returning inventory.
  - **Return Rejects**  
An order type that is used for returning rejects, which applies if you reject goods that are delivered on a sales order. You can select this value only if the Customer Approval check box is selected in the **Implemented Software Components (tccom0100s000)** session. Sales orders of the **Return Rejects** order type are always generated.
- 2 Link a warehousing order type to the sales order type  
Link a *warehousing order type* to the return order type in the **Warehousing Order Type** field of the **Sales Order Types (tdsls0594m000)** session. You must select a warehousing order type for which the **Inventory Transaction Type** is **Receipt** in the **Warehousing Order Types (whinh0110m000)** session.
- 3 Link activities to the return order type  
Link activities to the order type in the Sales Order Type - Activities (tdsls0560m000) session.  
The following mandatory activities are automatically linked to the return order type:
  - **Release Sales Orders to Warehousing (tdsls4246m000)**
  - **Sales Deliveries (tdsls4101m200)**
  - **Release Sales Orders/Schedules to Invoicing (tdsls4247m000)**, if the order type is a return order of the type **Return Inventory**.
  - **Process Delivered Sales Orders (tdsls4223m000)**
- 4 Specify a sales return order  
In the **Sales Orders (tdsls4100m000)** session:
  - a Create a sales order header with a sales order type for return orders.
  - b Specify the Original Document Type field.
  - c Specify the Original Document Number field.

- d Specify the return reason for the return order in the **Return Reason** field.
  - e After you created a link between a return order and an original document number, you can click Copy from Original Document on the *appropriate* menu. A session is started from which you can copy lines to the return order. The lines that are added to the sales order have a negative quantity and a negative amount. If desired, you can change these lines.
- 5 Release the sales return order to warehousing
- After the sales return order is approved, release the order to warehousing in the **Release Sales Orders to Warehousing (tdsls4246m000)** session. As a result, the sales order status is **In Process** and the activity status is Awaiting Receipt.
- 6 Release the sales return order to invoicing
- After the receipt procedure is executed by Warehousing, the sales order status is **In Process**, but the activity status is Release Sales Orders/Schedules to Invoicing in the **Sales Order Line Status (tdsls4534s000)** session. You must release the sales return order to invoicing in the **Release Sales Orders/Schedules to Invoicing (tdsls4247m000)** session.
- 7 Process the sales return order
- After the sales return order is invoiced, you must process the return order in the **Process Delivered Sales Orders (tdsls4223m000)** session.

**Note:**

- If the return order includes a *serialized item*, an *installation group* is automatically linked to the return order when the delivery information is updated on the order through the **Warehouse Receipt (whinh3512m000)** or **Update Sales / Service Order with Delivery Information (tdpur4222m000)** sessions.  
However, an installation group is not automatically linked if:
  - The serialized items on the sales return order line are linked to different installation groups in Service.
  - The item is an anonymous item, or the items are serialized in Service only.If required, you can link an item to an installation group and/or link an installation group to the sales return order line in the **Sales Order Lines (tdsls4101m000)** session.
- If goods are returned on a *direct delivery* order, the steps related to the direct delivery procedure apply. For more information, refer to Direct delivery.
- If a *specification* is linked to the sales order line and the **Return Order** is of the **Return Rejects** type, this specification is not copied to the return order line.

## Appendix A: Miscellaneous

### Sequence numbers on sales orders

*Sequence numbers* are used if more than one delivery takes place on an order line. More than one delivery can occur, for example, with backorders.

Consequently:

- If an order line is generated in the **Sales Order (tdsls4100m900)** session, the sales order line's sequence number is zero. You can specify all fields.
- If an order line is split or a backorder is generated for the order line, the original order line's sequence number remains zero. The sequence number for the delivery lines of the split sales order line, or the sequence number of the backorder line are greater than zero.

