Infor LN User Guide for Procurement

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About this document

Objectives

This guide aims to explain the procurement functionality and the processes that relate to Procurement.

Intended audience

This guide is especially written for key users and users that want to be familiar with the overall LN procurement functionality.

Assumed knowledge

You need no detailed knowledge of the LN software to read this document. However, you are more likely to understand the contents if you are familiar with:

- The overall structure of packages, modules and sessions in LN.
- The general business procedures used in every day business practice.
- The basic concepts of enterprise resource planning.

Document summary

This document contains the following chapters:

- **Procurement**
  Provides an introduction to the main processes that a user can carry out in Procurement.
- **Purchase Master Data**
  Provides instructions on the purchase master data that must be set before you can use the various purchase procedures.
- **Purchase Requisitions**
  Provides information on the purchase requisition procedure.
- **Requests for Quotation (RFQs)**
  Provides information on the requests for quotation (RFQs) procedure.
- **Purchase Orders**
  Provides information on the purchase order procedure.
- **Purchase Contracts**
  Provides information on the purchase contract procedure.
- **Vendor rating**
  Provides information on setting up and calculating vendor ratings.
- **Statistics**
  Provides information on the statistics procedure.
- **Glossary**
  Provides definitions of the terms and concepts used in this document, in alphabetical order.

Related user's guides

The following purchase (related) topics are handled in separate user's guides:

- **Demand pegging**
  User's Guide for Demand Pegging U9500 US
- **Landed costs**
  User's Guide for Landed Costs U9675 US
- **Purchase schedules**
  User's Guide for Purchase and Sales Schedules U9541 US
- **Purchase terms and conditions**
  User's Guide for Terms and Conditions U9499 US
- **Subcontracting orders**
  User's Guide for Subcontracting U9361 US
- **Vendor managed inventory**
  User's Guide for Vendor Managed Inventory U9501 US

How to read this document

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

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

Underlined terms indicate a link to a glossary definition. If you view this document online, clicking the underlined term takes you to the glossary definition at the end of the document.

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Chapter 1
Procurement

1

Procurement

You use Procurement to manage purchase activities and maintain the data that is the result of these activities.

The procurement functionality includes several functional procedures that (partly) control the purchase of goods. The main purchase procedure is the purchase order procedure. In most cases, the purchase order procedure does not act as a stand-alone procedure, but is preceded and followed by other procedures.

These procedures (can) precede the purchase order procedure:

- Purchase requisition procedure
- Request for quotation (RFQ) procedure
- Purchase contract procedure

The purchase schedule procedure runs parallel to the purchase order procedure.

The vendor rating procedure follows the purchase order procedure.

Procurement includes this main data:

- Purchase master data
- Purchase requisitions
- Purchase request for quotations
- Purchase orders
- Purchase contracts
- Purchase schedules
- Purchase vendor rating
- Statistics
- Procurement parameters

Chapter 2
Purchase Master Data

2

Purchase item data

Purchase item data

In Item Base Data, you can specify items and item data on a general level. Before you can carry out purchase procedures, you must also specify purchase-related item data in Item Purchase Data.

To specify item purchase data and default item purchase data for an item group

Before order transactions can be used in Purchase Control, purchase-specific item data must be specified in the Item - Purchase (tdipu0101m000) session. You must make sure that the item already exists in the Item - General (tcibd0101s000) session. To enter a purchase item, you must specify a large amount of information. If you generate default values, you can drastically reduce the amount of data entry required when you enter a new purchase item. The item group is used in combination with the item type to set up item defaults. You can enter defaults for purchase items that belong to an item group in the Item - Purchase Defaults (tdipu0102m000) session.

The usual procedure for entering item purchase defaults and then purchase items is as follows:

1. Enter an item group in the Item Groups (tcmcs0123m000) session.
2. Define item - general defaults in the Item - General Defaults (tcibd0102s000) session, in which you must enter the **Item Group** that you previously defined in the Item Groups (tcmcs0123m000) session.
3. Click **Purchase Data** in the Item - General Defaults (tcibd0102s000) session. As a result, the Item - Purchase Defaults (tdipu0102m000) session starts in which you can enter item - purchase defaults for the combination of **Item Type** and **Item Group**.
4. Enter an item in the Item - General (tcibd0101s000) session for the combination of **Item Type** and **Item Group** that you previously defined in the Item - General Defaults (tcibd0102s000) session. As a result, the default values from the Item - General Defaults (tcibd0102s000) session are inserted in the Item - General (tcibd0101s000) session.
5. Click **Purchase Data** in the Item - General (tcibd0101s000) session. As a result, the Item - Purchase (tdipu0101m000) session starts in which you can enter the purchase data for the item that you created in the Item - General (tcibd0101s000) session. LN inserts the default

values from the Item - Purchase Defaults (tdipu0102m000) session in the Item - Purchase (tdipu0101m000) session.

Note

To generate transactions for the purchased item, ordering-related item data must be specified in the Item - Ordering (tcibd2100s000) session and costing-related item data must be calculated in the Items - Costing (ticpr0107m000) session.

Purchased Item 360

If the **Buyer** field is filled in the Item - Purchase (tdipu0101m000) session, you can use the Buyer Dashboard (tdipu0103m000) session to display all items that are relevant for the specific buyer. The Purchased Item 360 (tdipu0103m000) session gives a quick overview of item data and easy access to item- and purchase-related data, as a result of which the negotiation process can be smoothened.

You can use the Purchased Item 360 (tdipu0103m000) session to:

- View, maintain, and create item-related data
- View, maintain, and create purchase data for an item, such as purchase orders, purchase contracts, requests for quotation, purchase schedules, and so on
- Easily perform multiple item-related tasks

To specify item - purchase business partner data

Use the Item - Purchase Business Partner (tdipu0110m000) session to define purchase business partner-specific information by item. This information is used to determine how the order is purchased and received from the specific purchase business partner. This session contains the default logistic data of a purchase business partner, required for a purchase order. If the purchase business partner is an internal business partner, the Item - Purchase Business Partner (tdipu0110m000) session also holds the default logistic data for purchase schedules and purchase releases. If the purchase business partner is an external business partner, LN retrieves the logistic data for the purchase schedule or the purchase release from the Purchase Contract Line Logistic Data (tdpur3102m000) session.

Note

You can assign a priority and/or a sourcing percentage to business partners in the Item - Purchase Business Partner (tdipu0110m000) session if the same item is delivered by various business partners.

Supplier 360

You can use the Supplier 360 (tdsmi1501m000) session to view, maintain, and create buy-from business partner-related data and display all business partners that are relevant for a specific buyer. The Supplier 360 (tdsmi1501m000) session provides an overview of buy-from business partner information and easy access to buy-from business partner-related data, as a result of which the negotiation process is smoothened.

Calculating lead times and dates

Calculating purchase item lead times

You can specify and calculate several lead times for a combination of purchased item and business partner.

In the Item - Purchase Business Partner (tdipu0110m000) and Purchase Contract Line Logistic Data (tdpur3102m000) sessions:

- The calculated lead time is displayed in the **Calculated Lead Time (Days)** field.
- The calculated full lead time is displayed in the **Calculated Full Lead Time (Days)** field.

Calculating the (full) lead time

Step 1: Calculate the average available hours for a day

To calculate the (full) lead time, LN first determines the average number of available hours for each working day based on the standard calendar for the availability type, which is specified in the **Default Availability Type** field of the Purchase Parameters (tdpur0100m000) session.

To calculate the average available hours for each available day, LN takes the following steps:

1. Determines the available hours for each available day, based on the start time and end time.
2. Calculates the total available hours in a week by adding up the available hours for each day.
3. Divides the total available hours in a week by the number of available days in a week. This results in the average available hours for each available day.

Step 2: Calculating the lead time in hours

Using the average available hours for each available day, LN next converts the lead time components to hours and calculates the lead time by adding up the following lead time components from the Item - Purchase Business Partner (tdipu0110m000)/ Purchase Contract Line Logistic Data (tdpur3102m000) sessions:

- Internal processing time
- Safety time
- Supply time or full supply time
- **Transportation Time (Days)**.
  LN retrieves the transportation time in one of the following ways:
  - If Freight is implemented, which you can define in the Implemented Software Components (tccom0500m000) session, calculation of the transportation time is based on carrier, and routes. Route plans and service levels are not known at this point in time.
    LN performs the following steps to retrieve the transportation time.
    a. If the route, the carrier, the origin, and the destination addresses are known, LN first searches for route plans and then for standard routes with matching routes, carriers, and addresses.

b. If more than one matching route plan or standard route is found, LN selects the route plan or standard route with a transport means group that matches the transport means group of the carrier.

c. If LN still finds more than one route plan or standard route, route plans have priority over standard routes. If only standard routes are found, the standard route is selected following the settings of the **Carrier Selection Criterion** parameter in the Freight Planning Parameters (fmlbd0100m000) session.

d. If LN still finds more than one route plan, it selects the first one it encounters in the database.

- If Freight is not implemented, LN takes the transportation time between the ship-from business partner's address and the receiving warehouse's address based on a relevant distance table (if available) from the Distance Table by City (tccom4137s000) or Distance Table by ZIP Code/Postal Code (tccom4138s000) sessions. From which of these sessions the transportation time is retrieved, depends on the value of the **Priority Distance Tables** field in the COM Parameters (tccom0000s000) session.

Step 3: Calculating the lead time in days

Using the average available hours for each available day, LN converts the calculated lead time from hours into days. If a fraction of a day is left, LN rounds this to a whole day. This results in a calculated lead time that is always expressed in whole days.

Examples

Example- purchase availability type

The purchase availability type is PURAT. The standard calendar for availability type PURAT is as follows:

Day	Available	Start time	End time	Available hours
Monday	Yes	8:30:00	16:30:00	8
Tuesday	Yes	8:00:00	16:00:00	8
Wednesday	Yes	9:00:00	16:30:00	7.5
Thursday	Yes	8:00:00	16:30:00	8.5
Friday	Yes	8:00:00	16:00:00	8

Based on the above standard calendar, a total of 40 hours is available for each week. For each available day, on average eight hours are available, which equates to 40 available hours for each week/five available days for each week.

Using the average of eight available hours for each available day, LN converts the following lead time components into lead times that are expressed in hours.

Lead time component	Lead time	Lead time in hours
Internal processing time	6 hours	6 hours
Safety time	6 hours	6 hours
(Full) supply time	1 day	8 hours

Note

The **Transportation Time (Days)** is converted by using the **Avail. Type for Carrying Goods**, as entered in the COM Parameters (tccom0000s000) session, instead of the purchase availability type.

Example- availability type for carrying goods

The **Avail. Type for Carrying Goods** is EXPO. The standard calendar for availability type EXPO is as follows:

Day	Available	Start time	End time	Available hours
Monday	Yes	8:00:00	17:00:00	9
Tuesday	Yes	8:00:00	17:00:00	9
Wednesday	Yes	9:00:00	17:30:00	8,5
Thursday	Yes	8:00:00	17:30:00	9.5
Friday	Yes	8:00:00	17:00:00	9

Based on the above standard calendar, a total of 45 hours is available for each week. For each available day, on average nine hours are available, which equates to 45 available hours for each week/five available days for each week.

Using the average of nine available hours for each available day, LN converts the **Transportation Time (Days)** into a lead time that is expressed in hours.

Lead time component	Lead time	Lead time in hours
Transportation time	2 days	18 hours

The sum of the **Internal Processing Time**, **Safety Time**, and **Supply Time** is 20 hours. Which is, when converted to days, 2.5 days which equates to a total lead time of 20 hours/eight hours on average available for each available day. Because the calculated lead time is always expressed in whole days, LN rounds the lead time to 3 days. The **Transportation Time (Days)** is 18 hours. Which is, when converted to days, 2 days which equates to a total lead time of 18 hours/nine hours on average available for each available day. As a result, the **Calculated Lead Time (Days)** is five.

Note

Each time you open or close the Item - Purchase Business Partner (tdipu0110m000)/ Purchase Contract Line Logistic Data (tdpur3102m000) session, LN (re)calculates the lead times.

Determining the planned receipt date

If you enter a purchase order line or purchase schedule line, you must also calculate a planned receipt date. The planned receipt date is calculated based on the order or generation date, the item lead times, and the horizon. Dependent on the horizon, the planned receipt date can be accurately or globally determined.

Note

Item lead times can be specified in the Item - Purchase Business Partner (tdipu0110m000) and Purchase Contract Line Logistic Data (tdpur3102m000) sessions.

The horizon is calculated from the **Lead Time Horizon (Days)** field in the Item - Purchase Business Partner (tdipu0110m000) or Purchase Contract Line Logistic Data (tdpur3102m000) sessions.

To calculate the planned receipt date, choose **Calc** in the Purchase Order Lines (tdpur4101m000) session or Purchase Schedule - Lines (tdpur3111m000) sessions. LN shows the planned receipt date in the **Planned Receipt Date** field of these sessions.

Determining the horizon

LN determines the horizon by adding the lead time horizon to the current date and time taking into account the company calendar to which the purchase availability type is linked. LN compares the order/generation date with this horizon, which results in one of the following possibilities:

- The order/generation date lies beyond the horizon. Therefore, the planned receipt date is globally determined.
- The order/generation date lies within the horizon. Therefore, the planned receipt date is accurately determined.

Note

- The lead time horizon is always expressed in days.
- The company calendar is the calendar that is linked to the company in the Companies (tcemm1170m000) session.

Example horizon determination

Current date/time: Wednesday, March 10/15:00:00
The company calendar for the Purchase Control availability type has an 8:00:00 start time and a 16:00:00 end time and is available from Monday through Friday each week
Lead time horizon (in days): 10

Because on Wednesday one hour is available, Wednesday counts for a whole day. So, during the first week three days are available. During the next week five days are available. So, two days are left for the third week. Because LN finds time available on Tuesday, March 23, this day counts for a whole day and LN takes the last available time as the horizon time. So, the horizon is Tuesday, March 23/16:00:00.

Order/generation date beyond horizon

If the order date lies beyond the horizon, LN considers the purchase order/schedule as forecast demand for which no accurate determination of the planned receipt date is yet required.

LN determines the planned receipt date as follows, taking into account the company calendar:

```
Order/generation date + calculated lead time
```

LN retrieves the calculated lead time from the **Calculated Lead Time (Days)** field of the Item - Purchase Business Partner (tdipu0110m000) or Purchase Contract Line Logistic Data (tdpur3102m000) session.

Note

- The calculated lead time is always expressed in days.
- Before the company calendar's start date and after the company calendar's end date, LN uses the standard calendar.

Example order/generation date beyond horizon

Order/generation date: Thursday, March 25/17:00:00
Calculated lead time (in days): 5
The company calendar for the purchase availability type has an 8:00:00 start time and a 16:00:00 end time and is available from Monday through Friday each week.

Because Thursday, March 25/17:00:00, is not an available date/time according to the calendar, LN searches for the first available date/time to which the calculated lead time must be added, which is Friday, 26/8:00:00. So, four days are left for the next week. Because LN finds time available on the fourth day, Thursday, April 1, this day counts for a whole day and LN takes the last available time as the planned receipt date. So, the planned receipt date is Thursday, April 1/16:00:00.

Order/generation date within horizon

If the order/generation date lies within the horizon, LN considers the purchase order/schedule as immediate demand for which an accurate determination of the planned receipt date is required. Therefore, LN determines the planned receipt date by adding up the lead time components, taking into account the related calendars for each component.

LN determines the planned receipt date as follows:

```
Order/generation date + internal processing time + supply time +
transportation time + safety time.
```

LN retrieves the order/generation date and the lead time components as follows:

- Order date from the **Order Date** field in the Purchase Order Lines (tdpur4101m000) session.
- Generation date from the **Generation Date** field in the Purchase Schedules (tdpur3110m000) session.
- Internal processing time from the **Internal Processing Time** field in the Item - Purchase Business Partner (tdipu0110m000) session or Purchase Contract Line Logistic Data (tdpur3102m000) session.
- Safety time from the **Safety Time** field in the Item - Purchase Business Partner (tdipu0110m000) session or Purchase Contract Line Logistic Data (tdpur3102m000) session.
- Supply time from the **Supply Time** field in the Item - Purchase Business Partner (tdipu0110m000) session or Purchase Contract Line Logistic Data (tdpur3102m000) session.
- Transportation time from the **Transportation Time (Days)** field in the Item - Purchase Business Partner (tdipu0110m000) session or Purchase Contract Line Logistic Data (tdpur3102m000) session.

Calendar search path

When determining the planned receipt date, LN also takes into account the calendars that are related to the lead time components. LN searches for the calendars that are related to the lead time components as follows:

1. **Internal processing time**
   If a purchase office is specified for the item and buy-from business partner combination and a calendar is specified for the purchase office, LN takes into account the purchase office's calendar. You can specify the purchase office's calendar in the Departments (tcmcs0565m000) session.
2. If no calendar is specified for the purchase office or if no purchase office is specified, LN takes into account the company calendar.

1. **Supply time**
   If a ship-from business partner is specified and the ship-from business partner's calendar is specified, LN takes into account the ship-from business partner's calendar.
2. If no ship-from business partner calendar is available, LN takes into account the buy-from business partner's calendar.
3. If no buy-from business partner calendar is available, LN takes into account the company calendar.

1. **Transportation time**
   If a carrier is specified and a buy-from business partner is linked to the carrier and the buy-from business partner's calendar is known, LN takes into account the buy-from business partner's calendar.
2. If a carrier is specified, and a buy-from business partner is linked to the carrier, but the buy-from business partner's calendar is not specified, LN takes into account the company calendar.
3. If a carrier is specified, but no buy-from business partner is linked to the carrier, LN takes into account the company calendar.

4. If no carrier is specified, LN takes into account the company calendar.

1. **Safety time**
   If a ship-from business partner is specified and the ship-from business partner's calendar is specified, LN takes into account the ship-from business partner's calendar.
2. If no ship-from business partner calendar is available, LN takes into account the buy-from business partner's calendar.
3. If no buy-from business partner calendar is available, LN takes into account the company calendar.

LN searches for the actual calendars based on:

- The calendar that is related to the lead time component.
- The purchase availability type.
- The availability type for carrying goods.
- The calendar's start date and end date.

Note

- You can express the lead time components in hours and in days.
- You can specify the purchase availability type in the Purchase Parameters (tdpur0100m000) session.
- You can specify the availability type for carrying goods in the **Avail. Type for Carrying Goods** field in the COM Parameters (tccom0000s000) session.
- Before the applicable calendar's start date and after the calendar's end date, LN uses the standard calendar.

Example order/generation date within or before horizon

Order/generation date:	Friday, March 12/7:00:00
Internal processing time (in hours):	6
Supply time (in days):	1
Transportation time (in days):	2
Safety time (in hours):	4

The company calendar for the purchase availability type and for the **Avail. Type for Carrying Goods** has an 8:00:00 start time and a 16:00:00 end time and is available from Monday through Friday each week. The buy-from business partner's calendar for the purchase availability type and for the **Avail. Type for Carrying Goods** has an 8:30:00 start time and a 16:30:00 end time and is available from Monday through Friday each week. The ship-from business partner's calendar for the purchase availability

type has a 9:00:00 start time and a 17:00:00 end time and is available from Monday through Friday each week.

LN determines the planned receipt date as follows:

1. LN adds the internal processing time to the order/generation date, taking into account the company calendar. Because Friday, March 12/7:00:00, is not an available date/time according to the company calendar, LN searches for the first available date/time to which the internal processing time must be added, which is Friday, March 12/8:00:00.
2. LN adds the internal processing time to Friday, March 12/8:00:00. The resulting date/time is Friday, March 12/14:00:00.
3. LN adds the supply time to Friday, March 12/14:00:00, taking into account the company calendar. According to the company calendar on Friday, March 12, two hours are left. Because the supply time is expressed in days, LN considers Friday, March 12, as a whole day. So, the resulting date/time is Friday, March 12/16:00:00.
4. LN adds the transportation time to Friday, March 12/16:00:00, taking into account the buy-from business partner's calendar. According to the buy-from business partner's calendar on Friday, March 12, half an hour is left. Because the transportation time is expressed in days, LN considers Friday, March 12, as a whole day. The second transportation day is the first available day after Friday, March 12, which is Monday, March 15. So, the resulting date/time is Monday, March 15/16:30:00.
5. LN adds the safety time to Monday, March 15/16:30:00, taking into account the ship-from business partner's calendar. According to the ship-from business partner's calendar, on Monday, March 15, half an hour is left. The remaining 3,5 hours is added to Tuesday, March 16, starting at 9:00:00. So, the resulting date/time is Tuesday, March 16/12:30:00, which is the planned receipt date.

Note

If you enter a purchase order line and no data is specified for an item in the Item - Purchase Business Partner (tdipu0110m000) session, LN determines the planned receipt date using only the supply time from the Item - Purchase (tdipu0101m000) session. For more information, refer to *Determining the planned receipt date based on the supply time only (p. 21)*.

Determining the planned receipt date based on the supply time only

If you enter a purchase order line and no data is specified for an item in the Item - Purchase Business Partner (tdipu0110m000) session, LN determines the planned receipt date using only the supply time from the Item - Purchase (tdipu0101m000) session.

To calculate the planned receipt date, choose **Calc** in the Purchase Order Lines (tdpur4101m000) session. LN shows the planned receipt date in the **Planned Receipt Date** field of this session.

If the supply time is expressed in:

- Hours, LN takes into account all the time that is available on a day according to the company calendar.

- Days, LN considers a day as a whole day if some time is available on that day according to the company calendar.

LN calculates the planned receipt date as follows, taking into account the company calendar:

```
Order date + supply time
```

You can specify the:

- Order date in the **Order Date** field of the Purchase Order Lines (tdpur4101m000) session.
- Supply time in the **Supply Time** field of the Item - Purchase (tdipu0101m000) session.

LN searches for the company calendar based on:

- The purchase availability type
- The calendar's start date and end date

- You can specify the purchase availability type in the Purchase Parameters (tdpur0100m000) session.
- Before the company calendar's start date and after the company calendar's end date, LN uses the standard calendar.

Example 1 - Supply time in days

Supply time in days: 2
Order date: Friday, March 12/11:00:00
The company calendar for the purchase availability type has an 8:00:00 start time and a 16:00:00 end time and is available from Monday through Friday each week.

LN adds the supply time to Friday, March 12/11:00:00, taking into account the company calendar. According to the calendar, on Friday, March 12, five hours are left. Because the supply time is expressed in days, LN considers Friday, March 12 as a whole day. So, one day of the supply time is left for the next week. Because LN finds time available on Monday, March 15, this day counts for a whole day and LN takes the last available time as the planned receipt date. So, the planned receipt date is Monday, March 15/16:00:00.

Example 2 - Supply time in hours

Supply time (in hours): 16
Order date: Friday, March 12/11:00:00
The company's actual calendar for the purchase availability type has an 8:00:00 start time and a 16:00:00 end time and is available from Monday through Friday each week.

LN adds the supply time to Friday, March 12/11:00:00, taking into account the company calendar. According to the calendar, on Friday, March 12, five hours are left. Because the supply time is expressed in hours, LN takes into account all the time that is available on a day. So, five hours are planned on Friday and 11 hours are left for next week. Because LN finds eight hours available on Monday, three hours are left for Tuesday. This results in a planned receipt date of Tuesday, March 16/11:00:00.

Sourcing

Sourcing

Sourcing is the way in which you assign orders to business partners who deliver the same items. You can give suppliers a priority and a sourcing percentage.

If you want to assign an order for an item for which you have several business partners, the following applies:

1. LN searches for the business partner with the highest priority (lowest number). This business partner receives the order.
2. In case there are business partners with the same priority, LN looks at the sourcing percentages. The order is then assigned according to these percentages.

In both cases, LN takes into account the order quantity restrictions of the business partners.

Note

You can define the priority, sourcing percentage, and order quantity restrictions in the Item - Purchase Business Partner (tdipu0110m000) session. For more information, refer to *Using priorities (p. 23)* and *Using sourcing percentages (p. 24)*.

Using priorities

The priority functionality enables you to add a certain rating to business partners who deliver the same item. If you want to order a specific item, LN assigns this order to the business partner with the highest priority (lowest number).

Note

When a valid business partner is found with a specific priority, LN stops searching for business partners with lower priorities.

There are only two reasons to continue searching for business partners with a lower priority:

- The business partner is not effective on the supply date
- The business partner has a sourcing percentage of 0%

If there are business partners with the same priority, but with minimum or maximum order quantities, LN also takes these quantities into account. If, for example, the minimum order quantity of a specific business partner is higher than the assigned order quantity, this business partner cannot deliver the item.

For examples of assigning order quantities to business partners based on sourcing percentages, refer to *Using sourcing percentages (p. 24)*.

Using sourcing percentages

The sourcing percentage functionality enables you to divide orders among several purchase business partners. This is only of importance if you have several business partners that:

- Deliver the same item.
- Have the same priority to deliver this item.

In this case, the ordered quantity is divided among these business partners according to the assigned sourcing rule.

Often business partners have minimum or maximum order quantities. In this case, LN takes these quantities into account. The result can differ from the result when there are no quantity restrictions.

The maximum order quantity of a business partners can be less than the assigned number of items, according to the sourcing percentage. In this case, the remainder is divided among the other business partners, according to their sourcing percentages.

In contrast, the minimum order quantity of a supplier can be higher than the assigned number of items. In this case, the business partner does not get an order. All items are divided among the other business partners according to their sourcing percentages.

Note

Sourcing percentages must not be used in a scale of 100. These percentages are just used to make a division.

Examples

In the following examples, the business partners have the same priority to deliver a specific item.

-	Sourcing percentage, example 1	Sourcing percentage, example 2
Supplier 1	50%	50%
Supplier 2	30%	40%
Supplier 3	20%	40%
Totals	100%	130%

The requirement is 1000 items, and the calculations below are done by LN. These calculations result in ordering items from various business partners. The examples are calculated without and with taking the order quantity restrictions into account.

Example 1

-	Calculation	Items*	Quantity**	Calculation	Items***
S1	.50 x 1000	500	400 (max.)	-	400
S2	.30 x 1000	300	400 (max.)	(30/50) x 600	360
S3	.20 x 1000	200	300 (max.)	(20/50) x 600	240

Example 2

-	Calculation	Items*	Quantity**	Calculation	Items***
S1	(50/130) x 1000	385	400 (min.)	-	000
S2	(40/130) x 1000	308	500 (max.)	(40/80) x 1000	500
S3	(40/130) x 1000	308	500 (max.)	(40/80) x 1000	500

Legend

*	The number of items that you want to order from the suppliers.
**	The supplier's maximum or minimum order quantity.
***	The number of items that are ordered from the suppliers in case of order quantity restrictions.

Manufacturer's items

Purchasing manufacturer's items

Companies often order components from purchase business partners who do not produce the components themselves. These intermediate purchase business partners offer equivalent components, which are items that conform to their original item's specifications, from different manufacturers.

These functionalities are available to specify, approve, and use manufacturer's items:

- Manufacturer part number (MPN) item functionality
- Multiple manufacturer item functionality

Important!

- If you did not use the multiple manufacturer item functionality in a previous version of LN, you cannot set up multiple manufacturer items in the current version. You must use the MPN functionality to purchase manufacturer's items because the MPN item functionality is the preferred and most extensive functionality.
- If you already used the multiple manufacturer item functionality in a previous version of LN, for each item, you can choose whether you want to define it as a multiple manufacturer item or as an MPN item.

MPN items

To use the MPN item functionality, select these check boxes:

- **Implemented Software Components (tccom0100s000)**
  Manufacturer Part Numbers
- **Item - Purchase (tdipu0101m000)**
  MPN Item

Multiple manufacturer items

These restrictions apply to the multiple manufacturer item functionality:

- Multiple manufacturer items can be used only in purchase orders and purchase requisitions. You cannot use these items in purchase contracts, purchase schedules, and RFQs.
- The master data cannot be changed when the effective date lies before the current date.

To use the multiple manufacturer item functionality, select the **Multiple Manufacturer Item** check box in the Item - Purchase (tdipu0101m000) session.

Note

You can convert the multiple manufacturer master data to the MPN master data for an item.

Setting up and using MPN items

To set up MPN items

To set up manufacturer part numbers (MPNs), complete the following steps:

1. Select the **Manufacturer Part Numbers** check box in the Implemented Software Components (tccom0100s000) session.
2. Select or clear the **Multiple Items per MPN** check box in the Purchase Parameters (tdpur0100m000) session.

3. Select the **MPN Item** check box in the Item - Purchase (tdipu0101m000) session.
4. Set the **Item Cross Reference** field to **MPN** in the Buy-from Business Partners (tccom4120s000) session.
5. In the Manufacturers (tcmcs0160m000) session, specify the information about the manufacturers and assign a status to the manufacturers.
6. In the Manufacturer Part Numbers (tdipu0145m000) session, specify manufacturer part numbers (MPNs) and link the MPNs to manufacturers. If the **Multiple Items per MPN** check box is cleared in the Purchase Parameters (tdpur0100m000) session, also use the Manufacturer Part Numbers (tdipu0145m000) session to link an item to a combination of MPN and manufacturer.
7. If the **Multiple Items per MPN** check box is selected in the Purchase Parameters (tdpur0100m000) session, use the Items by MPN (tdipu0149m000) session to link items to a combination of MPN and manufacturer.
8. If business partners cannot deliver all MPNs, specify which manufacturer part numbers can be delivered by which business partners for an item in the MPNs by Item - Business Partner (tdipu0148m000) session. You can also use this session to link a preferred MPN to an item and business partner. By means of the Import MPNs by Item - Business Partner (tdipu0248m000) session, you can link all MPNs for an item to the selected business partner. However, if no MPNs are specified for an item-business partner combination, the business partner can deliver all MPNs of an item.

Note

You can use the Global update MPN Details (tdipu0245m000) session to globally update the status and effectivity period of MPNs.

To use MPN items

In Procurement, MPN items can be used in these business objects:

- Purchase requisitions
- Requests for quotation (RFQs)
- Purchase contracts
- Purchase orders
- Purchase schedules

Defaulting logic

The following general defaulting logic is applicable for the MPN functionality in a business object:

- If you select a manufacturer part number (MPN) by zooming from the **Cross Reference Item** field in the relevant session, the **Item**, **Manufacturer**, and **Preferred Manufacturer Part Number** are automatically defaulted from the Manufacturer Part Numbers (tdipu0145m000) or Items by MPN (tdipu0149m000) session.
- If the **Cross Reference Item** field is not specified and you enter an MPN item in the **Item** field, the **Preferred Manufacturer Part Number** and **Manufacturer** are defaulted from the MPNs by Item - Business Partner (tdipu0148m000) session.

- Generation of an MPN set is based on the data available in the MPNs by Item - Business Partner (tdipu0148m000) session.

Purchase requisitions

Only if a **Buy-from Business Partner** is specified in the Purchase Requisition Lines (tdpur2502m000) session, LN checks whether the business partner is allowed to deliver the MPN in the MPNs by Item - Business Partner (tdipu0148m000) session.

If you convert a requisition to an order, the MPN must have the **Approved** status. LN copies the **Preferred Manufacturer Part Number** to the purchase order and generates an MPN set that is linked to the purchase order.

You can always convert a requisition to an RFQ.

Requests for quotation (RFQs)

If you link a business partner to an RFQ, the **Preferred Manufacturer Part Number** from the Purchase Request for Quotation Lines (tdpur1502m000) session is copied to the **Preferred MPN** field of the Buy-from BP - Quotations (tdpur1506m000) session. However, if the preferred MPN from the RFQ line is not allowed for a business partner, the business partner cannot be linked to the RFQ. As a result, you must select another business partner or you must change the **Preferred Manufacturer Part Number** in the Purchase Request for Quotation Lines (tdpur1502m000) session.

If you convert an RFQ to a purchase order or a contract and the MPN has the **Approved** status, LN copies the **Preferred Manufacturer Part Number** to the purchase order or purchase contract and generates an MPN set for the purchase order. If the item is an MPN item but no MPN is filled on the RFQ, the MPN and manufacturer are defaulted from the Items - Purchase (tdipu0101m000) session.

Purchase contracts

Business partners are allowed to supply alternative MPNs, but always against the original contract price.

If a purchase order is generated from a delivery contract, the MPN is used as a default. However, defaulting is not applicable if a purchase contract is linked to a purchase order.

Purchase orders

When the purchase order line with an MPN item is saved, LN automatically links an MPN set to the purchase order line (detail). If you click the **MPN Sets** button, the Purchase Order Line MPN Sets (tdpur4601m100) session is started in which you can view and maintain the MPN set that is linked to the purchase order line (detail).

If you change the **Preferred Manufacturer Part Number** on the purchase order line and this MPN is not part of the MPN set, a question is asked if you want to add this MPN to the MPNs by Item - Business Partner (tdipu0148m000) session and if you want to make it the preferred MPN in the MPNs by Item - Business Partner (tdipu0148m000) session.

If the preferred MPN is changed or deleted in the Purchase Order Line MPN Sets (tdpur4601m100) session, the preferred MPN on the purchase order line (detail) is also changed or deleted. You cannot maintain the MPN set after receipts are executed for the purchase order line.

If an item is received in the Warehouse Receipts (whinh3512m000) session or in the Purchase Receipts (tdpur4106m000) session, the actual MPN that appears in these receipt sessions must belong to the MPN set that is linked to the purchase order line.

After receipts are executed for the purchase order line, the actual MPN is transferred to the Purchase Actual Receipt History (tdpur4556m000) session.

Purchase schedules

Because MPNs change regularly, you cannot specify a manufacturer part number (MPN) on the schedule header. Although the scheduled item appears on the schedule header, the MPN must be specified on the schedule line.

When the purchase schedule line with an MPN item is saved, LN automatically links an MPN set to the purchase schedule line. If you click the **MPN Sets** button, the Purchase Schedule Line MPN Sets (tdpur3611m100) session is started in which you can view and maintain the MPN set that is linked to the purchase schedule line.

If the preferred MPN is changed or deleted in the Purchase Schedule Line MPN Sets (tdpur3611m100) session, the preferred MPN on the purchase schedule line is also changed or deleted. You cannot maintain the MPN set after receipts are executed for the purchase schedule line.

If an item is received in the Warehouse Receipts (whinh3512m000) session or in the Purchase Schedule - Receipts (tdpur3115m200) session, the actual MPN that appears in these receipt sessions must belong to the MPN set that is linked to the purchase schedule line.

After receipts are confirmed for the purchase schedule line, the actual MPN is transferred to the Purchase Actual Receipt History (tdpur4556m000) session.

Note

The **Preferred Manufacturer Part Number**, **Manufacturer**, and the contents of the MPN sets that are linked to the purchase schedule lines must match before schedule lines can be clustered in the same purchase release line detail in the Purchase Release Line - Details (tdpur3522m000) session.

For more information, refer to Clustering purchase schedule lines.

To set up and use multiple manufacturer items

To set up multiple manufacturer items

To set up multiple manufacturer items, take the following steps:

1. Enter the item's default manufacturer in the Item - General (tcibd0101s000) session. If the **Multiple Manufacturer Item** check box is cleared in the Item - Purchase (tdipu0101m000) session, this is the only valid manufacturer for an item-purchase business partner combination.

2. In the Item - Purchase (tdipu0101m000) session:
   - Select the **Multiple Manufacturer Item** check box.
   - If required, select the **Effective Date by Change Order** check box.
   - If required, select the **Multiple Change Orders** check box.
   - In the **Multiple Manufacturer Item Check** field, select the session in which LN must check the manufacturer's validity (status).
3. In the Manufacturers (tcmcs0160m000) session, enter the information about the manufacturer and assign a status to the manufacturer.
4. In the Item - Manufacturer (tdipu0130m000) session, enter item-manufacturer combinations. Use this session to define the various manufacturers that are approved to supply the item. If you do not use Data Management, you can also use this session to enter effective and expiry dates for an item-manufacturer combination or to approve an item-manufacturer combination. If you use Data Management, you must create change orders in the Change Management module to change the validity of the item-manufacturer combination, or to approve item-manufacturer combinations in the Change Order (dmchm0150m005) session.
5. In the Item - Manufacturer and Business Partner (tdipu0135m000) session, define for an item which manufacturers can be delivered by which purchase business partners. You can only enter approved item-manufacturer combinations/select approved purchase business partners for an item-manufacturer combination.

Note

- If you procure items directly from the manufacturer, you must define the manufacturer as the buy-from business partner as well.
- In the Item - Purchase Business Partner (tdipu0110m000) session, you can enter a preferred manufacturer for an item-purchase business partner combination.

To use multiple manufacturer items

Purchase requisitions

If you enter a multiple manufacturer item in the Purchase Requisition Lines (tdpur2502m000) session, the manufacturer is defaulted from the manufacturer you entered in the Item - General (tcibd0101s000) session. The item-manufacturer combination can either be approved or waiting for approval. Blocked manufacturers are not allowed. However, from the **Manufacturer** field of the Purchase Requisition Lines (tdpur2502m000) session, you can zoom to the Item - Manufacturer (tdipu0130m000) session and select another manufacturer code from the list of item-manufacturer combinations that are approved or waiting for approval. If you convert a requisition to an order, LN checks the manufacturer's validity before the requisition is converted to an order.

Purchase orders

If you enter a multiple manufacturer item in the Purchase Order Lines (tdpur4101m000) session, the manufacturer is defaulted from the manufacturer you entered in the Item - Purchase Business Partner (tdipu0110m000) session. If this **Manufacturer** field is empty, the manufacturer is defaulted from the

Item - General (tcibd0101s000) session. LN only allows approved item-manufacturer combinations on the order line. However, from the **Manufacturer** field of the Purchase Order Lines (tdpur4101m000) session, you can zoom to the Item - Manufacturer (tdipu0130m000) session and select another manufacturer code from the list of approved item-manufacturer combinations.

Note

If an item is received in the Receipt Lines (whinh3112s000) session of Warehousing, a **Manufacturer** 's validity is checked on the order date. If the manufacturer is no longer valid on the receipt date, but was valid on the order date, the goods can still be received. You can also manually enter an approved manufacturer for the item.

Converting multiple manufacturer items to MPN items

If you use the multiple manufacturer item functionality to order manufacturer's items, but you want to start using the manufacturer part number (MPN) item functionality instead, you can convert the multiple manufacturer master data to the MPN master data for an item.

The following data can be converted:

- Item manufacturers to manufacturer part numbers
- Item manufacturer business partners to MPNs by business partner

Note

Because the multiple manufacturer master data contains effectivity and status information, but the MPN master data only contains effectivity data for MPNs, master data cannot always be converted consistently. As a result, you must decide whether the master data setup for multiple manufacturer items is simple enough to be converted to the new MPN master data.

Conversion is most successful if:

- Item manufacturers are effective on the current date.
- The effectivity periods of the item manufacturers and the item manufacturer business partners have the same effective and expiry dates.

You can also choose to only copy the item manufacturers to MPNs and next link business partners to the MPNs by means of the Import MPNs by Item - Business Partner (tdipu0248m000) session.

To convert the master data

If you clear the **Multiple Manufacturer Item** check box that was previously selected for an item in the Item - Purchase (tdipu0101m000) session and select the **MPN Item** check box instead, the conversion process is triggered.

It depends on a number of settings whether you can only copy item manufacturers to manufacturer part numbers, or you can also copy item manufacturer business partners to MPNs by business partner.

To copy item manufacturers to manufacturer part numbers

If the **Multiple Manufacturer Item Check** field is set to **Item-Manufacturer** in the Item - Purchase (tdipu0101m000) session, the **Convert Item-Manufacturers to Manufacturer Part Numbers?** question appears.

If the **Multiple Manufacturer Item Check** field is set to **Item-Manufacturer and Business Partner** in the Item - Purchase (tdipu0101m000) session, a dialog box appears with the following check boxes:

- **Convert Item-Manufacturers to MPNs**
- **Convert Item Manufacturer BPs to MPNs per BP**

If you click **Yes** to the question **Convert Item-Manufacturers to Manufacturer Part Numbers?** or you select the **Convert Item-Manufacturers to MPNs** check box on the dialog box, LN converts item manufacturers from the Item - Manufacturer (tdipu0130m000) session to MPNs in the Items by MPN (tdipu0149m000) and/or Manufacturer Part Numbers (tdipu0145m000) sessions.

To copy item manufacturer business partners to MPNs by business partner

To copy item manufacturer business partners to MPNs by business partner, the **Multiple Manufacturer Item Check** field must be set to **Item-Manufacturer and Business Partner** in the Item - Purchase (tdipu0101m000) session.

If you select the **Convert Item Manufacturer BPs to MPNs per BP** check box on the dialog box that appears after you change the item into an MPN item, LN converts item manufacturer business partners from the Item - Manufacturer and Business Partner (tdipu0135m000) session to MPNs by business partner in the MPNs by Item - Business Partner (tdipu0148m000) session.

Conversion rules

A number of rules apply when you convert the master data.

Item-manufacturer

General rules

The following rules apply when you convert item manufacturers to manufacturer part numbers:

- LN first converts item manufacturers that are effective on the current date (see example 1).
- If no item manufacturers are effective on the current date, LN converts item manufacturers that will become effective in the future (see example 2).

Selection rules in the Item - Manufacturer (tdipu0130m000) session

- The **Manufacturer Item** field, which becomes the MPN item, must be filled.
- If the **Multiple Items per MPN** check box is cleared in the Purchase Parameters (tdpur0100m000) session and the **Manufacturer Item** occurs more than once, only the first item is copied to the Manufacturer Part Numbers (tdipu0145m000) session.

- If the **Multiple Items per MPN** check box is selected in the Purchase Parameters (tdpur0100m000) session and the **Manufacturer Item** occurs more than once, all items are copied to the Items by MPN (tdipu0149m000) session.
- The **Manufacturer Item** cannot contain multibyte characters.
- The item-manufacturer's **Expiry Date** must fall after the current date.

The item manufacturers that are converted can have any status.

Item manufacturer BP

General rules

The following rules apply when you convert item manufacturer BPs to MPNs per BP:

- If item manufacturers are converted that are effective on the current date, LN can only convert item manufacturer business partners that are also effective on the current date (see example 1).
- If LN converts item manufacturers that will become effective in the future, LN can only convert item manufacturer business partners that fall within the effectivity period of the item manufacturer (see example 2).

Selection rules in the Item - Manufacturer and Business Partner (tdipu0135m000) session

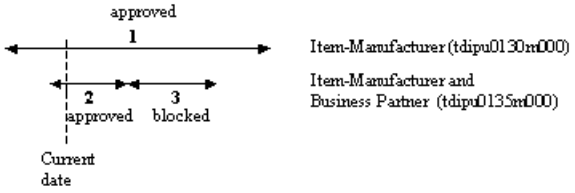
1. LN first checks whether an item-manufacturer-business partner combination exists for which the **Buy-from Business Partner** and **Ship-from BP** are the same.
2. If no such record is available, LN searches for an item-manufacturer-business partner combination with an empty **Ship-from BP**.
3. If no such record exists, the **Ship-from BP** can have any value for the item-manufacturer-business partner combination.

The Item manufacturer business partners that are converted cannot have the **Blocked** status or a lower status than the item manufacturer. For example, if the item manufacturer has the **Approved** status, but the item manufacturer business partner has the **For Approval** status, the item manufacturer business partner cannot be copied.

Note

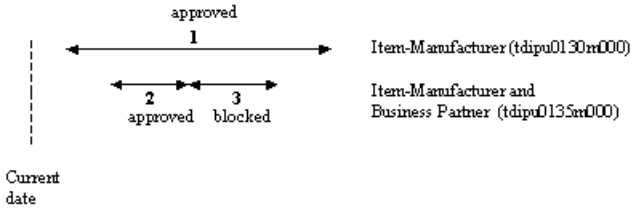
If both the **Convert Item-Manufacturers to MPNs** and **Convert Item Manufacturer BPs to MPNs per BP** check boxes are selected, but LN cannot copy any of the item manufacturer business partners, the item manufacturer is not copied either.

Example 1 - Item manufacturers effective on current date



- 1, 2, and 3 are records in the Item - Manufacturer (tdipu0130m000) and Item - Manufacturer and Business Partner (tdipu0135m000) sessions. The arrows represent the records' effectivity periods.
- Records 1 and 2 are taken into consideration for copying. Record 3 is not used because it is effective after the current date, while records exist that are effective on the current date.
- Record 1 is converted to the Manufacturer Part Numbers (tdipu0145m000) session and record 2 to the MPNs by Item - Business Partner (tdipu0148m000) session.
- If record 1 had the **For Approval** status, records 1 and 2 would also be converted.

Example 2 -Item manufacturers not effective on current date



- 1, 2, and 3 are records in the Item - Manufacturer (tdipu0130m000) and Item - Manufacturer and Business Partner (tdipu0135m000) sessions. The arrows represent the records' effectivity periods.
- Because the item manufacturer business partner records (2 and 3) fall within the effectivity period of the item-manufacturer that will become effective in the future (1), all records are taken into consideration for copying.
- Both 2 and 3 must have a status higher than or equal to the item manufacturer's status (1) and none of the item manufacturer business partner records can have the **Blocked** status. Because record 3 is blocked, record 1 cannot be converted to the Manufacturer Part Numbers (tdipu0145m000) session and records 2 and 3 cannot be converted to the MPNs by Item - Business Partner (tdipu0148m000) session.
- If both the **Convert Item-Manufacturers to MPNs** and **Convert Item Manufacturer BPs to MPNs per BP** check boxes are selected, and no other valid business partners are linked to the item-manufacturer that can be copied, the item manufacturer is not copied either.

Subcontracted service items in Procurement

In case of operation subcontracting, purchase requisitions, requests for quotation (RFQs), and purchase orders can include subcontracted service items.

These purchase objects with subcontracted services can be manually specified in Procurement, or can be generated from a routing operation or a production order in Manufacturing.

Note

From the Routing Operations (tirou1102m000) session, you can generate purchase requisitions with subcontracted services for a routing operation.

From the Production Orders (tisfc0501m000) session, you can generate purchase requisitions or purchase orders with subcontracted services for a production order.

From the Generate Subcontracting Purchase Documents (tisfc2250m000) session, you can generate purchase requisitions or purchase orders with subcontracted services,

Master data

You can specify the following master data for using subcontracted service items on requisitions and purchase orders:

- **Subcontracting purchase requisitions**
  In the Items - Purchase (tdipu0101m000) session, specify the **Requisition Mandatory** check box.
- In the Purchase Requisition Parameters (tdpur0100m200) session, specify the **Series for Subcontracting** field and **Submit Generated Requisitions Automatically** check box.
- **Subcontracting purchase orders**
  In the Purchase Order Parameters (tdpur0100m400) session, specify the **Order Series for Subcontracting** and **Order Type for Subcontracting** fields.
- **Subcontracting prices**
  In the Items - Purchase (tdipu0101m000) session, specify the **Source of Price** and **Subcontracting Purchase Price** fields.

Subcontracted services on requisitions

Step 1: Generating and updating subcontracting requisitions

To search for an existing buy-from business partner (subcontractor) and price for a subcontracted service, you can generate a purchase requisition from a routing or a production order. The operation for the item routing or the specific production order are linked to the generated requisition, which you can view in the Linked Requisition Line Data (tdpur2502s000) session.

As much requisition lines as possible are stored under one requisition header. Lines with the same requester, purchase office, and currency appear under one header.

When you change the required date, quantity, or peg distribution on the production order that is linked to the purchase requisition, the changes are updated to the requisition line. On requisition lines without peg distribution, you can update the quantity and quantity unit, but these updates are not automatically applied to the linked production order.

When you make changes to a routing operation that is linked to a purchase requisition, the updates are not automatically applied to the requisition line. The routing operation can be deleted as long as the requisition is not closed.

You can cancel requisitions with the **Rejected** or **Modified** status and delete requisitions with the **Created** status. When the requisition is canceled or deleted, a new requisition can be generated for the subcontracted service.

Step 2: Approving subcontracting requisitions

If the **Submit Generated Requisitions Automatically** check box is selected in the Purchase Requisition Parameters (tdpur0100m200) session, automatically generated purchase requisitions are automatically submitted for approval. Note that if this check box is selected, the purchase requisition cannot be updated before approval. Updates can be made only when the requisition is rejected by the approver.