**Note:**

- In the Sales Order Line (tdsls4101m900) session, you can specify the sequence number before the order is released.
- Deliveries can be displayed in the Sales Order Lines - Monitor (tdsls4510m000) and Sales Order Actual Delivery Lines (tdsls4106m000) sessions.

#### Example

Adding an order line:

Sequence number	Order quantity	Planned delivery date
0	100	14/12

Splitting of the order line:

Sequence number	Order quantity	Planned delivery date
0	100	14/12
1	80	14/12
2	20	21/12

After final delivery:

Sequence number	Order quantity	Planned delivery date	Delivered quantity	Backorder quantity
1	80	14/12	70	10

Sequence number	Order quantity	Planned delivery date	Delivered quantity	Backorder quantity
2	20	21/12	20	0
3	10	28/12	10	0

Sequence number 3 is a backorder line.

## Synchronizing sales order line and delivery lines

A sales order line can have linked delivery lines or backorder lines. A delivery line can also have linked backorder lines. The sales order line holds the aggregated information of the delivery lines/ backorder lines. Another product's external order line can connect to the sales order line and update the sales order line. Changed fields on the sales order line are synchronized with the delivery lines and vice versa.

### Fields that trigger the synchronization process

Changes to the following fields on the sales order line and/or delivery line can trigger synchronization:

Date fields		Quantity fields		Price and discount fields		Amount fields	
ddta	Planned Delivery Date	qrrq	Ordered Quantity	pric	Price	oamt	Amount
prdt	Planned Receipt Date	qidl	Delivered Quantity	disc	Discount Percentage	amld	Total Discount Amount
rdta	Release Date	qbbo	Back Order Quantity	ldam	Discount Amount	amod	Order Discount
-	-	qicm	Committed Quantity	dmse	Discount Matrix Sequence	damt	Delivered Amount
-	-	-	-	dmde	Discount Matrix Definition	fram	Freight Amount
-	-	-	-	dmth	Discount Method	-	-
-	-	-	-	dmtty	Discount Matrix Type	-	-
-	-	-	-	cdis	Discount	-	-
-	-	-	-	dtrm	Determining	-	-
-	-	-	-	elgb	Eligible	-	-

**Note:** A change to a field on the sales order line is not always visible on the delivery line, because commercial data, such as prices, discounts, and amounts are available only on the sales order line. Logistic data, such as time of delivery, and place of delivery are visible only on the delivery line. Consequently, the sales order line

includes the aggregated commercial information of the linked delivery lines, which is divided across the delivery lines, but is not visible on the delivery lines. However, if you release a delivery line to Invoicing, LN uses the invisible commercial data of the delivery line, because a sales order line with linked delivery lines cannot be invoiced directly.

## Date fields

### Updating the planned delivery date

You can update the **Planned Delivery Date** in the **Sales Order Lines (tdsls4101m000)** session if no delivery lines are linked to it. Otherwise, the **Planned Delivery Date** is disabled.

You can, however:

- Change the **Planned Delivery Date** for the linked delivery lines in the **Sales Order Planned Delivery Lines (tdsls4101m100)** session. A delivery line's latest planned delivery date is synchronized with the planned delivery date of the sales order line.
- Change the **Planned Delivery Date** for the sales order header in the **Sales Order (tdsls4100m900)** session. As a result, LN updates the planned delivery date of all linked sales order lines. However, when LN wants to update a sales order line that has delivery lines linked to it, you are informed that the delivery lines will be removed. If you want to keep the delivery lines, you can reverse the update of the planned delivery date and change the planned delivery date on the delivery line, if required.

You can always update the planned delivery date on the sales order line by means of an external order line. However, if delivery lines are linked to the sales order line, they are removed when an external order line updates the planned delivery date. LN does not inform the external order line on the removal of the delivery lines.

To check if the planned delivery date on the sales order line can be changed, LN verifies whether the **CTP Check for Sales** check box is selected in the **Planning Parameters (cprpd0100m000)** session. If this check box is selected, LN checks whether the item is available on the new planned delivery date. If the item is not available for the requested quantity, the planned delivery date cannot be changed. If the item is available, LN then determines if delivery lines exist.