Step 3: Converting subcontracting requisitions

An approved subcontracting requisition can be converted to a purchase order or an RFQ in the Convert Purchase Requisitions (tdpur2201m000) session.

The following are applicable for conversion:

- If the requisition has a linked production order and a buyer found a suitable buy-from business partner and price for the subcontracted service, the requisition can be converted to a purchase order. The requisition can be converted to a purchase order only when the linked production order is already released.
- If the requisition has a linked production order, but no suitable buy-from business partner or price can be retrieved or the price must be negotiated, the requisition can be converted to an RFQ.
- If the requisition has a linked routing and no linked production order, it must always be converted to an RFQ and cannot be converted to a purchase order.

Note

When an RFQ is generated for a subcontracting requisition, you cannot delete the requisition if the RFQ is not yet converted to a purchase order. The production order must remain linked to the requisition until a purchase order is generated.

Subcontracted services on RFQs

When a requisition with a subcontracted service item is converted to an RFQ, the generated RFQ has the **Requisition** origin. The operation for the item routing or the specific production order are linked to the RFQ, which you can view in the Linked RFQ Data (tdpur1502s000) session.

When the RFQ has a linked production order and is not yet converted to a purchase order, the production order cannot be changed. On RFQ lines and response lines, the item and peg distribution cannot be changed. On RFQ lines without peg distribution, you can update the quantity and quantity unit, but these updates are not automatically applied to the linked production order.

RFQ lines that are linked to a production order must at least be converted to a purchase order. An RFQ line can be converted to a purchase order only when the linked production order is already released. RFQ lines that are not linked to a production order can be converted only to a purchase contract, or a price book.

If an RFQ line has alternatives, the link with the production order or routing is stored on alternative 0. The origin for the alternatives is **Manual** and no linked data is available. If the RFQ line has a linked production order, only one alternative must be converted to a purchase order. Other alternatives can be converted to a purchase contract or a price book.

An RFQ line with the **Requisition** origin cannot be deleted before it is converted. When more than one alternative is available for a line, alternatives can be deleted. However, the first alternative (alternative 0) must remain.

Subcontracted services on purchase orders

Purchase orders lines with subcontracted service items can be generated from Shop Floor Control or from a converted requisition or RFQ. These purchase order lines must always have a linked production order, which you can view in the Purchase Order Line - Linked Information (tdpur4502s000) session.

The **Subcontracted** check box is selected for these lines in the Purchase Order Lines (tdpur4101m000) session.

In general, the generate and update process of purchase orders lines with subcontracted service items is similar to the applicable process described earlier for purchase requisitions.

Subcontracting prices

When a requisition is generated from **SFC** and the **Source of Price** field is **Subcontracting Rate** in the Items - Purchase (tdipu0101m000) session, the subcontracting rate is stored as a purchase price on the requisition line. When the requisition is converted to a purchase order, this purchase price is also stored on the order line and no discounts will be retrieved. If the **Source of Price** field is **Price Book / Contract**, no price is defaulted on the requisition line. When the requisition is converted to a purchase order, a purchase price and discounts are retrieved for the purchase order line.

For RFQs, the requisition line price is stored as **Estimated Price** in the Request for Quotation Lines (tdpur1502m000) session. When a requisition (with or without price) is converted to an RFQ, the requisition line price is overwritten by the price and discounts that are returned by the bidders on the RFQ.

Subcontracting origins

A requisition, RFQ, or purchase order line with a subcontracted service item, can have these origins:

Purchase object	Available origins	Explanation	Linked object(s)
Requisition	**Routing**	Generated from a routing operation.	Routing operation
	SFC	Generated from a production order.	Production order
	Manual	Manually specified subcontracted service.	-
RFQ	**Requisition**	Generated from a converted requisition with the **Routing**, **SFC**, or **Manual** origin.	Routing operation, or production order, requisition.
	Manual	Manually specified subcontracted service.	-
Purchase order	**SFC**	Generated from a production order.	Production order
	Requisition	Generated from a converted requisition with the **SFC** origin.	Production order, requisition
	RFQ	Generated from a converted RFQ with the **Requisition** origin.	Production order, RFQ

Purchase organization

Purchase organizational data

Before you can perform purchase procedures, you must specify purchase organizational data, such as the purchase order types that define the mandatory steps in the purchase order procedure, purchase offices that you can use to create purchase contracts, purchase orders, and purchase schedules, and user profiles with user-specific default data.

Specifying purchase order types

The purchase order type determines the activities that are included in the order procedure, and how and in which sequence the order procedure is carried out. When a purchase order type is linked to a

purchase order, the purchase order is processed according to the activities and the type of order defined for the purchase order type.

To define purchase order types and their activities:

1. Enter a purchase order type in the Purchase Order Types (tdpur0194m000) or the Purchase Order Type - Activities (tdpur0694m000) session. In addition to the normal purchase order type, several special order types exist. By selecting one or more of the check boxes (**Cost Order**, **Collect Order**, **Return Order**, and so on), the creation and processing of these orders can differ from normal purchase orders.
2. On the **Activities** tab of the Purchase Order Type - Activities (tdpur0694m000) session, you must specify for the purchase order type:
   - The activities (tasks) to be carried out.
   - The sequence in which these activities must be carried out.
   - Whether the activity must be carried out automatically or manually. As a result, you can automate the processing of purchase orders.

Tip

Make sure that the list of activities linked to an order type is extensive enough to cover all processes that can apply during execution of the order procedure. If an activity is not applicable for the order type, LN automatically skips this activity. You can view the actual activities that are linked to the purchase order (detail) line and the status of the activities in the Purchase Order Activities (tdpur4113m000) session.

Specifying purchase offices

The purchase office determines the location from which purchase orders, contracts, schedules, requisitions, and requests for quotation are processed. A purchase office is needed to complete transactions with buy-from business partners. Various purchase offices can be set up for one company. Once you set up the purchase office, you can define user profiles.

To define a purchase office, you must complete these steps:

1. Define the purchase office as a department in the Departments (tcmcs0565m000) session.
2. Specify purchase-office-specific data in the Purchase Offices (tdpur0112m000) session. The enterprise unit to which the department is linked informs you about the financial company to which financial transactions for the purchase office are posted. If you want to use purchase offices in combination with purchase orders, purchase schedules, purchase contracts, schedule releases, call-offs, requests for quotations, or requisitions, you must fill the concerned series fields.

Specifying user profiles

User profiles are used to set up default information for purchasing employees, so documents can be processed faster. In the User Profiles (tdpur0143m000) session, you can link a user to a purchase office, order type, and warehouse for each login code. When the user creates a purchase order, call-off, purchase contract, purchase requisition, request for quotation, approval rule, purchase schedule, or

purchase release, the user profile determines the defaults. This accelerates the purchase-related transaction entry processes.

Specifying approval rules

Purchase order approval is a mandatory step in the purchase order procedure. You can validate purchase orders against approval rules before their status becomes **Approved**.

Default purchase office

During the entry of purchase documents, LN displays a default purchase office. Depending on the type of document, LN takes specific steps to retrieve the correct purchase office.

Manually created purchase order and purchase orders generated by Project

LN uses the following logic to retrieve the purchase office:

1. From the User Profiles (tdpur0143m000) session.
2. If you linked a default purchase office to an enterprise unit, which you can perform by selecting the **Default Purchase Office** check box in the Enterprise Units (tcemm0130m000) session, from the enterprise unit of the warehouse.
3. From the Buy-from Business Partners (tccom4120s000) session.
4. You must manually enter the purchase office.

Note

You can manually change the default purchase office.

Automatically generated purchase order

LN uses the following logic to retrieve the purchase office:

1. If the value of the **Purchase Order** field in the Purchase Orders (tdpur4100m000) session is **Requisition**, **RFQ**, or **Contracts**, the purchase office is retrieved from the purchase office supplied by the origin.
2. If you linked a default purchase office to an enterprise unit, which you can perform by selecting the **Default Purchase Office** check box in the Enterprise Units (tcemm0130m000) session, from the enterprise unit of the warehouse. If purchase orders are generated for direct delivery sales orders, the default purchase office is retrieved from the enterprise unit that is linked to the sales order's sales office.
3. From the Item - Purchase Business Partner (tdipu0110m000) session.
4. From the Buy-from Business Partners (tccom4120s000) session.
5. From the Item - Purchase (tdipu0101m000) session.
6. From the User Profiles (tdpur0143m000) session.

Purchase requisition

LN retrieves the default purchase office from the User Profiles (tdpur0143m000) session. However, you can change this purchase office manually. You can also leave the **Purchase Office** field empty in the Purchase Requisitions (tdpur2501m000) session. If you leave this field empty, LN follows the logic for automatically generated purchase orders to retrieve the purchase office.

Request for quotation (RFQ)

LN uses the following logic to retrieve the purchase office:

1. From the User Profiles (tdpur0143m000) session.
2. You must manually enter the purchase office.

Note

You can manually change the default purchase office.

Purchase order approval

After purchase orders are created, purchase order approval is a mandatory step in the purchase order procedure.

You can approve purchase orders:

- Based on approval rules for a range of purchase orders in the Approve Purchase Orders (tdpur4210m100) session.
- Manually, for a range of purchase orders in the Approve Purchase Orders (tdpur4210m100) session.
- Manually , for a specific purchase order. To approve a specific purchase order, click **Approve** on the appropriate menu of the Purchase Orders (tdpur4100m000) session, or the Purchase Order - Lines (tdpur4100m900) session. If the **Approval Rules Mandatory** check box is selected in the Purchase Order Parameters (tdpur0100m400) session, this command is disabled.

Approval rules

You can validate purchase orders against approval rules before their status can become **Approved**. These rules enable you to specify conditions based on which purchase orders are approved.

To use approval rules, take the following steps:

1. Specify a number group for approval rules in the **Number Group for Approval Rules** field of the Purchase Order Parameters (tdpur0100m400) session.
2. Specify the **Basis for Approval Rule** field as Acceptance or Exceptions in the Purchase Order Parameters (tdpur0100m400) session.
3. Specify whether or not it is mandatory to check the approval rules before purchase orders can be approved in the **Approval Rules Mandatory** field of the Purchase Order Parameters (tdpur0100m400) session.

4. Specify the approval rules in the Approval Rules (tdpur0191m000) session.
5. If you want to validate purchase orders against approval rules before their status can become **Approved**, select the **Apply Approval Rules** check box in the Approve Purchase Orders (tdpur4210m100) session.

Note

- You cannot approve purchase orders that are waiting for commingling before they are actually commingled. For more information, refer to *Overview of purchase order commingling (p. 96)*.
- If the **Use Confirmation** check box is selected in the Order Terms and Conditions (tctrm1130m000) session, or the Buy-from Business Partners (tccom4120s000) session, you cannot approve purchase orders before the **Confirmed Quantity** and **Order Confirmation Date** fields are filled on the purchase order line(s).
- When a purchase order is approved, flexible purchase order processing can start. For more information, refer to *Flexible purchase order processing (p. 43)*.

Flexible purchase order processing

You can automate the processing of purchase orders. For each activity that is linked to an order type, you can specify its execution mode: automatic or manual.

The execution of the order procedure activities can start when a user approves the order. After approval of an order, all automatic activities are executed successively until an activity is defined as nonautomatic. After you manually executed the nonautomatic activity, LN executes the next automatic activity, and so on.

To enable flexible order processing, you must first specify the following data:

1. Purchase order types and purchase order type activities.
2. Default devices to which (error) reports for a user are printed.

Purchase order types and activities

Specify purchase order types and link activities to these order types in the Purchase Order Type - Activities (tdpur0694m000) session. You must indicate which of the activities must be executed automatically and which manually, by selecting or clearing the **Automatic** check box.

Mandatory activities

When you create an order type in the Purchase Order Type - Activities (tdpur0560m000) session, LN automatically links the following mandatory activities to the order type in the **Activity** field of the Purchase Order Type - Activities (tdpur0560m000) session:

- Generate Supply Orders for Subcontracting (tdpur4216m000). This activity is only available and mandatory for the subcontracting order type.
- Release Purchase Orders to Warehousing (tdpur4246m000).
- Purchase Receipts (tdpur4106m000).

- Update Sales Order with Delivery Information (tdpur4222m000). This activity is only available and mandatory for the direct delivery order type.
- Process Purchase Orders (tdpur4223m000).

Note

- For the consignment payment order type, the activities Release Purchase Orders to Warehousing (tdpur4246m000) and Purchase Receipts (tdpur4106m000) are not linked.
- For the direct delivery order type, the activity Release Purchase Orders to Warehousing (tdpur4246m000) is not linked.

Although the activities Release Purchase Orders to Warehousing (tdpur4246m000) and Purchase Receipts (tdpur4106m000) can both be linked as a mandatory activity to the order type, either the Release Purchase Orders to Warehousing (tdpur4246m000) activity or the Purchase Receipts (tdpur4106m000) activity is executed during the order procedure. You cannot execute both activities for the purchase order. This applies to purchase orders with an (administrative) cost or service item. A purchase order is released to Warehousing if it contains an item whose **Item Type** is **Cost** or **Service** in the Item - General (tcibd0101s000) session and for which the **Release to Warehouse** check box is selected in the Item - Purchase (tdipu0101m000) session. If the **Release to Warehouse** check box is cleared, you must manually maintain the receipts for the purchase order in the Purchase Receipts (tdpur4106m000) session.

Optional activities

To support you in setting up a flexible order processing procedure, in addition to the mandatory activities, LN also links the following optional activities to the **Activity** field, which you can delete again in the Purchase Order Type - Activities (tdpur0560m000) session:

- Print Purchase Orders (tdpur4401m000)
- Generate Freight Orders (tdpur4220m000)
- Print Claims (tdpur4420m000)
- Print Return Notes (tdpur4411m000)
- Print Purchase Invoices (tdpur4404m000)

Important!

You must make sure that the list of activities that is linked to an order type is extensive enough to cover all processes that can apply during execution of the order procedure. If an activity is not applicable to the order type, LN automatically skips/removes this activity. You can view the activities that are linked to the purchase order line (detail) and the status of the activities in the Purchase Order Activities (tdpur4113m000) session.

Default devices

Specify a default device to which reports are printed for the user in the User Profiles (tdpur0143m000) session.

When you insert a user profile in the User Profiles (tdpur0143m000) session, LN automatically inserts the following printing sessions in the Default Devices by User (tdpur0140m000) session:

- Print Request for Quotations (tdpur1401m000).
- Print RFQ Reminders (tdpur1402m000).
- Print Letter for Unsuccessful Bidders (tdpur1410m000).
- Print Purchase Contract Acknowledgments (tdpur3405m000).
- Print Purchase Contract Termination Letters (tdpur3406m000).
- Print Purchase Orders (tdpur4401m000).
- Print Return Notes (tdpur4411m000).
- Print Claims (tdpur4420m000).

For each printing session, you can define the device that is used for printing in the Default Devices by User (tdpur0140m000) session. You can start this session by clicking **Default Devices by User** on the appropriate menu of the User Profiles (tdpur0143m000) session. The **Device** in the Default Devices by User (tdpur0140m000) session is defaulted from the **Device** in the User Profiles (tdpur0143m000) session, but can be overwritten in the Default Devices by User (tdpur0140m000) session.

The device search path for printing external documents is as follows:

1. From the Default Devices by User (tdpur0140m000) session.
2. From the Purchase Order Type - Activities (tdpur0560m000) session.
3. If no device can be found, you must select a device from a pop-up screen.

The device search path for printing internal documents is as follows:

1. From the User Profiles (tdpur0143m000) session.
2. From the Purchase Order Type - Activities (tdpur0560m000) session.
3. If no device can be found, you must select a device from a pop-up screen.

Note

- If an error report is printed, LN always uses the device that is entered in the **Device** field of the User Profiles (tdpur0143m000) session. If no device is entered, you must select a device from a pop-up screen.
- For automatically executed activities, no process reports are printed.

Purchase order status and flexible purchase order processing

Flexible purchase order processing starts when a purchase order receives the **Approved** status.

You can approve purchase orders by:

- Running the Approve Purchase Orders (tdpur4210m100) session, in which you can approve a range of purchase orders.
- Selecting a purchase order and clicking **Approve** on the appropriate menu of the Purchase Orders (tdpur4100m000) session or the Purchase Order - Lines (tdpur4100m900) session.

Purchase order line (detail) changes

When a line (detail) of an approved purchase order is modified, the order header status changes to **Modified**. The modified purchase order line is now excluded from the automatic execution of order activities. You must re-approve the purchase order.

- When an approved purchase order line changes to a **Total** line with line details, the **Total** line and line details remain approved. The reason for this is that the new line details are a copy of the approved purchase order line.
- When all line details are approved, LN also approves the **Total** line. When one or more line details are unapproved, LN also unapproves the **Total** line. This applies to line details and back order lines.
- When the line detail is a backorder line, LN automatically approves the backorder line when the backorder line's **Ordered Quantity** does not exceed the **Potential Backorder Quantity**, as displayed in the Potential Purchase Back Orders (tdpur4101m700) session. If the ordered quantity exceeds the potential backorder quantity or if the back order line is changed, you must manually approve the backorder line.

Example

Order type sequence	Activity	Automatic
1	Print Purchase Orders (tdpur4401m000)	Yes
2	Release Purchase Orders to Warehousing (tdpur4246m000)	Yes
4	Process Purchase Orders (tdpur4223m000)	No

Because Print Purchase Orders (tdpur4401m000) is an automatic activity, the purchase order is printed as soon as it is approved. Next, LN automatically executes the activity Release Purchase Orders to Warehousing (tdpur4246m000). However, you must manually process the purchase order in the Process Purchase Orders (tdpur4223m000) session.

Rate determiners in Procurement

You can use rate determiners to specify which date is used to determine the exchange rates. Amounts in foreign currencies are converted to the home currency based on the valid exchange rate.

A company's currency system, which you can define in the **Currency Type** field of the Companies (tcemm1170m000) session, defines how amounts are calculated and registered.

These currency systems are available:

- Single currency.
- Independent currency.

- Dependent currency.

Based on the currency system, you can specify the following rate determiners in Procurement:

Currency System:	Single Currency
Rate Determiners:	**Document Date** **Expected Cash Date** **Manually Entered** **Fixed** **Receipt Date**

Currency System:	Independent currency
Rate Determiners:	**Document Date** **Expected Cash Date** **Manually Entered** **Fixed Hard** **Fixed Local** **Fixed Local and Hard** **Receipt Date**

Currency System:	Dependent Currency
Rate Determiners:	**Document Date** **Expected Cash Date** **Manually Entered** **Fixed** **Receipt Date**

For more information on the function of each rate determiner, refer to Currency Rate Determiner.

General purchase data

General purchase data

Before you can perform purchase procedures, you must specify general purchase data, such as an approver list for use in the purchase requisition procedure, data to track order changes and to determine the reason for the changes, criteria and criteria sets for requests for quotation, and additional cost sets.

Setting up the approver list

Before a purchase requisition can be converted to a purchase order or a request for quotation (RFQ), it must be approved by an approver that appears on the approver list.

For more information, refer to *Purchase requisition approval process (p. 52)*.

Specifying data to track order changes and determining the reason for the changes

Purchase orders can be dynamic documents, as a company's requirements can change during the life of the order process. You can specify information that enables you to track these changes and the reasons why these changes occurred. To track the various changes to an order, change codes and acknowledgement codes are used. Although this functionality is designed to work specifically with EDI, a company without EDI functionality can also use these codes to record changes.

You can use change codes to maintain information regarding order changes that are tracked for historical purposes. You can use acknowledgement codes to manually record information concerning changes that are communicated by the purchase business partner. A purchase order acknowledgment is a message sent by the purchase business partner to the purchaser to confirm the receipt of the purchase order. This usually implies the acceptance of the order by the purchase business partner.

To maintain and track changes, take the following steps:

1. Use the Change Reasons (tdpur0197m000) session to maintain change reasons codes, which can be assigned to a changed order or an order acknowledgement to clarify why a change is made. This information can be tracked for historical reporting.
2. Use the Change Types (tdpur0198m000) session to define change types that indicate the kind of change of a changed purchase order or order acknowledgement. Change types can for example be, change order line, add order line, and change header data. The change types are assigned to the purchase order after the change is made on the order.
3. Use the Purchase Order Parameters (tdpur0100m400) session to define various default change codes and change types, which are defaulted to the purchase order line in case of changes.
4. Use the Purchase Acknowledgment Codes (tdpur0154m000) session to define purchase order acknowledgements and the destination of the codes, which can be **Header**, **Line**, or **Any**. The acknowledgement code includes a group of information, which appears on the purchase acknowledgment document. This code can represent the reasons for a change of a purchase order.

Specifying criteria and criteria sets for requests for quotation

If you want to compare RFQ responses from different bidders, you can set up criteria for RFQs. RFQ criteria enable you to make a better deliberation in selecting a response.

You can compare the responses based on objective and subjective criteria. Objective criteria are criteria tracked by LN, while subjective criteria are user-defined criteria. When responses are evaluated, LN considers all objective and subjective criteria that are assigned to the responses. Based on user weightings, LN places the responses in order of favouritism (rank).

If you want to use criteria to evaluate responses, specify the criteria and their ratings as follows:

1. Specify criteria sets in the RFQ Criteria Sets (tdpur1190m000) session. A criteria set is a list of request for quotation (RFQ) criterions that can be linked to an RFQ header. The responses are evaluated based on these criteria.
2. Specify RFQ subjective criteria in the RFQ Subjective Criteria (tdpur1191m000) session. You must only define the subjective RFQ criteria, because the objective criteria are already predefined in LN.
3. Put together a criteria set by linking criteria to a set in the Criteria Set - Criteria (tdpur1192m000) session. In this session, you must also indicate the importance of the several criteria by assigning weights to them.
4. In the Criteria Set - Scoring Schemes (tdpur1193m000) session, assign objective values and subjective values to the criteria of the following types:
   - **Quantity**
   - **Delivery Time**
   - **Subjective**

After the objective values and subjective values are specified, you must assign scoring values to them in the Criteria Set - Scoring Schemes (tdpur1193m000) session. If you do not specify a scoring scheme for objective criteria, LN uses predefined system values.

Notes

- LN always takes into account prices when comparing responses.
- If the concerned bidder is selected for vendor rating, LN also takes into account vendor rating when comparing responses.

Specifying additional cost sets

Additional costs can be placed on an order as extra cost (items) after the last item recorded. Several additional cost items can be assigned to an order by bringing them together in a cost set. LN can automatically apply these cost sets to purchase orders.

For more information, refer to *Additional costs on purchase orders (p. 51)*.

Additional costs on purchase orders

Cost items are used to define charges such as freight, handling, and administrative fees. These costs can be added to an order so the order accurately reflects charges billed to a customer or charges billed to you by your buy-from business partners. Additional costs can be placed on an order as extra cost (items) after the last item recorded. Several additional cost items can be assigned to an order by bringing them together in a cost set. LN can automatically apply these cost sets to purchase orders.

To define additional costs

If you want to assign additional costs of items to purchase price lists and buy-from business partners, after which these costs can be added to the purchase order, complete the following steps:

Step 1: Purchase Order Parameters (tdpur0100m400)

In the Purchase Order Parameters (tdpur0100m400) session, specify these fields:

- **First Position Number for Additional Costs Sets**
  Specify the first position number for a purchase order line with additional costs.
- **Recalculation of Additional Costs**
  Indicate whether or not additional costs are recalculated when an order is modified in the Purchase Order Lines (tdpur4101m000) session.
  - **No**
    The additional costs are not recalculated. You can manually maintain additional costs in the Purchase Order Lines (tdpur4101m000) session.
  - **Interactive**
    LN asks you whether the additional costs must be recalculated. You can still manually maintain the additional costs in the Purchase Order Lines (tdpur4101m000) session, but if you let LN recalculate the additional costs, the manual changes can be lost.
  - **Automatic**
    You cannot maintain the additional costs on an order. The additional costs are recalculated each time you leave the Purchase Order Lines (tdpur4101m000) session.

Step 2: Purchase Additional Cost Set - Items (tdpur0624m000)

The header of the Purchase Additional Cost Set - Items (tdpur0624m000) session refers to the Additional Cost Sets (tdpur0124m000) session. Use this session to group additional costs into sets and define the currency that must be used for the cost set. Cost sets are used to group additional charges to be incurred on the order, such as freight and handling. Cost sets can be linked to buy-from business partners or price lists, which enables you to automatically add appropriate charges to orders.

The lines of the Purchase Additional Cost Set - Items (tdpur0624m000) session refer to the Additional Cost Set - Item (tdpur0128m000) session. Use this session to define the cost items that belong to a cost set. On the cost set line, you can define when the additional costs are applicable and how these additional costs must be retrieved or calculated. Examples of cost set lines that you can enter in this session are administrative costs added to the order if the order amount is lower than a certain value, or freight costs added to the order if the total weight of the purchased goods exceeds a certain value.

Step 3: Cost Sets per Price List/Buy-from BP (tdpur0127m000)

Use the Cost Sets per Price List/Buy-from BP (tdpur0127m000) session to link a default cost set to a price lists or a buy-from business partner. In this session, you can also indicate whether the cost set lines are added to the purchase order automatically or interactively.

Step 4: Price Books (tdpcg0131m000)

To define the actual charges to be applied, Pricing is used. Use the Price Book Lines (tdpcg0131m000) session to define charges for additional cost items. You must select the price book and the cost item and then define price breaks. The pricing structure for the cost sets is flexible. As a result, the structure can be unique or the same for different business partners.

Note

Since costs are added based on order totals, they are added when the user exits the purchase order line in the Purchase Order Lines (tdpur4101m000) session. In addition, the **Price** field on the order line is a price per unit. For additional cost items, this field is left empty. The amount applied appears in the **Order Amount** field on the purchase order line.

Purchase requisition approval process

Before a purchase requisition can be converted to a purchase order or a request for quotation (RFQ), it must be approved by an approver or a list of approvers. An approver is a valid employee or department authorized to approve submitted requisitions. Approvers can approve or reject requisitions.

Note

The **External Approval** check box in the Purchase Requisition Parameters (tdpur0100m200) session determines if purchase requisitions are approved and rejected in LN or outside LN. If approval is handled outside LN, after submitting a purchase requisition for approval, the requisition is judged externally and returned to LN with the **Approved** or **Rejected** status, or with the **Pending Approval** status and the **Spend Approved** check box selected on the requisition header. In case of external approval, this topic is not further applicable.

Specifying the approver list

In the Approvers (tdpur2105m000) session, you can maintain a list of valid requisition approvers (individuals or departments) and define a hierarchy in the approval structure.

Before adding to the approver list, the following master data must be defined:

1. Define employees and departments in the Employees - General (tccom0101m000) and Departments (tcmcs0565m000) sessions.
2. Because an individual approver can belong to only one department, define an employee's department defaults in the Employees - General (tccom0101m000) session.
3. The approver's effective date and expiry date must be valid and must be verified in the employee record in the Employees - General (tccom0101m000) session. Also, the **Approver**,

as defined in the Approvers (tdpur2105m000) session, must have a valid **Effective Date** and **Expiry Date**.

Note

- The **Department** field in the Approvers (tdpur2105m000) session is a mandatory field. If an approver is selected in the **Approver** field of the Approvers (tdpur2105m000) session, the approver must belong to the selected approver department.
- Only approver departments that are purchase offices and individual approvers from the purchase office are allowed to perform final approval on a purchase requisition.

Use the Print Approvers (tdpur2405m000) session to print the approver list.

Approving or rejecting purchase requisitions

When a purchase requisition is submitted for approval, based on the linked approval list from the Approvers (tdpur2105m000) session, approval records are inserted in the Purchase Requisition Approval Progress (tdpur2506m000) session.

Usually, the following steps are caried out in the approval process:

1. The first approval record is filled with the **Approver** and **Approver Department** from the requisition header. If the approver has a parent approver in the approver list, a next approval record is inserted with this parent approver. The complete approver tree is inserted based on the parent approvers in the approver list. These approval records have the pending approval status.
2. When the first approver approves or rejects the requisition, the status of the approval record changes from **Pending Approval** to **Approved** or **Rejected**. When the requisition is approved by the first approver, the **Approver** and **Approver Department** fields on the requisition header are updated with the approver and approver department of the next approval record/next approver.
3. When the requisition is approved by all approvers on the approver list, the requisition status is changed from **Pending Approval** to approved. If an approval record with the **Pending Approval** is still available in the Purchase Requisition Approval Progress (tdpur2506m000) session, which means a next approver must still judge the requisition, the requisition status remains **Pending Approval**.

Note

- In the Purchase Requisition Approval Progress (tdpur2506m000) session, which also appears as a tab in the Purchase Requisition - Lines (tdpur2600m000) session, approvers can view if requisitions are submitted to them for approval.
- The **Approval Authorization** field in the Purchase Requisition Parameters (tdpur0100m200) session determines how the approval list is used in the purchase requisition approval process.
- Prior to approving the purchase requisition, approvers can review the requisition lines on the **Requisition Lines** tab of the Purchase Requisition - Lines (tdpur2600m000) session and select the **Rejected** check box if they want to reject a specific requisition line.

- In the Purchase Requisitions (tdpur2501m000) session, the **Allow Partial Rejection** check box determines whether an **Approved** purchase requisition can contain requisition lines that are rejected.
- If a requisition is rejected by an approver, a requester can modify the purchase requisition. When a requisition with the modified status is resubmitted for approval, in the Purchase Requisition Approval Progress (tdpur2506m000) session, an additional approval record is inserted for the approver that rejected the requisition. This approval record has the **Pending Approval** status.
- If the **Budget Exception** check box is selected for one or more requisition lines, the requisition cannot be approved. First the budget exception must be handled.

Purchase budget control

You can use budget control to check purchase transactions against available budgets.

For purchase requisitions, orders, and receipts, you can specify if, how, and when budget checks must be executed.

Note

To implement budget control, select the **Budget Control** check box in the Implemented Software Components (tccom0100s000) session.

After the available budget is checked, budget transactions are generated in the Budget Transactions (tfbgc4500m000) session and budget balances are updated in the Budget Balances (tfbgc3500m000) session.

These budget transactions are generated:

- **Purchase requisitions**
  Generates budget transactions of the **Commitment** type and updates the commitments budget balance.
- **Purchase orders**
  Generates budget transactions of the **Encumbrance** type and updates the encumbrance budget balance.
- **Purchase receipts**
  Generates budget transactions of the **Receipt Expense** type and updates the expense budget balance.

If a budget check fails, a budget exception is applicable that must be resolved before the relevant purchase procedure can continue.

Budget control master data

Before purchase transactions can be checked against available budgets, you must set up the budgets.

For more information, refer to:

- To set up budget control data

- To set up budget policy data
- To maintain budget amount details

To check and update budgets for purchase requisitions, purchase orders, and purchase receipts, specify these fields in the Budget Control Policy (tfbgc0110m000) session:

Purchase Requisitions tab	**Purchase Orders** tab	**Receipts** tab
Check Available Budget	**Check Available Budget**	**Check Available Budget**
Requisition Check Available Budget upon	**Purchase Order Check Available Budget upon**	**Receipts Budget Check Date**
Requisition Budget Check Date	**Purchase Order Budget Check Date**	-
-	**Purchase Order Include Tax**	-

Budget account distribution (BAD)

The available budget for a purchase requisition line, order line, or receipt line can only be checked if a correct budget account distribution (BAD) is linked to the line. The generated or defaulted BAD is used to link the purchase transaction to the applicable budget.

The following are required to generate a BAD:

- **Financial company**
  The financial company is determined based on the requisition/order's **Purchase Office** field. If no purchase office is specified, LN cannot generate a BAD and check the budget.
- **Ledger account and dimensions**
  The ledger account and dimensions are determined based on the requisition/order line's **General Ledger** field. If no general ledger is specified on the line, a default ledger account and default dimensions are retrieved from the Mapping Scheme (tfgld4573m000) session.
- **Budget check date**
  The check date is defaulted from the Budget Control Policy (tfbgc0110m000) session for the relevant document type.
- **Quantity**
  A total quantity that must be equal to the line's ordered or received quantity. Therefore, the percentage in the BAD must be equal to 100.

On the appropriate menu of the following sessions, click **Budget Account Distribution** to start the Budget Account Distribution (tcbgc1100m000) session, in which you can view and modify the generated BAD:

- Purchase Requisition Lines (tdpur2502m000)
- Prepare Conversion Purchase Requisition Lines (tdpur2502m100)

- Purchase Order Lines (tdpur4101m000)
- Purchase Order Line Details (tdpur4101m200)
- Purchase Receipts (tdpur4106m000)

Note

If, for example, a purchase requisition line is converted to a purchase order line, the BAD from the requisition line is defaulted and linked to the purchase order line.

To check and update the available budget

When the budget is checked for a line, the budget check can fail. In this case, the **Budget Exception** check box can be selected in the applicable session. If this check box is selected, the budget exception must be handled before you can continue with the purchase procedure.

However, the **Budget Exception** check box is only selected if the following are applicable:

- Insufficient budget is available for the checked line.
- The **When Budget is Exceeded** field is set to **Block** in the Budget Control Policy (tfbgc0110m000) session.

To resolve the budget exception, you can, for example, change the line amount or the BAD. You can then manually check the budget for lines that have the **Budget Exception** check box selected and have a correct BAD.

To check the budget, click **Check Budget** on the appropriate menu of the following sessions:

- Purchase Requisition Lines (tdpur2502m000)
- Prepare Conversion Purchase Requisition Lines (tdpur2502m100)
- Purchase Order Lines (tdpur4101m000)
- Purchase Order Line Details (tdpur4101m200)
- Purchase Receipts (tdpur4106m000)

Note

If insufficient budget is available for a line and the **When Budget is Exceeded** field is set to:

- **Continue**, the budget transactions are written and the purchase procedure can continue.
- **Warn**, the user is notified about the budget shortage, but the budget transactions can be written and the purchase procedure can continue.

Purchase requisition approval process

When the last approver in the external approval process approves a requisition, the **Spend Approved** check box is selected on the requisition header. Irrespective of the value of the **Requisition Check Available Budget upon** field in the Budget Control Policy (tfbgc0110m000) session, the budget check is then automatically executed.

If the **Budget Exception** check box is selected for one or more lines that are not rejected, the requisition cannot be approved. First the budget exception must be handled. To handle the budget exception,

requisition lines with the **Spend Approved** check box selected can be modified, as well as the linked BAD. When the budget exceptions are handled for all lines and the budget check is done for all lines, the requisition status changes from **Pending Approval** to **Approved**.

Budget exceptions for rejected lines can be ignored during approval. The commitments for these rejected lines are reversed during final approval.

Purchase requisition conversion process

Approved requisitions can be converted to a purchase order or request for quotation (RFQ).

If a requisition line is converted to a purchase order, the requisition line's **Commitment** transaction is reversed when the purchase order line's **Encumbrance** transaction is booked. The moment of budget checking and encumbrance booking, is determined by the **Purchase Order Check Available Budget upon** field in the Budget Control Policy (tfbgc0110m000) session. If this field is set to **Document Entry**, the requisition commitment is reversed at the moment of purchase order line entry. If this field is set to **Document Approval**, the check and update are done at the moment of purchase order approval and, therefore, the requisition commitment is reversed when the purchase order line is approved for the first time. The commitment is also reversed when the generated purchase order line is deleted or canceled.

Note

- The link between the requisition and the purchase order line is stored in the Linked Requisition Line Data (tdpur2502s000) and Purchase Order Line - Linked Information (tdpur4502s000) session.
- When a requisition line is converted to a purchase order line, the BAD is copied to the order line.

If a requisition line is converted to an RFQ, the requisition line's **Commitment** transaction is not reversed, because budget transactions are not booked for RFQs. The reversal of the commitment booking is done when the generated RFQ is deleted or when it is converted to a purchase contract or price book. If the RFQ is converted to a purchase order, the requisition commitment is reversed when the generated purchase order line is created or approved, dependent on the **Purchase Order Check Available Budget upon** parameter, or when it is deleted or canceled.

Note

- The link between the requisition and the RFQ is stored in the Linked Requisition Line Data (tdpur2502s000) and the link between the purchase order and the RFQ is stored in the Purchase Order Line - Linked Information (tdpur4502s000) and Linked Order Line Data (tdpur1502s000) sessions.
- When a purchase order line is generated from an RFQ line that was generated from a requisition line, the BAD of the requisition line is copied to the order line. The BAD can only be copied if the financial companies of the requisition and order are still the same.
- Converted requisitions can only be deleted if the requisition line's **Commitment** budget transaction was reversed by the linked purchase order line or RFQ line.

Purchase backorders

After a final receipt, the original purchase order line's **Encumbrance** transaction is reversed for the total line amount. If a backorder line is created, an **Encumbrance** transaction is booked for the backorder line amount. The original order line's BAD is copied to the backorder line.

If the **Combine Open Backorders** check box is selected in the Purchase Order Types (tdpur0194m000) session, an existing open backorder line can be updated with a new backorder quantity.

If this is the case, the following steps are completed:

1. The existing back order line becomes unapproved.
2. You must manually update the linked BAD with the additional quantity.
3. The budget is checked.
4. If no budget exception is applicable, the back order line is approved again.
5. The budget is checked.

Note

For potential back orders, the budget is not checked or updated.

Copied purchase orders

The following are applicable to a copied purchase order line:

- If the line is copied from an actual purchase order line, the linked BAD is also copied.
- If the line is copied from a purchase history line, the BAD cannot be copied.
- If the new line's quantity differs from the quantity on the original order line, the BAD is not automatically updated. You must manually update the linked BAD.

You can copy purchase order lines in the Copy Purchase Order (tdpur4201s000) session.

Purchase return orders

The following are applicable to a **Return Inventory** purchase order line:

- No budget check is executed for the return order line, only a budget balance update.
- If the return order line is linked to an original purchase order line or to an original purchase order receipt, the BAD of the original order line is copied to the return order line.
- When the purchase receipt is confirmed, the **Encumbrance** balance is decreased with the quantity of the return order line and the **Receipt Expense** balance is increased. As a result, a BAD must be copied or generated for the return order line.

For a **Return Rejects** purchase order line, if the **Inventory Disposition** check box is selected in the Inventory Handling Parameters (whinh0100m000) session, the above actions are also applicable. However, if the **Inventory Disposition** check box is cleared, the budget balance is not updated when rejected goods are returned. The receipt expense is reversed at the moment of rejection.

Purchase additional costs

If lines with additional costs must be added to a purchase order, these additional cost lines are generated during the approval of the purchase order. The budget check and update for these additional cost lines is always executed at the moment of line entry. If the budget check fails, the **Budget Exception** check box is selected and the **Approved** check box is cleared for the line.

If the purchase order is modified after approval, the additional costs can be recalculated. Dependent on the **Recalculation of Additional Costs** field in the Purchase Order Parameters (tdpur0100m400) session, additional costs are recalculated automatically, interactively, or not. When additional costs are recalculated, first the existing additional cost lines are deleted. Next, new cost lines are retrieved and added to the purchase order. For the newly added cost lines, the budget check is executed.

Purchase receipts

In the Purchase Receipts (tdpur4106m000) session, the following are applicable to a purchase receipt:

- The received quantity can be less than or more than the ordered quantity.
- Various purchase receipts can be specified for one purchase order line. The last receipt is the final receipt.
- The budget check and **Receipt Expense** update are performed when the receipt is confirmed. After confirmation, the receipt can still be corrected.

Example

Ordered quantity: 100

Received qty	Final receipt	Budget check	Budget update
60	no	no, (60 is less than 100)	■ **Encumbrance**-60 ■ **Receipt Expense**+60
20	no	no, (60+20=80 is less than 100)	■ **Encumbrance**-20 ■ **Receipt Expense**+20
10	yes	no, (90 is less than 100)	■ **Encumbrance**-20 ■ **Receipt Expense**+10

Received qty	Final receipt	Budget check	Budget update
120	no	yes, for 120 pcs	■ **Encumbrance**-100 ■ **Receipt Expense**+120
20	yes	yes, for 140 pcs	**Receipt Expense**+20

Price and discount change after receipt

If a receipt is registered for an order line, in the Change Price and Discounts after Receipt (tdpur4122m000) session, you can still change price and discounts for the purchase order line.

When a price and discount change is saved, a budget check is executed. If the budget check fails, an error message is given and the change cannot be saved.

Receipt corrections

You can change the received quantity for a confirmed receipt, or make a final receipt non-final in the Correct Purchase Receipt (tdpur4106s100) session.

When a receipt correction is saved, a budget check is executed, if required. If the budget check fails, an error message is given and the receipt correction cannot be saved.

The following receipt corrections are available:

- **Received quantity is decreased**
  No budget check is required, because the received quantity is less than the original quantity. For a final receipt, the BAD must be updated with the new total quantity for the purchase order line. On the budget balance, the **Receipt Expense** is decreased with the quantity decrease. In case of a final receipt, the **Encumbrance** is not increased. In case of a non-final receipt, if the total received quantity is less than the ordered quantity, the **Encumbrance** is increased with the received quantity decrease.
- **Received quantity is increased**
  The BAD must be updated and a budget check must be executed. On the budget balance, the **Receipt Expense** is increased with the quantity increase. In case of a final receipt, the **Encumbrance** is not decreased. In case of a non-final receipt, if the total received quantity is less than the ordered quantity, the **Encumbrance** is decreased with the received quantity increase.
- **Final receipt is made non-final**
  No budget check is required, because the total quantity is still the same after correction. On the budget balance, the **Receipt Expense** does not change, but the **Encumbrance** is increased if the total received quantity is less than the ordered quantity. If the total received quantity is greater than or equal to the ordered quantity, no update is needed.
- **Non-final receipt is made final**
  No budget check is required, because the total quantity is still the same after correction. On the budget balance, the **Receipt Expense** does not change, but the **Encumbrance** is decreased if the total received quantity is less than the ordered quantity. If the total received quantity is greater than or equal to the ordered quantity, no update is needed.

Changing/acknowledging orders

A purchase order of one company is linked to a sales order of another company. Therefore, a change in a purchase order can influence the corresponding sales order, and vice versa. You can specify the handling of change order information.

Change order parameters

The following parameters determine the handling of change order information:

Sales Order Parameters (tdsls0100s400)	Purchase Order Parameters (tdpur0100m400)
Prompt for Change Codes	**Prompt for Change Codes**
Change Codes Mandatory	**Change Codes Mandatory**
Automatic Assignment of Change Order Sequence Numbers	**Automatic Assignment of Change Order Sequence Numbers**
Default Change Reason Code for Add Order Line	**Default Change Reason Code for Add Order Line**
Default Change Type for Add Order Line	**Default Change Type for Add Order Line**
Default Change Reason Code for Change Order Line	**Default Change Reason Code for Change Order Line**
Default Change Type for Change Order Line	**Default Change Type for Change Order Line**
Default Change Reason Code for Cancel Order Line	**Default Change Reason Code for Cancel Order Line**
Default Change Type for Cancel Order Line	**Default Change Type for Cancel Order Line**

Changing/acknowledging orders

Step 1: To change a purchase order (line)

When a sold-to business partner changes a purchase order, the following fields can be filled in the Purchase Orders (tdpur4100m000) session:

- **Change Reason**
- **Change Type**
- **Change Order Sequence**

When a sold-to business partner changes a purchase order line, the following fields can be filled in the Purchase Order Lines (tdpur4101m000) session:

- **Change Reason Lines**
- **Change Type Lines**
- **Change Order Sequence**

Step 2: To communicate the changes

The sold-to business partner must inform the buy-from business partner about the changes on the purchase order (line). The sold-to business partner can, for example, inform the buy-from business partner by telephone, EDI message, mail, or another way.

Step 3: To implement the changes

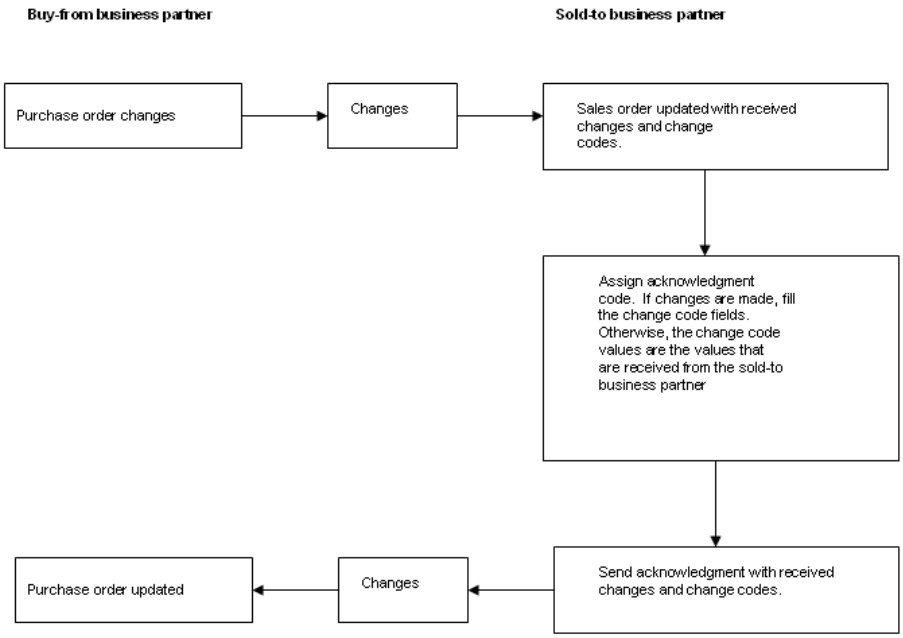
If the buy-from business partner agrees with the changes, the same changes must be made to the corresponding sales order (line). To acknowledge the changes, the buy-from business partner must fill in:

- The **Sales Acknowledgment** field in the Sales Orders (tdsls4100m000) session in case of an order change.
- The **Sales Acknowledgment** field in the Sales Order Lines (tdsls4101m000) session in case of an order line change.

The buy-from business partner can also make changes to the requested changes. In this case, the buy-from business partner can overwrite the changes. After the sales order(line) is updated by the buy-from business partner, this partner will send the sold-to business partner the acknowledgment (of the changes).

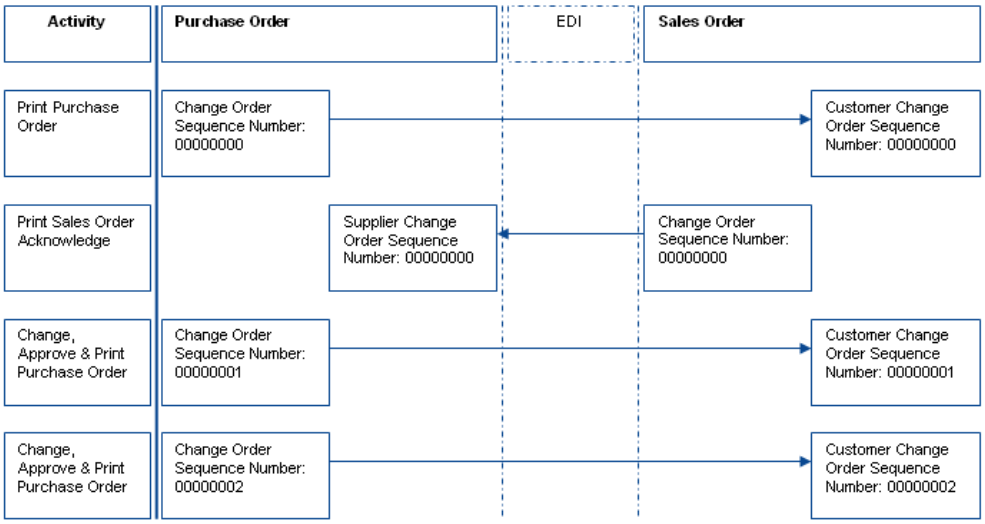
When a buy-from business partner changes sales order (line), you can read the procedure above with the sold-to business partner changed into the buy-from business partner and the Purchase Orders (tdpur4100m000) and Purchase Order Lines (tdpur4101m000) sessions substituted with the Sales Orders (tdsls4100m000) and Sales Order Lines (tdsls4101m000) sessions, and vice versa.

Example



If you use electronic data interchange (EDI) to communicate changes, you can view the latest change order sequence number received from the buy-from business partner in the **Supplier Change Order Sequence** of the Purchase Orders (tdpur4100m000) session and from the sold-to business partner in the **Customer Change Order Sequence** field of the Sales Orders (tdsls4100m000) session.