#### Note:

- You can never change an order line's planned delivery date if a linked delivery line is already delivered. As a result, for all delivery lines, the **Delivery Date** must be empty in the **Sales Order Planned Delivery Lines (tdsls4101m100)** session.
- If the new planned delivery date is after the planned receipt date, LN equals the planned receipt date with the planned delivery date. LN does not recalculate the planned receipt date based on the defined lead times. You can recalculate the planned receipt date in the **Sales Order Lines (tdsls4101m000)** or **Sales Order Planned Delivery Lines (tdsls4101m100)** session.
- If an external order line changes the planned delivery date but not the price, price fields can be recalculated.

### Updating the planned receipt date

You can update the **Planned Receipt Date** in the **Sales Order Lines (tdsls4101m000)** session if no delivery lines are linked to it. Otherwise, the **Planned Receipt Date** is disabled.

You can always update the planned receipt date on the sales order line by means of an external order line. If delivery lines are linked to the sales order line, the planned receipt date on the delivery lines is also updated.

**Note:**

- You can never change an order line's planned receipt date if a linked delivery line is already delivered. As a result, for all delivery lines, the **Delivery Date** must be empty in the **Sales Order Planned Delivery Lines (tdsls4101m100)** session.
- If the new planned receipt date is after the planned delivery date, LN equals the planned delivery date with the planned receipt date. LN does not recalculate the planned delivery date based on the defined lead times. You can recalculate the planned delivery date in the **Sales Order Lines (tdsls4101m000)** or **Sales Order Planned Delivery Lines (tdsls4101m100)** session. However, if changing the planned receipt date leads to changing the planned delivery date, LN removes the delivery lines that are linked to an order line.
- If an external order line changes the planned receipt date but not the price, price fields can be recalculated when the planned delivery date is changed.
- A delivery line's latest planned receipt date is synchronized with the planned receipt date of the sales order line.

## Quantity fields

### Updating the ordered quantity

If you change the **Ordered Quantity** in the **Sales Order Lines (tdsls4101m000)** session, LN removes all linked delivery lines. This applies to delivery lines that are automatically created by the ATP process and to delivery lines that are the result of a manually created delivery schedule. You cannot change the ordered quantity if one of the linked delivery lines is already delivered or is too far in the warehouse process. In this case, you must modify the delivery line's **Ordered Quantity** to carry out the order quantity change. If you change the **Ordered Quantity** on a delivery line, LN preserves the delivery schedule and changes the **Ordered Quantity** on the order line.

If you change the ordered quantity on an external order line, LN does not inform the external order line on the removal of the linked delivery lines.

**Note:**

- You can create a new delivery schedule in the **Sales Order Line (tdsls4101m900)** session.
- For backorders, the ordered quantity and amount are not synchronized with the order line. The reason for this is that the (parent) order line or delivery line already accounts for the ordered quantity of the backorder line.

### Updating the sales unit

You can update the sales unit of an order line if Warehousing did not yet process a linked delivery line. However, if you update the sales unit of an order line, LN removes the not yet processed delivery lines. You must create new delivery lines for the changed sales unit, if required.

If you change the sales unit on an external order line, LN does not inform the external order line on the removal of the linked delivery lines.