Example



Printing changes

You can reprint a changed purchase order. You can also print only the changes. The **Print Purchase Order by Exception** check box in the Buy-from Business Partners (tccom4120s000) session determines which changes are printed.

You can also reprint a changed sales order and print only the changes. The **Acknowledge by Exception** check box of the Sold-to Business Partners (tccom4110s000) session determines which changes are printed.

EDI and printing new lines and/or changes

If you use EDI and have already printed an order, the following restriction is valid: you can only print new order lines and/or order(line) changes if the **Change Type** field is filled in the order or order line sessions.

Note

You can check if an order is already printed in the Purchase Order Line Status (tdpur4534m000) session or Sales Order Line Status (tdsls4534s000) session. You can always go back to the order or order line sessions to fill the **Change Type** field if you want to print the new order lines and/or changes.

Product catalog

INCLUDE: Product catalogs [baanerp_td_onlinemanual_000400]

List items in the product catalog

After the catalog is created, and an item is of the list type, the original list item will no longer be visible in the catalog. Only the components of the list item become part of the catalog. Because the list item is exploded when the catalog is created, the list component's quantity cannot be used when creating the item line in your list. If the list item's components change after the catalog is created, the current catalog is not updated. However, each time the catalog structure with the list item as a member is used to create a new catalog, the changes in the list item's components are updated during the creation process.

Using catalogs in purchase requisitions

You can insert items from a product catalog as new requisition lines on purchase requisitions, or you can replace existing requisitions lines.

Note

Before you can use catalog items, you must first create a product catalog. For more information, refer to Product catalogs.

Entering purchase requisition lines based on a catalog

To insert items from a catalog, carry out the following steps:

1. In the Purchase Requisition - Lines (tdpur2600m000) session, enter purchase requisition header data.
2. On the appropriate menu of the **Lines** tab, click **Insert from Catalog**.
3. If, in the Purchase User Profiles (tdpur0143m000) session, the **Product Catalog** field is specified, either the Catalog Structure (tdpct0510m100) or Catalogs with Item Data (tdpct0601m000) session is started for the relevant purchase catalog. If this field is empty, the Catalogs (tdpct0510m000) session is started.
4. If the Catalogs (tdpct0510m000) session was started, select the required catalog and, on the appropriate menu, click **Tree Structure**. As a result, the Catalog Structure (tdpct0510m100) session or Catalogs with Item Data (tdpct0601m000) session starts in which the defined category structure is displayed.
5. To add items as requisition lines to the purchase requisition, select an item from the catalog structure and do this:
   - **Catalog Structure (tdpct0510m100)**
     On the appropriate menu, click **Item Information**. As a result, the Item Information (tdpct0212s000) session starts in which you can first enter an **Order Quantity** and **Order Unit** and then click **Order Item** to order the item.
   - **Catalogs with Item Data (tdpct0601m000)**
     In the Item Information group box, first enter an **Order Quantity** and **Order Unit** and then click **Order Item** to order the item.

Replacing purchase requisition lines based on a catalog

If you use the Purchase Requisition - Prepare Conversion (tdpur2600m100) session to prepare the lines of an **Approved** purchase requisition for conversion to a purchase order or an RFQ, you can replace the item on a requisition line with an item from a product catalog.

In the Prepare Conversion Purchase Requisition Lines (tdpur2502m100) session, you can replace a requisition line's item as follows:

1. Select a requisition line.
2. On the appropriate menu, click **Catalog**, which starts the Catalogs (tdpct0510m000) session.
3. Select the required catalog and, on the appropriate menu of the Catalogs (tdpct0510m000) session, click **Tree Structure**. As a result, the Catalog Structure (tdpct0510m100) session or Catalogs with Item Data (tdpct0601m000) session starts in which the category structure is displayed.
4. To replace a requisition line's item, select an item from the catalog structure and do this:
   - **Catalog Structure (tdpct0510m100)**
     On the appropriate menu, click **Item Information**. As a result, the Item Information (tdpct0212s000) session starts in which you can first enter an **Order Quantity** and **Order Unit** and then click **Order Item** to order the item.
   - **Catalogs with Item Data (tdpct0601m000)**
     In the Item Information group box, first enter an **Order Quantity** and **Order Unit** and then click **Order Item** to order the item.

Chapter 3
Purchase Requisitions

3

Purchase requisition procedure

Purchase requisitions

The purchase requisition procedure is designed for the nonpurchasing user who may not know the standard procedures in purchasing. For example, engineers can order material or services without understanding the entire purchasing process. Purchase requisitions are used to specify nonsystem planned requirements for various types of items, including inventory items, cost items, and service items.

Purchase requisitions are created in the same way as all other buy and sell documents, such as purchase orders and sales orders. However, there is one significant difference: on a requisition, the item code and buy-from business partner codes can be blank. Therefore, the requester can make a request for a new item or make a request from a new buy-from business partner.

Note

The following item types cannot be used on requisitions:

- Generic items
- List items (except for kit items)
- Equipment items

Purchase requisition procedure

The purchase requisition procedure includes the following steps:

1. Specify the purchase requisition parameters in the Purchase Requisition Parameters (tdpur0100m200) session.
2. Maintain a list of approvers who are authorized to approve purchase requisitions in the Approvers (tdpur2105m000) session.
3. Specify a default **Approver** and **Approver Department** in the Purchase User Profiles (tdpur0143m000) session.
4. In the Purchase Requisition - Lines (tdpur2600m000) session:
   a. Enter a purchase requisition header with requester data and delivery data.

   b. Enter a purchase requisition line with the required item or item description, the ordered quantity, and, if required, the project.

5. Use the Submit Purchase Requisitions (tdpur2203m000) session to submit the purchase requisition for approval.
6. Use the Purchase Requisition Approval Progress (tdpur2506m000) session to do the following:
   - View the approval progress for a purchase requisition
   - Approve the purchase requisition
   - Reject the purchase requisition
7. Optionally, use the Purchase Requisition - Prepare Conversion (tdpur2600m100) session to prepare the lines of an **Approved** purchase requisition for conversion in the Convert Purchase Requisitions (tdpur2201m000) session.
8. Use the Convert Purchase Requisitions (tdpur2201m000) session to convert the lines of an **Approved** purchase requisition to a purchase order or a request for quotation (RFQ).

Note

If the **External Approval** check box is selected in the Purchase Requisition Parameters (tdpur0100m200) session, purchase requisitions are approved outside LN. Therefore, the approval process is unavailable in LN and the steps related to the approval process must be skipped.

Purchase requisition additional processes

- **Copying purchase requisitions**
  You can copy an existing purchase requisition to a new one in the Copy Purchase Requisitions (tdpur2204s000) session.
- **Using catalogs in purchase requisitions**
  You can insert items from a product catalog into purchase requisitions. For more information, refer to *Using catalogs in purchase requisitions (p. 66)*.
- **Using subcontracted service items on requisitions**
  In case of operation subcontracting, requisitions can include subcontracted service items. These requisitions can be manually specified or can be generated from a routing operation or a production order. For more information, refer to *Subcontracted service items in Procurement (p. 36)*.
- **Canceling purchase requisitions**
  You can cancel purchase requisitions in the Cancel Purchase Requisitions (tdpur2206m000) session.
- **Deleting purchase requisitions**
  You can delete purchase requisitions in the Delete Purchase Requisitions (tdpur2202m000) session.
- **Printing purchase requisitions**
  You can print purchase requisitions in the Print Purchase Requisitions (tdpur2401m000) session.

- **Purchase requisition history**
  Based on the **Log Purchase Requisition History** field in the Purchase Requisition Parameters (tdpur0100m200) session, purchase requisitions can be written to the history. You can view the logged requisition history in the Purchase Requisition History (tdpur2504m000) session.

Purchase requisition statuses

The purchase requisition status determines if you can submit, approve, delete, modify, cancel, or copy a purchase requisition.

Submitting purchase requisitions

A requester can submit a requisition for approval if the **Status** is Created or Modified, and lines are present.

Purchase requisitions can be submitted for approval in the following sessions:

- Submit Purchase Requisitions (tdpur2203m000)
- Purchase Requisitions (tdpur2501m000)
- Purchase Requisition - Lines (tdpur2600m000)

Note

If the **Submit Generated Requisitions Automatically** check box is selected in the Purchase Requisition Parameters (tdpur0100m200) session, automatically generated purchase requisitions are automatically submitted for approval.

Approving purchase requisitions

An approver can approve a requisition only if the **Requisition Status** is Pending Approval.

Approvers can either approve the requisition or reject the requisition. If the requisition is Rejected, it can be Modified and resubmitted for approval.

Purchase requisitions can be approved in the Purchase Requisition Approval Progress (tdpur2506m000) session or outside LN.

Deleting purchase requisitions

You can delete purchase requisitions if the **Requisition Status** is Converted or Canceled.

Purchase requisitions can be deleted in the Delete Purchase Requisitions (tdpur2202m000) session.

Modifying purchase requisitions

The value of the **Requisition Status** controls the changes that can be made to requisitions.

Modifying requisitions is allowed, but is subject to the following:

- **Prior to submission**
  Allowed without constraints.
- **After submission**
  Only if it is rejected first by an approver or approving department.

Note

Changing and saving a header updates the requisition history and recalculates the requisition amount.

Canceling purchase requisitions

Canceling a requisition can only occur if the **Requisition Status** is Created, Modified, or Rejected.

Purchase requisitions can be canceled in the following sessions:

- Cancel Purchase Requisitions (tdpur2206m000)
- Purchase Requisitions (tdpur2501m000)
- Purchase Requisition - Lines (tdpur2600m000)

Copying purchase requisitions

Copying a requisition can occur for any **Requisition Status**. You can also copy a requisition directly from history.

Purchase requisitions can be copied in the Copy Purchase Requisitions (tdpur2204s000) session.

Purchase requisition conversion process

If a purchase requisition has the approved status, a buyer can convert the requisition's lines to a purchase order or a request-for-quotation (RFQ).

Prepare conversion

To prepare the conversion, a buyer can use the Purchase Requisition - Prepare Conversion (tdpur2600m100) session to easily enter the data that is required on the requisition header and lines for conversion in the Convert Purchase Requisitions (tdpur2201m000) session. However, if all conversion data is already specified in the Purchase Requisitions (tdpur2501m000) and Purchase Requisition Lines (tdpur2502m000) sessions, the Purchase Requisition - Prepare Conversion (tdpur2600m100) session can be skipped.

For each individual requisition line, you can specify its **Conversion Type**, which can be **RFQ** or **Purchase Order**. If all lines must have the same conversion type, you can specify a conversion type on the requisition header, which is defaulted to the lines.

Note

- If the conversion type is **Purchase Order**, the line must contain an item code and a buy-from business partner; each of these fields is validated. If the requisition line does not include these values, you cannot set the conversion type to **Purchase Order**.
- If the conversion type is **RFQ**, the item and/or business partner codes can remain blank on the requisition line.
- You can replace an item on a requisition line with an item from a product catalog. For more information, refer to *Using catalogs in purchase requisitions (p. 66)*.

Convert purchase requisitions

Purchase requisition lines can be converted to a purchase order or an RFQ in the Convert Purchase Requisitions (tdpur2201m000) session.

Requisition lines are included in the conversion process if:

- The **Conversion Type** field in the Purchase Requisition Lines (tdpur2502m000) session is **RFQ** or **Purchase Order**.
- Valid number groups, series, and order type are specified for RFQs and purchase orders in the Convert Requisition Lines to RFQ/PO (tdpur2201m000) session.

Note

- If, in the Purchase Requisitions (tdpur2501m000) session, the **Allow Partial Rejection** check box is selected, only the lines with the **Rejected** check box cleared can be converted to a request-for-quotation (RFQ) or a purchase order.
- If the buy-from business partner is blank and the item code is defined, the conversion will be based on an approved source list (ASL), if one exists. If no business partners are approved for the specific item, the conversion transfers the specified business partner description to the RFQ process.
- If the item code is blank and the buy-from business partner is defined, the RFQ will be generated for the specified business partner.
- If the item code and the business partner code are both blank, the RFQ will be created using only the item description and business partner description.

Any errors encountered during processing can be reported along with a list of successfully converted requisitions. The reports include details about the new RFQ/PO such as original requisition number, position number, and error remarks.

Chapter 4
Requests for Quotation (RFQs)

4

RFQ procedure

Overview of RFQ handling

With the request for quotation (RFQ) procedure, you can send RFQs to bidders for the procurement of goods. On an RFQ, information regarding items, quantities, and required receipt dates can be specified. The created RFQ can be sent to one or a range of bidders based on the approved source list. After receipt of the RFQ responses, the results can be negotiated and compared with objective and subjective criteria based on which a purchasing decision can be made. An accepted RFQ can be copied to a purchase contract, a purchase order, or a supplier price book.

RFQs can be generated from planned orders, requisitions, or purchase contracts. They can also be manually specified.

RFQ master data

Before you can carry out the RFQ procedure, you must specify the purchase master data.

For more information, refer to:

- *Purchase item data (p. 11)*
- *Purchase organizational data (p. 39)*
- *General purchase data (p. 49)*

You must also specify the RFQ parameters in the Request for Quotation Parameters (tdpur0100m100) session.

RFQ procedure

The RFQ procedure includes the following processes:

- Creating and sending RFQs to bidders
- Receiving, negotiating, comparing, and selecting the bidders' responses.

For more information, refer to *Request for quotation procedure (p. 76)*.

RFQ additional processes

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

For more information, refer to *RFQs - additional processes (p. 81)*.

Request for quotation procedure

You can use the request for quotation (RFQ) procedure to request bidders (buy-from business partners) to provide you with an offer for goods and services. You can compare the received RFQ responses (bids) to select the one that best fits your requirements.

The following RFQ procedures are available:

- **Manual RFQ procedure**
  Use this procedure to manually create RFQs and send them to bidders. You can select the bidders to whom you want to send an RFQ manually, or based on the approved supplier list.
- **Generate RFQ procedure**
  Use this procedure to automatically generate RFQs and send them to bidders. The creation of RFQs and the assignment to bidders is performed in one of the generate sessions.

Use the manual RFQ procedure to create an RFQ for one item. If you want to create an RFQ for several items and/or several item groups, the generate RFQ procedure is more suitable.

The request for quotation (RFQ) procedure includes these category steps:

1. Creating and sending RFQs to bidders
2. Receiving, negotiating, comparing, and selecting the bidders' responses

Note

On a request for quotation (RFQ) line, the item code can be blank. Therefore, the requester can request to bid for a new item. When a response line that is linked to the RFQ line receives the **Accepted** status, the item code becomes mandatory.

Creating and sending RFQs

Step 1: Purchase Request for Quotation - Lines (tdpur1600m000)

Use the Request for Quotation (tdpur1600m000) session to perform the following:

- Create RFQs in the manual RFQ procedure
- View RFQs in the generate RFQ procedure
  RFQ generation occurs in one of these sessions:
  - **Generate Request for Quotations (tdpur1220m000)**
    Generates RFQs for a range of items and/or item groups and enables you to select the bidders to send the RFQs to.

- **Convert Purchase Requisitions (tdpur2201m000)**
  Converts purchase requisition lines to an RFQ.
- **Generate RFQs from Contracts(tdpur3201m000)**
  Copies purchase contract lines to RFQs and enables you to link the bidders to send the RFQs to.
- **Transfer Planned Orders (cppat1210m000)**
  Transfers the planned purchase orders from Order Planning to Procurement. If LN cannot find a buy-from business partner for the item, the planned purchase order can be transferred to an RFQ.

Step 2: RFQ Bidders (tdpur1505m000)/ Add Bidders to RFQ (tdpur1221m000)

This step only applies to the manual RFQ procedure. In the generate RFQ procedure, the generated RFQs are directly linked to the selected bidders.

In the manual RFQ procedure, you can link bidders to RFQs as follows:

- Manually in the RFQ Bidders (tdpur1505m000) session
- Automatically in the Add Bidders to RFQ (tdpur1221m000) session, and optionally, based on an approved supplier list

On the **Bidders** tab in the Purchase Request for Quotation - Lines (tdpur1600m000) session, you can view which bidders are linked to the RFQ.

Step 3: Print Request for Quotations (tdpur1401m000)

After the RFQ is created and bidders are linked, you must print the RFQ in the Print Request for Quotations (tdpur1401m000) session to send it to the bidders.

Receiving, negotiating, comparing, and selecting RFQ responses

Step 1: RFQ Responses (tdpur1506m000)

RFQ responses received from a bidder can be specified in the RFQ Responses (tdpur1506m000) session. An RFQ response includes one or more response lines.

Step 2: RFQ Negotiations (tdpur1606m000)

Optionally, you can negotiate the bidder's responses and specify your counter proposals in the RFQ Negotiations (tdpur1606m000) session.

The latest negotiation response information, which includes prices, discounts, and dates is synchronized to the RFQ Responses (tdpur1506m000) session. Counter proposal information is not synchronized.

Step 3: Compare RFQ Responses (tdpur1110m000)

When the response date is expired, you can compare the **Accepted** response lines in the Compare RFQ responses (tdpur1110m000) session. This session is not mandatory in the RFQ procedure, but

can help you to select the best responses for conversion. You can perform analysis for a single line or for all lines on the RFQ.

You can use the following sessions to compare responses, which you can start from the appropriate menu in the Compare RFQ Responses (tdpur1110m000) session:

- RFQ Response Ranking based on Total Amount (tdpur1805m000), in which you can compare responses based on price
- RFQ Response Ranking based on Criteria Set (tdpur1806m000), in which you can compare responses based on RFQ criteria

Comparing responses based on criteria

Before you can use the RFQ Response Ranking based on Criteria Set (tdpur1806m000) session, you must complete these steps:

1. Specify criteria and their ratings. For more information, refer to *General purchase data (p. 49)*.
2. When you receive a bidder's response, specify the subjective scores for the response in the RFQ Response - Subjective Criterion Scores (tdpur1195m000) session. Objective criteria are automatically calculated.

Step 4: Convert RFQs (tdpur1202m000)

For **Accepted** response lines for which the **Conversion Action** is **Convert**, use the Convert RFQs (tdpur1202m000) session to convert the response lines to the **Conversion Type** as specified in the RFQ Responses (tdpur1506m000), RFQ Response Ranking based on Total Amount (tdpur1805m000), or RFQ Response Ranking based on Criteria Set (tdpur1806m000) sessions.

If you select more than one bidder, you can indicate if LN must take into account the sourcing percentage and the priority for the item-business partner combination, as specified in the Item - Purchase Business Partner (tdipu0110m000) session.

Step 5: Delete Request for Quotations (tdpur1205m000)/ Process Non-Converted RFQ Responses (tdpur1223m000)

Use the Delete Requests for Quotation (tdpur1205m000) session to delete RFQs that are expired, have no response returned, or were never linked to a bidder.

Use the Process Non-Converted RFQ Responses (tdpur1223m000) session to process response lines for which the **Conversion Action** is **Ignore**, or delete response lines for which the **Conversion Action** is **Delete**.

Calculating total scoring values per criterion

If you sent requests for quotation (RFQs) to bidders, you can rank the RFQ responses that you received from the bidders to decide from which bidder you will purchase. Before you can rank the responses, LN must calculate the scoring values for each response. The procedure for calculating the total scoring value for each criterion includes several steps.

Note

LN retrieves the RFQ data that is needed for the calculation from the Purchase Request for Quotation Lines (tdpur1502m000) session and the response data from the Buy-from BP - Quotations (tdpur1506m000) session.

Delivery dates

In the first place, a scoring value is calculated based on the delivery dates. The delivery date difference is calculated as follows:

- **Delivery date is specified on the RFQ and the response**
  Delivery difference = RFQ delivery date - response delivery date
- **Lead time is specified on the RFQ and the response**
  Delivery difference = RFQ lead time - response lead time
- **Start date is specified on the RFQ and the response**
  Delivery difference = (RFQ start date - response start date) + (RFQ end date - response end date)

LN retrieves the scoring value for the delivery difference from the Criteria Set - Scoring Schemes (tdpur1193m000) session.

The scoring value is calculated as follows:

```
Delivery date scoring value = DW * delivery difference SVAL
```

Quantity

A scoring value is calculated based on the quantity. The quantity difference is calculated as follows:

```
Quantity difference = (RFQ quantity - response quantity) * 100 / RFQ quantity.
```

LN retrieves the scoring value for the quantity difference from the Criteria Set - Scoring Schemes (tdpur1193m000) session.

The scoring value is calculated as follows:

```
Quantity scoring value = QW * quantity difference SVAL.
```

Vendor Rating

A scoring value is calculated based on vendor rating. LN

LN retrieves the vendor rating percentage from the Vendor Ratings by Period (tdpur8102m000) session and the Vendor Ratings by Criterion (tdpur8102m100) session.

The scoring value is calculated as follows:

```
Vendor rating scoring value = VW * vendor rating percentage.
```

Subjective criterion

A scoring value is calculated based on the RFQ criterion. LN

LN retrieves the subjective scoring value from the Subjective Scoring Values (tdpur1193m100) session. The scoring value is linked to the RFQ in the RFQ Response - Subjective Criterion Scores (tdpur1195m000) session.

The scoring value is calculated as follows:

```
Subjective scoring value = SW * subjective criterion scoring value.
```

Price

A scoring value is calculated based on the offered price.

LN retrieves the lowest price and the response price from the RFQ Responses (tdpur1506m000) session. The lowest price is the lowest submitted price of all the selected bidders on an RFQ. The response price is the price of the specific bidder.

The scoring value is calculated as follows:

```
Price scoring value = PW * ((lowest price / response price) * 100)
```

Legend

Legend

DW	Weightage for the delivery dates
QW	Weightage for the quantity difference
VW	Weightage for the vendor rating
SW	Weightage for the subjective criterion
PW	Weightage for the price difference
SVAL	Scoring value per criterion

LN retrieves the weightages from the Criteria Set - Criteria (tdpur1192m000) session.

Note

After the total scoring values are calculated, you can rank the responses. For more information, refer to *Ranking RFQ responses (p. 81)*.

Ranking RFQ responses

RFQ responses are ranked based on the total scoring values for bidders.

LN takes the following steps to rank the RFQ responses:

Step 1: Calculating scoring values

The total scoring value for each bidder is calculated as follows:

```
          Sum (SVs of all applied criteria of the B)
SV B = ____________________________________________ * 100%
                Sum (all SVs of all selected Bs)
```

Legend

SV Scoring value
B Bidder

Step 2: Ranking bidders

The bidders are ranked according to the calculated scoring values in the RFQ Response Ranking based on Criteria Set (tdpur1806m000) session. The bidder with the highest scoring value is the first in the list.

RFQs - additional processes

A number of processes do not always occur in the RFQ procedure, but can be used depending on specific situations.

These are the following processes:

- Printing RFQ reminders
- Project pegging
- Specifying supplier stage payments
- Subcontracted service items on RFQs
- Printing letters for unsuccessful bidders
- Viewing, printing, and deleting RFQ history

Printing RFQ reminders

If no response is received from a bidder before the response date, you can send the bidder a reminder, which you can print in the Print RFQ Reminders (tdpur1402m000) session.

Note that to print a reminder in the Print RFQ Reminders (tdpur1402m000) session, the **Reminder Status** must be **Remind** in the RFQ Bidders (tdpur1505m000) session.

Project pegging

Project pegging in Procurement includes the pegging of project costs for purchase requisitions, requests for quotation, and purchase orders. If the item on the requisition, request for quotation or purchase order requires a peg, a peg distribution must be linked to these purchase objects. In a peg distribution, the required quantity of the parent business object is distributed across distribution lines for combinations of project/budget, project element and/or project activity. For example, if a distribution is used to peg the ordered quantity on a purchase order line, the goods are purchased for and the costs are booked to these projects, elements, and activities.

Specifying supplier stage payments

Supplier stage payments enable customers to pay suppliers before or after the ordered goods are actually received for a purchase order. The payments are spread over a period of time and the amounts must be paid to the supplier on specific dates. The purchase order item's invoice flow is separated from its goods flow.

Supplier stage payments can be useful for items with characteristics such as long lead, high value, much engineering, and a fixed price. The stage payments can include the dates and events for which the supplier must complete specific tasks before receipt of any goods, such as providing design documents or test results. On the RFQ response, you can specify the stage payment lines in the Supplier Stage Payments (tdpur5120m000) session, which can be copied to the purchase order line during conversion.

Subcontracted service items on RFQs

In case of operation subcontracting, requests for quotation (RFQs) can include subcontracted service items. These RFQs can be manually specified or can be generated from a purchase requisition with a linked routing operation or production order.

Printing letters for unsuccessful bidders

You can use the Print Letter for Unsuccessful Bidders (tdpur1410m000) session to communicate to bidders that their RFQ response is not accepted.

Note

You can print letters for bidders only if the **Thank You for Bidding Letter** check box is selected in the Request for Quotation - Buy-from BP's (tdpur1505m000) session.

Viewing, printing, and deleting RFQ history

If the **Log RFQ History** check box is selected in the Request for Quotation Parameters (tdpur0100m100) session, you can review RFQ history information in sessions such as the following:

- Purchase Request for Quotation History (tdpur1550m000)
- Request for Quotation Lines History (tdpur1551m000)
- Request for Quotation - Buy-from BP History (tdpur1555m000)
- Buy-from BP - Quotation History (tdpur1556m000)
- Overview of RFQ History (tdpur1850m000)

You can print RFQ history in the Print RFQ History (tdpur1450m000) session.

If historical information is no longer needed, you can use the Delete Purchase Request for Quotation History (tdpur1204m000) session to delete the historical data.

Chapter 5
Purchase Orders

5

Overview of purchase order handling

You can create and modify purchase orders for purchasing goods. For example, if you run out of inventory, you can perform the purchase order procedure to replenish stocks. You can also use the purchase order procedure to purchase, for example, services. After confirmation, a purchase order is a legal obligation to supply items according to certain terms and conditions, including specific prices and discounts.

After an order is processed, the information is used by different departments in the company, such as planning, production, distribution, finance, purchasing, and marketing.

Purchase master data

Before you can complete the purchase order procedure, you must define the purchase master data.

For more information, refer to:

- *Purchase item data (p. 11)*
- *Purchase organizational data (p. 39)*
- *General purchase data (p. 49)*

You must also specify the purchase order parameters in the Purchase Order Parameters (tdpur0100m400) session.

Purchase order procedure

The purchase order procedure includes these steps:

1. Creating the purchase order
2. Sending the purchase order to the buy-from business partner, and informing the warehousing people about the goods to be expected
3. Receiving the purchased goods
4. Paying the received goods
5. Transferring the delivered purchase orders to the purchase order history database

For more information, refer to *Purchase order procedure (p. 86)*.

Purchase order additional processes

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

For more information, refer to *Purchase orders - additional processes (p. 88)*.

Purchase order procedure

The purchase order procedure covers the complete administrative procedure for purchasing goods or services.

The procedure includes these steps:

Step 1: To create purchase orders

Purchase orders can be created as follows in the Purchase Order - Lines (tdpur4100m900) session:

- Automatically, from a variety of sources, such as **EP**, **SLS**, **Service**, and so on
- Copied from an existing order in the Copy Purchase Order (tdpur4201s000) session
- Manually

Step 2: To approve purchase orders

After purchase orders are created, purchase order approval is a mandatory step in the purchase order procedure. The execution of the order procedure activities can start when a user approves the order.

Step 3: To print purchase orders

After the order is registered and approved, you can print the purchase order and send it to the buy-from business partner as confirmation. The Print Purchase Orders (tdpur4401m000) session is only mandatory if you communicate the purchase order to the buy-from business partner by mail or by electronic data interchange (EDI). If you use the phone to communicate purchase orders, this step is optional.

After the purchase order is printed, you can still modify the purchase order.

Step 4: To release purchase orders to Warehousing

After the buy-from business partner is informed about the purchase order and the purchase order is approved, you can release the purchase order to Warehousing in the Release Purchase Orders to Warehousing (tdpur4246m000). As a result, the warehousing department is informed about the goods to be expected.

When purchase 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 purchase order type. You must first link activities to a warehousing procedure in the Activities by Procedure (whinh0106m000) session. You can link a warehousing procedure to a warehousing order type in the Warehousing Order Type (whinh0110m000) session, after which you can link the warehousing order type to a purchase order type in the Purchase Order Types (tdpur0194m000) session.

It is not mandatory to release purchase orders for cost items and service items to Warehousing. This depends on the setting of the **Release to Warehouse** check box in the Item - Purchase (tdipu0101m000) session. Direct deliveries are never released to warehousing.

Step 5: To receive the purchased goods

You can record the receipts of purchased goods:

- In Warehousing if the purchase order is released to Warehousing. The receipt procedure is covered by the inbound procedure and the inspection procedure in Inventory Handling (INH). When receipts are recorded in Warehousing, the receipt data is reported back to Procurement. You can view this data in the following sessions:
  - Purchase Orders - Receipt Overview (tdpur4531m000)
  - Purchase Receipts (tdpur4106m000)
- In Procurement for non-inventory items that are not released to Warehousing. You can record the deliveries in the Purchase Receipts (tdpur4106m000) session.

After a receipt is confirmed in the Purchase Receipts (tdpur4106m000) session, you can no longer change the receipt data in this session. However, you can still change specific receipt data in the Correct Purchase Receipt (tdpur4106s100) session.

When the goods are received, the prices and discounts of the goods may be changed. Use the Change Price and Discounts after Receipt (tdpur4122m000) session to maintain prices and discounts.

Step 6: To pay for the purchased goods

To manage the payment of the purchased goods, you must use Accounts Payable (ACP). You can only carry out this process if the Financials package is implemented.

In the purchase order procedure, the business partner does not need to send an invoice. Instead, you can use self-billing to automatically generate invoices for the purchased goods.

Self-billing is typically used if you have:

- A contract with the business partner for the price of the goods you are buying.
- An agreement with the business partner that you will pay for the goods without receiving an invoice for them.

Self-billing is controlled by the following fields in the Purchase Orders (tdpur4100m000)/ Purchase Order Lines (tdpur4101m000) session:

- **Self-Billed Invoice**
  If you select this check box, an invoice can be generated for each order line receipt. In the financial company to which the purchase office is linked, you can select the order lines and generate the invoices in the Generate Self-Billed/Internal Purchase Invoices (tfacp2290m000) session.
- **Invoice after**
  This field can be set to one of the following:
  - **Inspection**
    Self-billed invoices can only be created for the total approved received quantity, after all inspections have been finished for a particular receipt.
  - **Receipt**
    A self-billed invoice can be immediately created for the total received quantity. If, after inspection, some quantity is rejected, in the Generate Self-Billed/Internal Purchase Invoices (tfacp2290m000) session, an invoice is created for the rejected quantity. This invoice contains a negative quantity.

Step 7: To process purchase orders

At the end of the purchase order procedure, all purchase orders must be processed in the Process Delivered Purchase Orders (tdpur4223m000) session. The processed purchase orders are transferred from the regular database to the history database.

Additional processes

Purchase orders - additional processes

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

These are the following processes:

- Adding landed costs to purchase orders
- Changing prices and discounts after receipt or consumption
- Commingling purchase orders
- Copying purchase orders
- Deleting purchase orders
- Generating freight orders from purchase orders
- Generating work orders from purchase orders
- Handling backorders
- Handling return orders
- Printing claims
- Printing purchase invoices

- Printing reminders
- Project pegging
- Specifying cross-docking orders and splitting deliveries
- Specifying direct delivery orders
- Specifying supplier stage payments
- Subcontracted service items on purchase orders
- Using consigned inventory
- Using customer furnished materials

Adding landed costs to purchase orders

To have a proper insight in all procurement costs, not only the purchase price, but all landed costs can be linked to a purchase order.

For more information, refer to:

- Landed costs – overview
- Landed costs – orders

Changing prices and discounts after receipt or consumption

- **After receipt**
  In the Change Price and Discounts after Receipt (tdpur4122m000) session, you can change prices and discounts after the goods are received.
- **After consumption**
  In the Change Price and Discounts after Receipt (tdpur4122m000) session and the Change Price and Discounts of Purchase Payable Receipts (tdpur4132m000) session, you can change prices and discounts after the goods are consumed.

For more information, refer to *Changing prices or discounts after receipt or consumption (p. 93)*.

Commingling purchase orders

If you want to reduce the number of purchase orders and obtain the best available prices and discounts, you can commingle purchase orders. Commingling enables you to group various purchase orders that originate from different sources into a single purchase order.

For more information, refer to:

- *Overview of purchase order commingling (p. 96)*
- *Commingling purchase orders (p. 97)*

Copying purchase orders

You can use the Copy Purchase Order (tdpur4201s000) session to copy existing purchase orders to new purchase orders.

For more information, refer to *Copying purchase orders (p. 98)*.

Deleting purchase orders

You can use the Delete Purchase Orders (tdpur4224m000) session to delete:

- Canceled purchase order lines.
- Processed purchase order lines.

Note

How the order data is deleted, depends on the value of the **Delete Order Data if Received Completely** field in the Purchase Order Parameters (tdpur0100m400) session.

Generating freight orders from purchase orders

Freight is the package that handles transportation requirements. Because Procurement is sometimes responsible for the transportation of goods and must consequently collect goods from a supplier, you can generate a freight order from the purchase order. If the transportation of goods is not the supplier's responsibility, the supplier must know on what date the goods must be ready. Therefore, you must consider the planned load date in the purchase order as the shipment date; when to pick up the goods from the supplier.

The integration between Freight and Procurement includes these topics:

- **Integration freight order control and procurement**
  During the planning and execution of a freight order, its status often changes. If Procurement is responsible for creating the freight order, the progress of the shipment and loads can be exchanged and information can be shared between Freight and Procurement.
- **Integration freight invoicing and purchase 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 Procurement (p. 107)*
- *Integration freight invoicing and purchase invoicing (p. 110)*

Generating work orders from purchase orders

Depot repair serves to repair or upgrade parts. An integration is established between Service and Procurement to support the following depot repair processes:

- The department that carries out the indoor repairs or upgrades is not equipped with all the necessary repair parts and needs additional parts from a third party.
- The department that is responsible for the repairs or upgrades hires another company (the subcontractor) to carry out the repair or upgrade.

In these two cases, a purchase order must be generated to buy parts or to procure subcontracting. To support both the purchasing of subcontracting activities and the purchasing of additional parts, Service can create a work order that posts its requirements to Procurement. Consequently, the purchase order origin is **Maintenance**.

For more information, refer to:

- *To purchase additional parts (p. 111)*
- *Purchasing subcontracting items (p. 112)*

Handling backorders

If only a part of the goods or none of the goods listed on a purchase order are received, backorders can be created.

The following can result in a backorder:

- The received quantity of the purchase order line is less than the ordered quantity at the time of delivery date.
- The received quantity of the goods is (partially) rejected during inspection.
- The received quantity is equal to the ordered quantity, but the user changes the back order quantity from zero into a higher value.

For more information, refer to Purchase backorders.

Handling return orders

A return order is a purchase order on which returned shipments are reported. A return order can only contain negative amounts. A number of steps are involved in the return order process.

For more information, refer to *Purchase return orders (p. 119)*.

Printing claims

Occasionally, during the receipt process, the quantity received does not match with the packing slip quantity. If suppliers ship less than what is on their packing slip, a claim note can be printed in the Print Claims (tdpur4420m000) session.

Printing purchase invoices

An optional step in the purchase order procedure is to print purchase invoices in the Print Purchase Invoices (tdpur4404m000) session. These invoices are used to compare the data in your system with the data (invoices) you get from the buy-from business partner.

Printing reminders

You can use the Print Purchase Order Reminders (tdpur4403m000) session to print a reminder to advise a business partner of undelivered purchase orders.

Project pegging

Project costs can be pegged to purchase orders. If the item on the purchase order requires a peg, a peg distribution must be linked to the purchase order. In a peg distribution, the required quantity of the parent business object is distributed across distribution lines for combinations of project/budget, project element and/or project activity. For example, if a distribution is used to peg the ordered quantity on a purchase order line, the goods are purchased for and the costs are booked to these projects, elements, and activities.

For more information, refer to Project pegging in Procurement.

Specifying cross-docking orders and splitting receipts

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.

Splitting receipts is in fact splitting order lines. If order lines are generated, you can split the order lines into several receipt lines. As a result, multiple receipts take place on one order line. If a cross-docking order exists and a split receipt is required, you can further split a receipt line into several receipts.

For more information, refer to *Cross-docking and splitting deliveries (p. 99)*.

Specifying 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 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 more information, refer to:

- *Direct delivery sales orders (p. 102)*
- *Direct delivery service orders (p. 105)*

Specifying supplier stage payments

Supplier stage payments enable customers to pay suppliers before or after the ordered goods are actually received for a purchase order. The payments are spread over a period of time and the amounts must be paid to the supplier on specific dates. The purchase order item's invoice flow is separated from its goods flow.

Supplier stage payments can be useful for items with characteristics such as long lead, high value, much engineering, and a fixed price. The stage payments can include the dates and events for which the supplier must complete specific tasks before receipt of any goods, such as providing design documents or test results.

For more information, refer to *Supplier stage payments (p. 125)*.

Subcontracted service items on purchase orders

In case of operation subcontracting, purchase orders can include subcontracted service items. These purchase orders can be generated from a production order of from a converted purchase requisition or request for quotation (RFQ) with a linked production order.

For more information, refer to *Subcontracted service items in Procurement (p. 36)*.

Using consigned inventory

If you want to use consigned inventory in the purchase order procedure, you can specify how consigned inventory is handled.

For more information, refer to *Consignment in Sales and Procurement (p. 123)*.

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**. Based on the demand from a sales order, a purchase order of the **Customer Furnished Materials** type is generated by the order plan. This purchase order is used to call off the customer furnished materials that are needed by the production order to produce the customer item. The purchase order inherits the demand peg of the demand order.

For more information, refer to *Customer furnished materials in Sales and Procurement (p. 122)*.

Changing prices and discounts

Changing prices or discounts after receipt or consumption

You can change prices or discounts for purchase orders after receipt or consumption.

Price changes are inserted for purchase order lines, purchase order detail lines, or purchase order back order lines. You can also update the item file with the price changes, which will update the **Purchase Price** field in the Item - Purchase (tdipu0101m000) session. For each subsequent order for the item, the new price is used.

The following restrictions apply for changing prices or discounts:

- If the purchase order originates from a sales or service direct delivery order, the sales or service order is not yet updated.
- If a production order is linked to a purchase order, the production order status is not **Closed**.
- No supplier stage payments are linked to the purchase order line.
- The purchase order line is not processed.
- If payment for the purchase order line is:
  - **Pay on Use**, the invoicing status is not **All Approved**.
  - **Pay on Receipt**, the invoicing status is **Free**.

Change prices or discounts after receipt

In the Change Price and Discounts after Receipt (tdpur4122m000) session, you can change prices or discounts for received purchase order lines.

If you change the price or discount for a purchase order line with payment type **Pay on Receipt** or **Pay on Use** and invoicing status **Free**, LN processes this change as follows:

- **Order line**
  Update the following amounts:
  - Order amount
  - Receipt amount
  - Order line discount amount
  - Order discount amount

  In the following sessions:
  - Purchase Order Lines (tdpur4101m000)
  - Purchase Order Line History (tdpur4551m000), if purchase history maintenance is enabled according to the purchase order parameters in the Purchase Order Parameters (tdpur0100m400) session.
  - Invoice Information on Purchase Orders (tfacp2540m000).
- **Receipts**
  Update the receipts in the Purchase Receipts (tdpur4106m000) session.

  Update the history data in the Purchase Actual Receipt History (tdpur4556m000) session, if purchase history maintenance is enabled according to the purchase order parameters in the Purchase Order Parameters (tdpur0100m400) session.

  Update the invoice information in the Orders by Packingslip (tfacp2543m000) session.
- **Contract and business partner balance**
  Update the purchase contract data. The value of the **Terminate Relation after Order Line Transaction** check box in the Purchase Contract Parameters (tdpur0100m300) session determines how the link with the contract is handled.

  Update the buy-from business partner's balance of unpaid orders in the Invoice-from Business Partner Balances (tccom4523m000) session.

If the payment type is **Pay on Receipt**, LN performs the following updates besides those previously listed:

- **Payable receipt**
  Update the payable receipt in the Purchase Payable Receipts (tdpur4130m000) session.

  Create payment receipt history records in the Purchase Payable Receipt History (tdpur4560m000) session, if purchase history maintenance is enabled according to the purchase order parameters in the Purchase Order Parameters (tdpur0100m400) session.

  Update the receipt information in the Orders by Consumption (tfacp2543m100) session. LN creates a purchase payable receipt record and a consumption record when the receipt for the purchase order line is confirmed.

- **Integration transactions**
  Record the price variance per order line in the Integration Transactions (tfgld4582m000) session.

Note

If the payment type is **Pay on Receipt**, LN creates a purchase payable receipt when the purchase order line is received. Therefore, the purchase payable receipt is updated if a price or discount change is inserted after receipt. If the payment type is **Pay on Use**, the purchase payable receipt is not created until consumption takes place.

If the payment type is **Pay on Use**, LN inserts financial integration transactions in the Integration Transactions (tfgld4582m000) session when consumption takes place, because consumption is the moment that payment is due and price or discount changes affect financial transactions.

If the receipt of a purchase order containing owned inventory is (partially) consumed and the valuation method is moving-average unit cost (mauc), the created inventory variance will be consumed by inventory for the non-consumed part. Therefore, the consumed part will still affect the MAUC value.

Change prices or discounts after consumption

In the Change Price and Discounts of Purchase Payable Receipts (tdpur4132m000) session and the Change Price and Discounts after Receipt (tdpur4122m000) session, you can change prices or discounts for consumed purchase order lines for which the payment type is **Pay on Use**.

If you change the price or discount for a purchase payable receipt with payment type **Pay on Use** and status **Free**, LN processes this change as follows:

- **Payable receipt**
  Update the payable receipt in the Purchase Payable Receipts (tdpur4130m000) session.
- Create payment receipt history records in the Purchase Payable Receipt History (tdpur4560m000) session, if purchase history maintenance is enabled according to the purchase order parameters in the Purchase Order Parameters (tdpur0100m400) session.
- Update the consumption information in the Orders by Consumption (tfacp2543m100) session. If an order line has payment type **Pay on Use**, a purchase payable receipt is created when the inventory received based on the purchase order line is consumed.
- **Integration transactions**
  Record the price variance for the payable receipt in the Integration Transactions (tfgld4582m000) session.
- **Contract and business partner balance**
  Update the purchase contract data. The value of the **Terminate Relation after Order Line Transaction** check box in the Purchase Contract Parameters (tdpur0100m300) session determines how the link with the contract is handled.
- Update the buy-from business partner's balance of unpaid orders in the Invoice-from Business Partner Balances (tccom4523m000) session.

Commingling

Overview of purchase order commingling

To reduce the number of purchase orders and obtain the best available prices and discounts, you can commingle purchase orders. Commingling enables you to group various purchase orders that originate from different sources, into a single purchase order.

You can commingle purchase orders that have the following origins:

- **Maintenance**
- **Project**
- **Warehousing**
- **Service**
- **Contract**
- **Sales**
- **RFQ**
- **Requisition**
- **EP**
- **SFC**
- **Manual**
- **Service Customer Claim**

If you create a purchase order in one of the preceding origins, LN can commingle various purchase orders from different origins in Procurement.

Commingling conditions

Before you can commingle purchase orders, the following must be applicable:

- In the Purchase Order Parameters (tdpur0100m400) session, the **Commingling For** check box is selected for the purchase order's origin.
- In the Item - Purchase Business Partner (tdipu0110m000) session, the **For Commingling** check box is selected for the item and business partner specified on the order line.

Purchase orders for commingling

If the commingling conditions are met, for the purchase orders that are waiting for commingling, the **For Commingling** check box is selected in the following sessions:

- Purchase Orders (tdpur4100m000)
- Purchase Order - Lines (tdpur4100m900)
- Purchase Order Lines (tdpur4101m000)
- Purchase Order Line Details (tdpur4101m200)

To view the purchase orders that are waiting for commingling, filter on the **For Commingling** check box in these sessions.

You must commingle the purchase orders in the Commingle Purchase Orders (tdpur4210m000) session and approve the commingled purchase orders.

Note

- If the commingling conditions are not met, LN generates normal purchase orders.
- You cannot approve purchase orders that are waiting for commingling before they are actually commingled.

Commingling purchase orders

You can commingle purchase orders that have the **Created** status.

To commingle purchase orders, on the appropriate menu of the Purchase Orders (tdpur4100m000) or Purchase Order - Lines (tdpur4100m900) sessions, click **Commingle Purchase Orders**. As a result, the Commingle Purchase Orders (tdpur4210m000) session starts in which you can enter your selection range.

Commingling process

Step 1: Header level commingling

When you click **Commingle** in the Commingle Purchase Orders (tdpur4210m000) session, the purchase order header fields of each purchase order are compared. If the header fields match, LN writes the corresponding lines into one new header. This process is repeated for the next header. If the header fields match, LN copies this header to the previously created header. If the fields do not match, LN creates a new header. This process is repeated for each successive header.

Step 2: Line level commingling

After comparing the order headers, lines are sorted according to purchase order line fields. Lines with, for example, the same **Item**, **Payment**, and **Payment Terms** are commingled into one line and the original lines are stored as line details. Lines that differ only by their details fields are commingled into the same position, but with a different sequence number, because the linked line data differs for the various lines.

If purchase order lines are project pegged, commingling of purchase order lines is subject to project combination checks. Commingling rules regarding project pegging, which you can specify in **Project Pegging** under Common, determine if lines with different pegs can be commingled into one purchase order line. For more information, refer to Project pegging in Procurement.

Prices that you enter on the purchase order are overwritten during the commingling process. If a valid price/discount structure is linked to the order line, for the sum of all the quantities of the different sequence numbers linked to the order line, LN derives the price from Pricing. If you have not defined a valid price/discount structure for the order line, LN derives the price from Item Purchase Data.

If you commingle purchase order lines that are linked to a purchase contract, the lines that are linked to the same contract are commingled. LN derives the price for the commingled order line from the

contract's active purchase contract price revision. If you have not defined a valid contract price revision, LN derives the price from Item Purchase Data.

Step 3: Approval

After both line and header level commingling is carried out, you must approve the commingled order. Next, LN deletes the original order and the concerned LN modules are updated with the new order number. As a result, the status in the linked order line data of those modules is changed to **Approved**.

Copying purchase orders

You can copy existing purchase orders to new ones from the actual orders or the order history.

Copying procedure

You can use the Copy Purchase Order (tdpur4201s000) session to copy existing purchase orders to new purchase orders. To start this session, select an order (line) in the Purchase Orders (tdpur4100m000) or the Purchase Order Lines (tdpur4101m000) session and then click the **Duplicate Record** button.

You can copy only one order at the same time. You cannot copy a range of orders.

Before you can copy, you must select the order lines you want to copy. To select the order lines, click the **Select Lines...** button and select the appropriate order lines. When you click the **Select Lines...** button, one of the following sessions is started:

- **Purchase Order Lines (tdpur4535s000)**
  If you copy from the actual orders
- **Purchase Order History (tdpur4550m000)**
  If you copy from order history

If you do not select the order lines to be copied, you get a message that no order lines are selected to copy from. In this case, nothing is copied.

You must manually specify the planned delivery date for the order. Prices and discounts can be copied or recalculated. If the order to be copied is linked to a contract, you can either leave the contract field blank if it is an invalid contract, or just not copy the order. You can aggregate the receipts (under some circumstances) or you can copy the receipts one by one.

Restrictions to copy orders

You cannot copy all orders in the Copy Purchase Order (tdpur4201s000) session. A number of restrictions apply:

- All applicable checks are identical to those taking place during order (line) entry.
- The supplier of a return order cannot be changed. If the original order is not a return order, the sign in front of amounts and quantities is reversed. The prices, discounts and rates are adopted from the original order.

- Copying to a cost order is only possible if all items on the original order are cost and/or service items.
- Order lines with project items are copied. If a different supplier is issued, the report contains a warning.
- If you copy orders from the history, only turnover lines are included.
- If you copy orders from current orders, LN takes the delivered quantity as its basis if this is filled. If not, the process is based on the order quantity.