## Price and discount fields

### Synchronizing price fields

The most important fields for price synchronization are:

- **Price**
- **Discount Amount**
- **Discount %**

When these fields are synchronized, also the following price and discount related fields are synchronized:

- **Discount Matrix Definition**
- **Discount Matrix Sequence**
- **Discount Method**
- **Discount**
- **Discount Matrix Type**
- **Determining**
- **Eligible**

### Updating the price

When an order line is created, the price is determined based on the following:

- The **Sales Price Date Type** parameter in the **Pricing Parameters (tdpcg0100m000)** session. This field determines whether the order date, system date, or delivery date must be used to calculate the price.
- The ordered quantity
- The sales unit

When the order line is split into delivery lines, the price that is determined on the order line is the default price for all delivery lines. When you change the planned delivery date (if the **Sales Price Date Type** parameter is set to **Delivery Date**), or you change the ordered quantity on a delivery line, LN synchronizes the new values with the order line. When you close the **Sales Order Planned Delivery Lines (tdsls4101m100)** session, you are asked to recalculate the prices. The prices are recalculated based on the synchronized fields on the sales order line.

### Updating the price based on a fixed amount

If the external order line did not set the price or you did not specify a price in the **Price** field of the **Sales Order Lines (tdsls4101m000)** session, you must enter an amount in the **Amount** field of the **Sales Order Lines (tdsls4101m000)** session. This amount is fixed for the order line. As a result, a price is calculated as a price per sales unit.

When the external order line communicates the amount, also the sales price unit is communicated. As a result, the amount is converted into a price by sales price unit.

LN synchronizes the price that is calculated from the fixed amount, with the delivery lines.



### Updating the sales price unit

You can change the sales price unit only by using an external order line. You cannot manually change it. In addition, you cannot change the sales price unit if a final delivery is made for the order line. In other words, the order line and linked delivery lines must not be completely delivered.

### Updating the price after delivery

After an order line or delivery line is delivered, you can no longer update the price directly on the line. You can update the price of delivered, not yet invoiced lines in the Change Prices and Discounts after Delivery (tdsls4122m000) or Change Prices and Discounts of Sales Invoice Lines (tdsls4132m000) sessions.

In these sessions, the **Apply to other Sequences** check box appears. The following applies to this check box:

- If this check box is selected, the modified price or discount that you enter in this session is also updated to the other line sequences of the same order and position. Line sequences that are already released to invoicing are skipped.
- If you update the prices/discounts of an **Order Line** in the **Change Prices and Discounts after Delivery (tdsls4122m000)** session, this check box is disabled and selected.
- If you update the prices/discounts of an **Order/Delivery Line** in the **Change Prices and Discounts of Sales Invoice Lines (tdsls4132m000)** session and this check box is selected, the price and discount fields of the **Backorder** lines that are linked to the **Order/Delivery Line** are also updated. However, if this check box is selected and you update the price/discounts of a **Backorder** line, LN updates the **Backorder** lines that are linked to this **Backorder**, but does not update the (parent) order line or delivery line.

An external order line cannot update the price after delivery.

### Promotions

Promotions can offer the customer a premium item or an additional discount.

#### Premium promotion

If a *premium* item can be offered, LN creates a new sales order line for the premium item.

#### Promotional discount

If a promotional discount can be offered on a sales order line with linked delivery lines, LN increases the **Total Promotion Discount** and decreases the **Amount** in the **Sales Order Lines (tdsls4101m000)** session. However, the sales order line cannot be invoiced. The reason for this is that the sales order line is split into several sequences and only the totaled quantities and amounts are visible on the sales order line. No financial or logistic transactions are done for this line. Therefore, the promotional discount is also registered on the linked delivery lines. The promotional discount that is assigned to a delivery line depends on the **Ordered Quantity** of the delivery line.

LN carries out the following calculation steps to calculate the **Amount** in the **Sales Order Planned Delivery Lines (tdsls4101m100)** session:

**1** Determine the delivery line's promotional discount:

**(Total Promotion Discount/Amount in the Sales Order Lines (tdsls4101m000) session) \* Ordered Quantity in the Sales Order Planned Delivery Lines (tdsls4101m100) session.**

**2** Determine the amount of the delivery line:

**Amount** of the sales order delivery line - the outcome of step one.

If you create a sales order line through EDI or an external order line, promotions are not automatically applied. In LN, a user must open the sales order line that is created by EDI or by an external application and manually assign the promotion.

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