Restrictions to copy order lines

There are a number of conditions that must be fulfilled before an order line can actually be copied. An order line cannot be copied if:

- An order line is linked to a project that is not active or that is canceled.
- An item is blocked.
- An item's unit has no conversion factor.
- The order series to copy to is full.
- The order type to copy to is not correct because it is the wrong company, or a collect order is copied when ILC is on.
- The contract of the order to copy from is not correct.
- The order to copy from is not present.
- The history order to copy from has no invoiced lines.
- The receipt date is before the order date.

LN checks all these conditions. A report can be printed to show the result of the copying action.

Cross-docking and splitting deliveries

Cross-docking orders

The following steps must be completed to generate cross-docking orders:

Step 1: To create a cross-docking sales order

To create a cross-docking 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 set to **Cross-docking** in the Sales Order Lines (tdsls4101m000), Delivery Lines (tdsls4101m100), or Sales Order Line Components (tdsls4163m000) session.
  The **Cross-docking** delivery type can be selected as follows in these sessions:
  - Manually, by selecting **Cross-docking**.
  - By selecting **Generate Cross-dock Order** from the Stock 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 with the **Delivery Type** field set to **Warehouse**.

Step 2: To 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 - Activities (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.

Step 3: To 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 or not 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 fill 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.

Step 4: To 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

- **Static cross-docking**
  Static cross-docking means that you cannot maintain the cross-docking order or order lines in Warehousing.
- For static cross-docking, the **Planned Receipt Date** of the purchase order is calculated as follows: **Planned Delivery Date** in the Sales Orders (tdsls4100m000) session + **Cross-dock Lead Time** in the Warehouse - Item (whwmd2110s000) session.

- **Dynamic cross-docking**
  With dynamic cross-docking, you can do the following:
  - Create cross-docking orders and order lines in Warehousing.
  - Change or cancel the cross-docking order and order lines at several moments during the cross-docking process in Warehousing.
  - Let LN automatically create cross-docking orders and/or cross-docking order lines in Warehousing.

Dynamic cross-docking is not further discussed in this topic. For more information, refer to Dynamic cross-docking.

Important!

If the warehouse is WMS controlled, and the **Cross-docking** check box is cleared for the warehouse in the WMS Integration Parameters (whwmd2105m000) session, you cannot generate cross-docking orders.

Splitting deliveries

Splitting deliveries is in fact splitting order lines. If purchase order lines or sales order lines are generated, you can split up the order lines into several delivery lines. As a result, multiple deliveries take place on one order line.

To split deliveries, click:

- **Deliveries** on the appropriate menu of the Sales Order Lines (tdsls4101m000) session. As a result, the Sales Order Line - Deliveries (tdsls4101m900) session starts in which you can enter your data.
- **Order Line Details** on the appropriate menu of the Purchase Order Lines (tdpur4101m000) session. As a result, the Purchase Order Line Details (tdpur4101m200) session starts in which you can enter your data.

Relation between cross-docking and splitting deliveries

If a cross-docking order exists and a split delivery is required, you can further split up a delivery line into several deliveries by selecting:

- **Split Delivery Line** in the Delivery Lines (tdsls4101m100) session.
- **Split** in the Purchase Order Line Details (tdpur4101m200) session.

As a result, the Split Line (tdpur4000s000) session starts in which you can split up the delivery line into several deliveries. As a result, the link between Purchase Control and Sales Control is kept.

Important!

You must make a distinction between splitting a delivery line and adding a delivery line. If you add a delivery line in the Sales Order Line - Deliveries (tdsls4101m900), or the Purchase Order Line Details (tdpur4101m200) session to increase the order quantity, the link between the sales order and the

purchase order is not kept. If you split a delivery line into several deliveries in the Split Line (tdpur4000s000) session, the link between the sales order and the purchase order is kept.

For a cross-docking order several purchase order line details can be linked to one sales order line, or several sales order delivery lines can be linked to one purchase order line. As a result, if you make changes to the sales order (delivery) line, the link with the purchase order line (detail)(s) can be broken. LN breaks the link with the purchase order line (detail)(s), if you change the following fields in the Sales Order Lines (tdsls4101m000) or Delivery Lines (tdsls4101m100) session:

- **Item**
- **E-Item Revision**
- **Lot**
- **Lot Selection**
- **Warehouse**
- **Effectivity Unit**, provided the old and the new effectivity unit are not interchangeable.

Example

If two sales order delivery lines are linked to a purchase order line and you change one of the above mentioned fields of the first sales order delivery line, the link between the first sales order delivery line and the purchase order line is broken. However, the link between the second sales order delivery line and the purchase order line is still kept. When the second sales order delivery line is also disconnected from the purchase order line, LN removes the link between the sales order and the purchase order. As a result, in the Linked Order Line Data (tdsls4102s200) session, the link with purchase is removed.

Note

- If you change sales order lines or purchase order lines that are linked, LN notifies you about the link between the sales order and the purchase order.
- If you cancel or delete sales order lines or purchase order lines that are linked, the link is broken. If you cancel or delete a sales order line for which a purchase order advice exists, the purchase order advice is deleted.

Direct delivery

Direct delivery sales orders

The following steps must be completed to generate and process directly delivery sales orders:

Step 1: To create a direct delivery sales order

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 set to **Direct Delivery** in the Sales Order Lines (tdsls4101m000) session or the 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 in the Item - Sales (tdisa0501m000) session.
- Manually, by selecting **Direct Delivery**.
- By selecting **Generate Direct Delivery Order** from the Stock Shortage Menu (tdsls4830s000) session that appears when an inventory shortage exists for the item.

Step 2: To 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 - Activities (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.

Step 3: To 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 or not 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 fill 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 the following fields from the Purchase Order Parameters (tdpur0100m400) session to generate direct delivery purchase orders:

Order Series for Direct Delivery	**Order Series for Direct Delivery**
Order Type for Direct Delivery	**Order Type for Direct Delivery**

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

Step 4: To 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 enter 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.

Step 5: To communicate the deliveries to Sales Control

Run the Update Sales/Service Order with Delivery Information (tdpur4222m000) session to communicate the item, quantity, lot and serial information back to Sales Control 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 - Deliveries (tdsls4101m900) session and the Sales Order Actual Delivery Lines (tdsls4106m000) session.

Step 6: To send the sales invoice to the sold-to business partner

After receipts are booked in Purchase Control and communicated to Sales Control by means of the Update Sales 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.

Step 7: To process a direct delivery order

Like all order types, you must process the purchase order in the Process Purchase Orders (tdpur4223m000) session and the sales order in the Process Delivered Sales Orders (tdsls4223m000) session.

Direct delivery and 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 - Lines (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.

Direct delivery and freight orders

If you want to use Freight to manage and plan your direct deliveries, you can generate freight orders for direct deliveries.

Direct delivery and backorders

After deliveries are communicated to Sales Control and less is received than ordered, a confirmed backorder is generated automatically in Purchase Control, irrespective of the setting of the **Confirm Back Orders Automatically** check box in the Purchase Order Parameters (tdpur0100m400) session. Whether or not you must first manually confirm the backorder in Sales Control, depends on the setting of the **Confirm Back Orders Automatically** check box in the Sales Order Parameters (tdsls0100s400) session.

Note

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

Direct delivery service orders

The following steps must be completed to generate and process directly delivery service orders:

Step 1: To create a direct delivery service order

1. Define a service order and link activities to the service order in the Service Order - Lines (tssoc2100m100) session.
2. Enter a direct delivery line in the Service Order Estimated Material Costs (tssoc2120m000) session with the **Delivery Type** field set to **Supplier Direct Delivery**.

At this stage the service order has the **Free** status.

Step 2: To plan the service order

Use the Run Global SRP (tssoc2260m000) session to plan the service order.

LN defaults the following fields from the Purchase Order Parameters (tdpur0100m400) session to the **Direct Delivery** group box in the Run Global SRP (tssoc2260m000) session:

- **Order Series for Direct Delivery**
- **Order Type for Direct Delivery**

Step 3: To generate and approve a direct delivery purchase order

When the service order receives the **Planned** status, a direct delivery purchase order is generated automatically in the Purchase Order - Lines (tdpur4100m900) session based on the order type and series from the Purchase Order Parameters (tdpur0100m400) session. You must approve the purchase order.

Step 4: To release the service order

Release the service order in the Release Service Orders (tssoc2200m000) session. You cannot receive the direct delivery purchase order before the service order has the **Released** status.

Step 5: To receive the direct delivery order

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

You cannot *confirm* receipts in the Purchase Receipts (tdpur4106m000) session before:

- The linked service order has the **Released** status.
- The lot and serial set, if lots and serials must be registered, is complete.

Step 6: To communicate the deliveries to Service

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

Step 7: To complete the service order

After all goods are received and all activities are completed on the service order, you can change the service order status to **Completed**.

Step 8: To send the invoice to the sold-to business partner

After receipts are booked in Purchase Control and communicated to Service by means of the Update Sales/Service Order with Delivery Information (tdpur4222m000) session, you can invoice the service order with the **Costed** status. You can set the service order status to **Costed** in the Cost Service Orders (tssoc2290m000) session.

Step 9: To process a direct delivery order

Like all order types, you must process the purchase order in the Process Purchase Orders (tdpur4223m000) session and the service order in the Close Service Orders and Copy to History (tssoc2201m000) session.

Direct delivery and return orders

Service engineers who carry out repairs at your sold-to business partner's site, might not use all the parts that are received for the direct delivery service order. In this case, you can directly return the unused materials to the buy-from business partner or to your own warehouse by means of a direct delivery return order.

After a service order is set to **Completed**, and the **Actual Quantity** is reduced in the Service Order Actual Material Costs (tssoc2121m000) session, use the **Return Not Consumed Items Direct to Supplier** check box to indicate whether you want to return the excess quantity either to your company's warehouse or directly to the buy-from business partner.

If parts must be returned to the supplier on completing the order, which you can indicate by selecting the **Return Not Consumed Items Direct to Supplier** check box and defining a **Return Reason** in the Service Order Actual Material Costs (tssoc2121m000) session, another material line is automatically generated with the **Delivery Type** field set to **Supplier Direct Return**. Next, a direct delivery return purchase order is generated automatically in the Purchase Order - Lines (tdpur4100m900) session, based on the **Return Order Type for Direct Deliveries** field in the Purchase Order Parameters (tdpur0100m400) session.

Direct delivery and freight orders

If you want to use use Freight to manage and plan your direct deliveries, you can generate freight orders for direct deliveries.

For more information, refer to To generate freight orders for direct delivery service orders.

Direct delivery and back orders

After a service order is set to **Completed**, and less is received than ordered, a confirmed back order is generated automatically irrespective of the setting of the **Confirm Back Orders Automatically** check box in the Purchase Order Parameters (tdpur0100m400) session.

Note

- You can change the back order quantity, delivery date, and delivery address in Service until receipts are executed.
- You can also generate a freight order for a direct delivery back order.
- You cannot cancel a direct delivery back order in Purchase Control. You must change the **To be Delivered** quantity to zero in the Service Order Actual Material Costs (tssoc2121m000) session.
- You can only delete a direct delivery back order in Purchase Control. However, the deletion is not communicated to Service.

Procurement and Freight

Integration Freight Order Control and Procurement

For companies that want to do their own freight planning, an integration is available between Freight Order Control and Procurement to generate freight orders from purchase orders.

Freight orders can be generated from purchase orders that are manually created, generated by LN, or from purchase orders that originate from a converted supplier quotation.

Quotation settings

To enable the generation of freight orders from purchase orders that originate from a converted supplier quotation and to provide the necessary freight-related information when the quotation is converted to a purchase order, specify the following fields in the Buy-from BP - Quotation (tdpur1506m000) session:

- Select the **Generate Freight Orders** check box.
- Enter a service level in the **Service Level** field if you want the same service level to be used in the freight order as in the purchase order.
- Select the **Carrier Binding** check box if you want the same carrier to be used in the freight order as in the purchase order.
- Enter a date in the **Planned Receipt Date** field, which must be considered as the unload date.

Note

Freight orders cannot be generated from quotations, but only from purchase orders. In the Buy-from BP - Quotation (tdpur1506m000) session, you define all freight-related data to provide the necessary information when the quotation is converted into a purchase order in the Convert Quotations to Contracts/Orders/Price Books (tdpur1202m000) session.

Purchase order settings

To enable the generation of freight orders from purchase orders that are manually created or generated by LN, the following settings must be applied in the Purchase Order Lines (tdpur4101m000) session, or the Purchase Order Line Details (tdpur4101m200) session:

- The **Generate Freight Orders from Purchase** check box must be selected.
- The **Carrier Binding** check box must be selected if you want the same carrier to be used in the freight order as in the purchase order.
- A service level must be entered in the **Service Level** field if you want the same service level to be used in the freight order as in the purchase order.
- A date must be entered in the **Planned Receipt Date** field. If the purchasing company is responsible for transportation, you must consider this as the unload date, the date when the goods must be available in the warehouse.
- A planned load date must be entered in the **Planned Load Date** field. If the purchasing company is responsible for transportation, this is the date on which the suppliers must be ready with the goods on their site. This date can also be considered as the shipment date.

To generate freight orders from purchase orders

The **Generate Freight Orders** check box in the Item - Purchase Business Partner (tdipu0110m000) initially determines whether freight orders must be generated for a specific combination of item and purchase business partner. You can, however, always determine not to generate, or to generate a freight order for an individual purchase order (detail) line by clearing or selecting the **Generate Freight Orders from Purchase** check box on the purchase order (detail) line. In the Purchase Order Type - Activities (tdpur0560m000) session, you can define how freight orders are generated.

If the **Generate Freight Orders** check box is selected in the Item - Purchase Business Partner (tdipu0110m000) session and a purchase order is generated for the item – purchase business partner

combination, after approval, LN checks whether Generate Freight Orders (tdpur4220m000) is linked as an activity to the order type in the Purchase Order Type - Activities (tdpur0560m000) session to determine the freight order generation method.

Note

If Generate Freight Orders (tdpur4220m000) is linked as an activity to the order type in the Purchase Order Type - Activities (tdpur0560m000) session and a purchase order is generated, the activity *Generate Freight Orders* is linked to the purchase order (detail) line in the Purchase Order Line Status (tdpur4534m000) session. In addition, you can view the activity's execution mode and status in the Purchase Order Line Status (tdpur4534m000) session. However, if you decide to clear the **Generate Freight Orders** check box on the purchase order (detail) line, LN removes the activity *Generate Freight Orders* from the Purchase Order Line Status (tdpur4534m000) session.

When a freight order is generated from a purchase order (detail) line, the freight order has the status **Expected**. The information that goes to the freight order contains purely shipping related data, such as planned dates, addresses, shipping constraints, carrier, route, delivery terms, and planning responsibility. If a load plan is created for the freight order, the freight order has the status **Planned**. The load plan can only be made actual in Freight, and the freight order can receive the status **Actual**, when the purchase order (detail) line is released to Warehousing.

If the freight order has the status **Planned**, on the appropriate menu of the Purchase Order Lines (tdpur4101m000) session or the Purchase Order Line Details (tdpur4101m200) session, click:

- **Freight Details**, to start the Freight Details (fmlbd3552m000) session, or the Freight Details (fmfoc3501m000) session. In these sessions, you can view freight details, such as information about shipments and loads, the used carrier, the dates that the shipments will be executed and the quantities to be shipped.
- **Purchase Order Line - Linked Information**, to start the Purchase Order Line - Linked Information (tdpur4502s000) session. In this session, you can view linked freight orders.

Note

If you want to modify, block, delete or cancel a purchase order and linked freight order, the status of the corresponding freight order must be **Expected**, **Planned**, or **Actual**.

After the **Planned Receipt Date** is entered on the purchase order (detail) line, Freight determines if the transportation lead time is sufficient to deliver the goods in time. If not, a signal is sent back to the purchase order (detail) line and the user must either change the **Planned Receipt Date** or select another carrier. It occurs that, due to the type of transport or the availability of the carrier, the **Planned Receipt Date** differs from the date as entered on the purchase order (detail) line. If you click Printing in the Purchase Orders (tdpur4100m000) session and select **Print with Deviation in the Shipment Dates(Dummy for FM)**, the Print Orders with Deviating Shipment Dates (fmlbd3450m000) session starts. In this session, you can generate a difference report that provides an overview of all orders for which the dates from the origin are not the same as those in the load plan of Freight.

Integration freight invoicing and purchase invoicing

If a purchasing 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 purchasing company. The freight rate that a company must pay to the carrier is called freight costs.

Master data

To invoice your external business partner for freight, you must define the following master data:

- In the Buy-from Business Partners (tccom4120s000) session, select the **Invoice BP for Freight** check box to indicate that you want the business partner to pay for the freight costs you make. This check box is used as a default for the **Invoice External BP** field in the Purchase Orders (tdpur4100m000) session, and the **Invoice External BP** field in the Request for Quotation - Buy-from BP (tdpur1505m000) session, but can be overwritten in these sessions.
- In the Invoice-to Business Partners (tccom4112s000) session, define the **Invoice for Freight Based On** field as:
  - **Freight Costs**
    If you want the freight costs for a 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.
- If the **Invoice for Freight Based On** field is **Freight Costs** or **Freight Costs (Update Allowed)**, in the Invoice-to Business Partners (tccom4112s000) session, you can define the following fields to add a cost plus amount or a cost plus percentage to the invoice:
  - **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.

Note

The **Invoice for Freight Based On** field is used as a default for the **Freight Costs Based On** field in the Purchase Orders (tdpur4100m000) session and the **Freight Costs Based On** field in the Request for Quotation - Buy-from BP (tdpur1505m000) session, but can be overwritten in these sessions.

Explanation of 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

Freight calculates the freight invoice amount 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 every time a change is made to the shipment/load. Freight releases the freight invoice to Invoicing.

Freight Costs (update allowed)

Freight prorates the freight amount for the purchase order (estimated freight costs) based on the entire load in Freight. It occurs that, when Freight releases the freight invoice with the estimated freight costs to Invoicing, the invoice is sent before the actual costs are received from the carrier. In other words, first the estimated freight costs are determined, based on the carrier rate books as stored in Pricing. In a later stage, after the carrier invoice is received and matched in Accounts Payable, the actual costs can be entered. As a result, you can invoice your business partner the difference between the estimated costs and the actual costs.

Note

If you want to invoice your business partner with the difference, LN can generate an additional invoice. The invoice is based on the data you enter in the **If amount greater than**, or the **If greater than** field of the Freight Invoicing Parameters (fmfri0100m000) session.

Client Rates

If the invoicing method is **Client Rates**, the 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.

Procurement and Depot Repair

To purchase additional parts

If a department that carries out indoor repairs or upgrades is not equipped with all the necessary parts and needs additional parts from a third party, a purchase order must be created from a work order.

Step 1: To create a work order

You can create a work order in the Work Orders (tswcs2100m000) session. Enter an item for which you need additional parts. On the appropriate menu you can choose **Material Resources** to add material resources (= lines) to the work order. As a result, the Work Order Material Resources (tswcs4110m000) session starts. Enter an item and select **Via Purchase** in the **Delivery Type** field to determine that it is Purchase Control that commits the materials to the work order.

You can also define activities for a work order. After you created the work order header, on the appropriate menu of the Work Orders (tswcs2100m000) session, click **Work Order Activities**. As a result, the Work Order Activities (tswcs2110m000) session starts, in which you can create and maintain work order

related lines that each specify a maintenance activity. On the appropriate menu of the Work Order Activities (tswcs2110m000) session, click **Material Resources** to add material resources to the work order activity. In the Work Order Material Resources (tswcs4110m000) session, you must enter an item and select **Via Purchase** again in the **Delivery Type** field.

The date you enter in the **Earliest Start** field or the **Planned Start** field of the Work Orders (tswcs2100m000) session is displayed as the planned delivery date in the purchase order.

Step 2: To plan a work order

Plan the work order in the Work Order Planning/Releasing (tswcs3200m000) session to generate a purchase order. If the work order is released successfully, the work order has the status **Planned** and a purchase order is generated with order type **Maintenance**. This can be viewed in the **Purchase Order** field of the Purchase Orders (tdpur4100m000) session.

On the appropriate menu of the Purchase Order Lines (tdpur4101m000) session, you can click **Purchase Order Line - Linked Information**. As a result, the Purchase Order Line - Linked Information (tdpur4502s000) session starts in which you can find the original maintenance work order.

Step 3: To commit inventory for a work order

The receipts for additional parts are carried out in Warehousing. When you add lines to the work order in the Work Order Material Resources (tswcs4110m000) session, you must define the **Warehouse** field and select the **Commitment Required** check box. As a result, a purchase receipt automatically results into an inventory commitment for the work order in Warehousing. Warehousing commits the received quantity until the total required quantity is committed for the order.

In the Purchase Order Lines (tdpur4101m000) session, the following fields provide information about the commitment of goods:

- **Allocated Inventory**
- **Committed Inventory**

Purchasing subcontracting items

If a department that is responsible for the repairs or upgrades in an organization hires another company (the subcontractor) to carry out the repairs or upgrades, a purchase order must be created from a work order.

Step 1: To create a work order

You can create a work order in the Work Orders (tswcs2100m000) session. Enter an item for which the repairs or upgrades must be carried out by a subcontractor. The following fields in the Work Orders (tswcs2100m000) session must be defined for a work order for subcontracting:

- **Buy-from BP**
  Enter the subcontractor that must execute the work.

- **Service/Cost Item**
  Enter the subcontracting item. Because you cannot add activities to a purchase order line, the service item or cost item is used as an activity definition for Purchase Control.

On the appropriate menu of the Work Orders (tswcs2100m000) session, you have the following options:

- **Material Resources**
  Adds additional materials to the work order that must be sent to the buy-from business partner. If you click this command, the Work Order Material Resources (tswcs4110m000) session starts. Enter an item and notice that the **Delivery Type** field is filled with **Subcontracting Requirement**. For these lines, no purchase orders are created. The lines are only available for information purposes and are added to the purchase order text.
- **Other Resources**
  Adds other resources to the work order. The other resources serve to make a good cost estimation and/or to store actual costs, which are used in the purchase order. When you release a work order for subcontracting, LN automatically generates one other resource line. If you click this command, the Work Order Other Resources (tswcs4130m000) session starts. In the **Item** field, you can only enter cost items or service items.

Note: Only one other resource line is added to the work order. You cannot manually add other resource lines.

You can also define activities for a work order for subcontracting. After you created the work order header, on the appropriate menu of the Work Orders (tswcs2100m000) session, click **Work Order Activities**. As a result, the Work Order Activities (tswcs2110m000) session starts in which you can create and maintain work order related lines that each specify a maintenance activity. When the work order is released, LN automatically generates one other resource line for every activity. On the appropriate menu of the Work Order Activities (tswcs2110m000) session, click **Other Resources** to add other resources/change the cost price and click **Material Resources** to add material resources to the work order activity.

The date you enter in the **Earliest Start** field or the **Planned Start** field of the Work Orders (tswcs2100m000) session is displayed as the planned delivery date in the purchase order.

Step 2: To plan and release a work order

Plan and release the work order in the Work Order Planning/Releasing (tswcs3200m000) session to generate a purchase order. If the work order is released successfully, the work order has the status **Released** and a purchase order is generated with order type **Maintenance**. This can be viewed in the **Purchase Order** field of the Purchase Orders (tdpur4100m000) session.

On the appropriate menu of the Purchase Order Lines (tdpur4101m000) session, click **Purchase Order Line - Linked Information**. As a result, the Purchase Order Line - Linked Information (tdpur4502s000) session starts in which you can find the original maintenance work order.

Step 3: To inform Work Control System about the receipt of the subcontracting item

For a subcontracting item, which is of the type cost or service, the receipts for a purchase order can be carried out in Purchase Control or Warehousing. If you want the receipts to be made in Purchase Control, you must clear the **Release to Warehouse** check box in the Item - Purchase (tdipu0101m000) session.

If you decide to receive the goods in Purchase Control, Purchase Control must inform Work Control System about the receipt of the goods. When you enter the receipt of goods in the Purchase Receipts (tdpur4106m000) session, LN automatically informs Work Control System by giving the work order the status **Completed**.

Backorders

Backorders - automatic confirmation

If the **Confirm Back Orders Automatically** check box is selected in the Purchase Order Parameters (tdpur0100m400) session, LN automatically confirms backorders.

Received quantity is less than ordered

A distinction is made for items that are received for:

- Regular purchase orders
- Direct delivery purchase orders

Note

For regular purchase orders, the **Combine Open Backorders** check box in the Purchase Order Types (tdpur0194m000) session determines whether or not several backorder lines are consolidated into one open backorder line for a purchase order line detail.

Regular purchase orders

If you enter a purchase order and release it to Warehousing, its status is **In Process**. After the purchase order is released to Warehousing, receipts are carried out in the Warehouse Receipts (whinh3512m000) session. On the **Lines** tab of this session, you must enter the quantity of goods received in the **Received Quantity in Receipt Unit** field. If the expected quantity is more than the received quantity and the receipt is final and confirmed, LN generates a backorder and automatically confirms the backorder.

When the backorder is confirmed, LN generates a new purchase order line (with the same position number as the original line, but with another sequence number) of **Line Type** **Back Order**. When this backorder is confirmed, the purchase backorder line is automatically released to Warehousing. The original purchase order status still is **In Process**. After the receipt is carried out, the normal procedure for the purchase order type applies.

Direct delivery purchase orders

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

If less is received than ordered:

1. A backorder is generated automatically in Sales Control or from Service. If a backorder is generated in Sales Control, you must first confirm the backorder (sequence) line manually in

the Maintain and Confirm Back Orders (tdsls4125m000) session, or LN automatically confirms the backorder if the **Confirm Backorders Automatically** check box is selected in the Sales Order Parameters (tdsls0100s400) session.

2. A confirmed backorder is generated automatically in Purchase Control, irrespective of the setting of the **Confirm Back Orders Automatically** check box in the Purchase Order Parameters (tdpur0100m400) session. If the direct delivery applies to a sales order, the backorder is linked to the backorder in Sales Control.
3. After a (direct delivery) backorder is generated in Purchase Control, the normal procedure for the purchase order type applies.

Received quantity is (partially) rejected

If inspection is required on the goods, first receipts are carried out in the Warehouse Receipts (whinh3512m000) session and then the goods must be inspected in the Warehouse Inspections (whinh3122m000) session. If the goods are rejected during inspection and the **Inventory Disposition** check box is cleared in the Inventory Handling Parameters (whinh0100m000) session, a backorder is created for the rejected items.

Note

If the **Inventory Disposition** check box is selected in the Inventory Handling Parameters (whinh0100m000) session, you must pay for the items after receipt, even if they must still be inspected. If, in Warehousing, these items are rejected during inspection and returned to the supplier by means of a **Return Rejects** purchase order, the supplier must be invoiced for the returned rejected goods. Because Warehousing does not communicate rejections for disposition items to the purchase order line, no backorder is created.

Backorder lines that are the result of rejection during inspection cannot be automatically confirmed and always result into a potential backorder. The reason for this is that a user must have the time to decide how to handle the rejected inventory that is stored in the reject location of the warehouse, which can also be accepted again.

Rejected quantity that is present at the reject location, can be:

- Returned
- Destroyed
- Accepted again

Potential backorders can be manually confirmed in the Potential Purchase Back Orders (tdpur4101m700) session. Confirmation can occur before or after a user has decided how to handle the rejected inventory at the reject location. However, if (part of) the rejected goods are accepted again, a user can first adapt the **To be Confirmed Backorder Quantity** and then confirm the potential backorder.

The following applies to the original purchase order line (detail):

- If rejected goods are accepted again in the Rejected Inventory (whwmd2570m000) session, a new receipt is executed for the original purchase order line (detail) and the **Rejected Quantity** is reduced with the accepted quantity.

- The original purchase order line (detail) can only be processed in the Process Purchase Orders (tdpur4223m000) session if the total received quantity is inspected and rejected goods are no longer present at the reject location.
- The invoicing status, which is displayed in the **Invoicing Status** field of the Purchase Order Lines Monitor (tdpur4501m500) session, can only be set to **All Approved** if rejected goods are no longer present at the reject location. If rejected goods are still present, the goods can be accepted again, after which they must be invoiced.

Note

You can view:

- The ordered quantity, received quantity, rejected quantity (destroyed and returned), quantity on the reject location, backorder quantity, and the most recent receipt number in the following sessions:
  - Potential Purchase Back Orders (tdpur4101m700)
  - Purchase Orders - Receipt Overview (tdpur4531m000)
  - Purchase Order Lines (tdpur4101m000)
- The confirmed backorders for the purchase orders in the Confirmed Purchase Back Orders (tdpur4101m800) session.

Planned inventory transactions for backorders

When a backorder is generated, LN creates a planned inventory transaction in the Planned Inventory Transactions (whinp1500m000) session and the Order - Planned Inventory Transactions (whinp1501m000) session. The value of the **Planned Quantity** field in these sessions is equal to the quantity that is expected to be received on the backorder.

Backorders - manual confirmation

If the **Confirm Back Orders Automatically** check box is cleared in the Purchase Order Parameters (tdpur0100m400) session, you must manually confirm potential backorders.

Potential backorders

Potential backorders are stored in the Potential Purchase Back Orders (tdpur4101m700) session. In this session, you can retrieve all information you need for internal investigation and external negotiation. LN displays all purchase orders whose backorder quantity is greater than zero and whose backorder is not confirmed yet. You can modify the potential backorder details, such as the backorder quantity and the backorder's delivery date, and must confirm the potential backorder in this session.

Received quantity is less than ordered quantity

If you enter a purchase order and release it to Warehousing, its status will be **In Process**. After the purchase order is released to Warehousing, receipts are carried out in the Warehouse Receipts (whinh3512m000) session. On the **Lines** tab of this session, you must enter the quantity of goods received in the **Received Quantity in Receipt Unit** field. If the expected quantity is less than the received

quantity and the receipt is final and confirmed, LN generates a potential backorder in the Potential Purchase Back Orders (tdpur4101m700) session.

After you confirm the potential backorder, LN generates a new purchase order line (with the same position number as the original line, but with another sequence number) of **Order Line Type** **Back Order**. When the backorder is approved, the purchase (back)order line is automatically released to Warehousing. The original purchase order's status still is **In Process**. After the receipt is performed, the normal procedure for the purchase order type applies.

Received quantity is (partially) rejected

If inspection is required on the goods, first receipts are carried out in the Warehouse Receipts (whinh3512m000) session and then the goods must be inspected in the Warehouse Inspections (whinh3122m000) session. If the goods are rejected during inspection and the **Inventory Disposition** check box is cleared in the Inventory Handling Parameters (whinh0100m000) session, a backorder is created for the rejected items.

Note

If the **Inventory Disposition** check box is selected in the Inventory Handling Parameters (whinh0100m000) session, you must pay for the items after receipt, even if they must still be inspected. If, in Warehousing, these items are rejected during inspection and returned to the supplier by means of a **Return Rejects** purchase order, the supplier must be invoiced for the returned rejected goods. Because Warehousing does not communicate rejections for disposition items to the purchase order line, no backorder is created.

Backorder lines that are the result of rejection during inspection cannot be automatically confirmed and always result into a potential backorder. The reason for this is that a user must have the time to decide how to handle the rejected inventory that is stored in the reject location of the warehouse, which can also be accepted again.

Rejected quantity that is present at the reject location, can be:

- Returned
- Destroyed
- Accepted again

Potential backorders can be manually confirmed in the Potential Purchase Back Orders (tdpur4101m700) session. Confirmation can occur before or after a user has decided how to handle the rejected inventory at the reject location. However, if (part of) the rejected goods are accepted again, a user can first adapt the **To be Confirmed Backorder Quantity** and then confirm the potential backorder.

The following applies to the original purchase order line (detail):

- If rejected goods are accepted again in the Rejected Inventory (whwmd2570m000) session, a new receipt is executed for the original purchase order line (detail) and the **Rejected Quantity** is reduced with the accepted quantity.
- The original purchase order line (detail) can only be processed in the Process Purchase Orders (tdpur4223m000) session if the total received quantity is inspected and rejected goods are no longer present at the reject location.

- The invoicing status, which is displayed in the **Invoicing Status** field of the Purchase Order Lines Monitor (tdpur4501m500) session, can only be set to **All Approved** if rejected goods are no longer present at the reject location. If rejected goods are still present, the goods can be accepted again, after which they must be invoiced.

Note

You can view:

- The ordered quantity, received quantity, rejected quantity (destroyed and returned), quantity on the reject location, backorder quantity, and the most recent receipt number in the following sessions:
  - Potential Purchase Back Orders (tdpur4101m700)
  - Purchase Orders - Receipt Overview (tdpur4531m000)
  - Purchase Order Lines (tdpur4101m000)
- The confirmed backorders for the purchase orders in the Confirmed Purchase Back Orders (tdpur4101m800) session.

Planned inventory transactions for backorders

When a backorder is generated, LN creates a planned inventory transaction in the Planned Inventory Transactions (whinp1500m000) and the Order - Planned Inventory Transactions (whinp1501m000) sessions. The **Planned Quantity** field in these sessions is equal to the quantity that is expected to be received on the backorder, even if the backorder is not confirmed yet. If you change the backorder quantity in the Potential Purchase Back Orders (tdpur4101m700) session and confirm the potential backorder, the changed quantity is recorded as the planned quantity.

Example

Order quantity = 10

Received quantity	Rejected quantity	Backorder confirmed	Backorder quantity	Planned inventory transaction
7	0	No	-	3
7	0	Yes	3	3
7	2	No	-	5
7	2	Yes	5	5
7	2	Yes	3	3

For the example's last line, the backorder quantity is changed manually in the Potential Purchase Back Orders (tdpur4101m700) session.

Purchase return orders

A return order is a purchase order on which returned shipments are reported. A return order can only contain negative amounts. With a purchase return order, you can send back inventory units or return rejected goods to the supplier. Most of the time, these goods are rejected during inspection.

Return order settings

Before you can use return orders, you must complete these steps.

Step 1: Define a purchase order type for return orders

Define a purchase order type for return orders in the Purchase Order Types (tdpur0194m000) session. The **Return Order** field for this order type must be set to **Return Inventory** or **Return Rejects**.

If the **Direct Delivery** check box is selected for the order type, you can only select **Return Inventory** from the **Return Order** field.

Step 2: Link a warehousing order type to the purchase order type

Link a warehousing order type to the return order type in the **Warehousing Order Type** field of the Purchase Order Types (tdpur0194m000) session. You must select a warehousing order type for which the **Inventory Transaction Type** reads **Issue** in the Warehousing Order Type (whinh0110m000) session.

If you want the received goods to be inspected, you must select a warehousing order type with an inspection procedure linked to it.

If the **Direct Delivery** check box is selected for the purchase order type, you cannot select a warehousing order type.

Step 3: Link activities to the return order type

You must link activities to the order type in the Purchase Order Type - Activities (tdpur0560m000) session.

LN automatically links the following mandatory activities to the return order type:

- Release Purchase Orders to Warehousing (tdpur4246m000)
- Purchase Receipts (tdpur4106m000)
- Process Purchase Orders (tdpur4223m000)

Step 4: Enable inspection

If you want purchase orders and purchase return orders to be inspected, select the **Inspection** check box in the Purchase Order Lines (tdpur4101m000) session.

Return order procedure

Step 1: Purchase Orders (tdpur4100m000)

1. Create a purchase order header with a purchase order type for return orders.
2. Define the **Original Document Type** field.
3. Define the **Original Document No** field.
4. Define the return reason for the return order in the **Return Reason** field.
   If the return order type is:
   - **Return Inventory**, the reason type must be **Return of Goods**.
   - **Return Rejects**, the reason type must be **Rejection of Goods**.
5. If you created a link between a return order and an original document number, you can click **Copy from Orig Doc** on the appropriate menu. As a result, a session is started from which you can copy lines to the return order. The lines that are added to the purchase order have a negative quantity and a negative amount. If desired, you can change these lines.

If you created a link between a return order and an original document number, you can still manually add purchase order lines for return orders of the **Return Inventory** order type. For return orders of the **Return Rejects** order type, this is not allowed.

Step 2: Release Purchase Orders to Warehousing (tdpur4246m000)

After the purchase return order is approved, release the order to Warehousing. As a result, the purchase order status is **In Process** and the activity status in the Purchase Order Line Status (tdpur4534m000) session reads *Awaiting Shipment*.

Step 3: Generate Outbound Advice (whinh4201m000)

If the **Include Return Orders** check box is selected in this session, LN generates an advice for the outbound and shipment for the quantity that must be returned.

Step 4: Process Purchase Orders (tdpur4223m000)

After the shipping process is executed by Warehousing, the purchase order status still is **In Process**, but the activity status in the Purchase Order Line Status (tdpur4534m000) session reads *Process Purchase Orders*. As a result, you must process the return order in the Process Delivered Purchase Orders (tdpur4223m000) session.

Returning pegged goods

Specific conditions are applicable for returning pegged goods.

Return inventory

If a return order line is linked to an original document, the linked peg distribution is copied. If a return order line is not linked to an original document, you can manually specify a peg distribution for the return order line.

You can manually update a copied peg distribution. The return order line's pegs can differ from the pegs on the original document.

If two purchase return order lines are linked to a specific original schedule line/schedule receipt line, for both order lines, the same return order quantity and peg distribution are defaulted. As a result, you must manually decrease the return order quantity and update the peg distribution.

Return rejects

A return rejects order line is always linked to an original document with a rejected quantity.

If inventory disposition is not applicable, rejected goods are customer owned and are not pegged. As a result, no peg distribution can be linked to the return order line.

If inventory disposition is applicable, the rejected goods are stored in inventory, are company owned, and can be pegged, which means the original peg distribution is copied.

The return order line retrieves its rejected quantity and pegs from Warehousing. If two purchase return order lines are linked to a specific original schedule line/schedule receipt line, for both order lines, the same return order quantity and peg distribution are defaulted. As a result, you must manually decrease the return order quantity, after which Warehousing updates the peg distribution with the new quantity. Warehousing knows which rejected goods must be returned first.

You can manually update the peg distribution, but the peg distribution of a return rejects order line must be available as rejected inventory in the warehouse of the order line.

Note

- If you want to notify a supplier about the return of the goods, you can add the Print Return Notes (tdpur4411m000) session as an activity to the order type in the Purchase Order Type - Activities (tdpur0560m000) 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.

Customer furnished materials in Sales and Procurement

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**. This functionality must be used in combination with demand pegging.

Customer furnished materials - Sales

If you use customer furnished materials with demand pegging, you specify the customer furnished materials in the Bill of Material (tibom1110m000) session. 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.

Note

If a sales order line contains customer furnished materials, the **Contains Customer Furnished Material** is selected in the Sales Order Lines (tdsls4101m000) session.

Customer furnished materials - Procurement

Before customer furnished material (CFM) purchase orders can be generated, you must specify the following master data:

- In the Purchase Order Type - Activities (tdpur0694m000) session, select the **Customer Furnished Materials** check box for the order type and link activities to the order type.
- In the Purchase Order Parameters (tdpur0100m400) session, specify the default **Order Series for Customer Furnished Materials** and **Order Type for Customer Furnished Materials** fields to generate CFM orders from Enterprise Planning.

Based on the demand from a sales order, a purchase order of the **Customer Furnished Materials** type is generated by the order plan. This purchase order is used to call off the customer furnished materials that are needed by the production order to produce the customer item. The purchase order inherits the demand peg of the demand order.

The following are applicable to the lines of a customer furnished materials purchase order:

- The **Payment** field is **No Payment**
- Because the customer or its supplier furnishes the materials, the customer or supplier is specified in the **Buy-from Business Partner** field.
- Because the customer is the owner of the item, the customer is specified in the **Owner** field.

- The line contains a specification (demand peg).

Note

You cannot manually specify CFM purchase orders.

Consignment in Sales and Procurement

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

Note: Both setups can be used in Vendor managed inventory (VMI).

Extended consignment

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

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

For each consumption, the following is generated:

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

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

Note

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

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

Basic consignment

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

Specify the following:

- **Purchase order procedure**
  In the Purchase Order Type - Activities (tdpur0694m000) session, create separate **Consignment Replenishment** and **Consignment Payment** order types and define their activities. Enter the order types in the **Order Type for Consignment Replenishment** and **Order Type for Consignment Payment** fields of the Purchase Order Parameters (tdpur0100m400) session.
- **Purchase schedule procedure**
  Select the **Consigned** check box in the Purchase Contract Lines (tdpur3101m000) session.
- In the **Price Determination Based On** field of the Purchase Order Parameters (tdpur0100m400) session, define how the price for the payment of consignment inventory is determined.
- **Sales order procedure**
  In the Sales Order Type - Activities (tdsls0694m000) session, create separate **Consignment Replenishment** and **Consignment Invoicing** order types and define their activities.

Consignment replenishment

If consigned inventory must be replenished:

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

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

Consignment payment/invoicing

If consigned inventory is used:

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

Supplier stage payments

Stage payments enable customers to pay suppliers before or after the ordered goods are actually received for a purchase order. The payments are spread over a period of time and the amounts must be paid to the supplier on specific dates. The purchase order item's invoice flow is separated from its goods flow.

Supplier stage payments can be useful for items with characteristics such as long lead, high value, much engineering, and a fixed price. The stage payments can include the dates and events for which the supplier must complete specific tasks before receipt of any goods, such as providing design documents or test results.

Example

Stage payment line	Description	Due date	Amount
1	Deliver final design	1 January	300k
2	Deliver final test results	31 July	400k
3	Receipt and inspection	31 December	300k

Note

You cannot use supplier stage payments in combination with:

- Purchase schedules
- Purchase return orders

- Consignment replenishment and consignment payment orders
- Self billed purchase order lines
- Additional cost lines
- Customer furnished material
- Budget control
- Price and discounts changes after receipt

Master data

Before you can use supplier stage payments, you must select the **Supplier Stage Payments** check box in the Implemented Software Components (tccom0500m000) details session.

Optionally, you can specify the following master data, which are used for defaulting:

1. In the Items - Purchase (tdipu0101m000) session, select the **Invoice by Stage Payments** check box for the item.
2. Specify supplier stage payment schedules in the Stage Payment Schedule (tcmcs2640m000) session, which can be used to easily copy a set of stage payment lines to RFQ responses and purchase order lines.
3. In the Items - Purchase Business Partner (tdipu0110m000) session, select the **Invoice by Stage Payments** check box for the item-purchase business partner combination.
4. If stage payment lines must be automatically generated when you save a record in the RFQ Responses (tdpur1506m000) or Purchase Order Lines (tdpur4101m000) sessions for the item-purchase business partner combination, specify a default stage payment schedule in the **Stage Payment Schedule Set** field of the Items - Purchase Business Partner (tdipu0110m000) session.

Procedure

Step 1: Creating stage payment lines

If the **Invoice by Stage Payments** check box is selected in the RFQ Responses (tdpur1506m000) or Purchase Order Lines (tdpur4101m000) session, by clicking **Supplier Stage Payments** on the appropriate menu, you can specify stage payment lines for the RFQ response or the purchase order line in the Supplier Stage Payments (tdpur5120m000) session. Stage payment lines can be manually created, or copied from a stage payment schedule.

Only if the total amount for the stage payment lines is equal to the net order line amount on the RFQ response or purchase order line, the RFQ response can receive the **Accepted** status or the purchase order line can be **Approved**. If the net order line amount is changed on the RFQ response or purchase order line and the linked stage payment lines include a **Percentage**, based on the percentages and the new amount, the stage payment line amounts are automatically updated. If no percentages but amounts are specified on the stage payment lines, you must manually update the stage payment line amounts.

When an RFQ response is converted to a purchase order in the Convert RFQs (tdpur1202m000) session, the supplier stage payments from the RFQ response are copied to the purchase order line. If the **Split Quantity Among Bidders** check box is selected during conversion, the net order line amount can differ

between the RFQ response and the purchase order line. If the RFQ response's stage payment lines include percentages, the amounts are recalculated based on the percentages for the purchase order line. If no percentages are specified on the stage payment lines for the RFQ response, you must manually update the stage payment line amounts for the generated purchase order line.

Stage payment lines created for RFQ responses have the **Not Applicable** status. For purchase order lines, the created stage payment lines have the **Planned** status. In this phase, the stage payment lines and parent objects can still be updated, canceled, or deleted.

Step 2: Releasing stage payment lines

To pay stage payment lines, the lines must be released to Accounts Payable in the Stage Payments Lines to be Released (tdpur5520m100) session. Released stage payment lines have the **Released** status.

The stage payments can be released before or after receipt of goods. There is no link between the receipt and the stage payment release.

As long as a **Released** stage payment line is not yet matched or approved in Accounts Payable, the stage payment line can be unreleased.

Step 3: Invoicing stage payment lines

After release, the stage payment lines must be matched and approved in the Purchase Invoice Entry (tfacp2600m000) session. When the invoice is approved for a stage payment line, the line has the **Invoiced** status and the **Invoice Amount** is specified.

When the invoice is matched and approved, the stage payment line is updated from Accounts Payable.

You can view the matched invoice in the Matched Invoices by Stage Payment (tfacp2543m300) session.

Step 4: Processing stage payment lines

When a purchase order line is processed in the Process Delivered Purchase Orders (tdpur4223m000) session, the status of the linked and invoiced stage payment lines is **Processed**.

History records are written to the Supplier Stage Payment History (tdpur5570m000) session for the processed stage payment lines.

Step 5: Deleting stage payment lines

When a purchase order line and all its detail, backorder, and stage payment lines are processed, the lines can be deleted in the Delete Purchase Orders (tdpur4224m000) session.

When deleting an RFQ response in the Delete Requests for Quotation (tdpur1205m000) session, the linked stage payment lines are also deleted.

Note

For purchase order lines, financial transactions are written and reversed by stage payment line.

Peg distribution by stage payment line

If an item that must be invoiced by stage payments requires a peg, a peg distribution is linked to the **Stage Payment Line** in the Purchase Peg Distribution (tdpur5100m000) session when the stage payment line is approved. For a specific purchase order line and stage payment line, the stage payment line's **Amount** is distributed across distribution lines for combinations of project/budget, project element and/or project activity. The peg information in the Purchase Peg Distribution (tdpur5100m000) session includes the line number for the peg in the distribution, the peg (project, element, activity), and the stage payment amount by peg.

Correction stage payment lines

To credit an invoiced amount, you can add a stage payment line with a negative amount in the Supplier Stage Payments (tdpur5120m000) session. If a correction stage payment line is specified, it is no longer required that the total amount for the stage payment lines equals the net order line amount. Correction stage payment lines must also be released, invoiced, and processed.

Correction stage payment lines can be specified in situations such as the following:

- A receipt is performed for the order line and unapproval is no longer possible
- The **Cancellation in Process** is selected for the purchase order line in the Purchase Order Lines (tdpur4101m000) session

Stage payments overview and release workbench

You can use the Supplier Stage Payments Overview (tdpur5520m000) session to have an overview of supplier stage payments.

You can use the Stage Payment Release Workbench (tdpur5520m200) session to view, release, and un-release stage payment lines for purchase order lines, sorted by (a combination of) buy-from business partner, buyer, and a range of due dates.

Processing purchase orders/schedules

In the Process Purchase Orders (tdpur4223m000) session, you can process purchase orders and order lines, and in the Process Purchase Schedules (tdpur3223m000) session, you can process purchase schedules and schedule lines.

If Financials is implemented, purchase schedule lines with the **Invoiced** status can be processed. If Financials is not implemented, purchase schedule lines with the **Final Receipt** status are processed.

Actions

During processing, LN performs the following actions:

- Inserts turnover history.

- Updates the contract data and history (if a contract is used). The called quantity amount is lowered, and the invoiced quantity and amount are raised. The turnover is written to the contract history. This action is only performed if the **Log Turnover on Contract** check box is selected in the Purchase Contract Parameters (tdpur0100m300) session. This step enables you to see which order/schedule has called off a quantity for a contract.
- Updates the invoice-from business partner's balance.
- Updates the average/latest purchase price. If Financials is implemented, this action is performed during the invoice matching procedure, which you can carry out after approving the invoice in the Authorize Purchase Invoices (tfacp1104m000) session.
- Writes and/or updates turnover history using the actual purchase price. A posting is made with a positive and a negative quantity.
  This action only happens if:
  - The **Log Order History** check box is selected and the **Level of Intake Logging** is set to **All** in the Purchase Order Parameters (tdpur0100m400) session.
  - The **Log Schedule History** check box is selected and the **Level of Intake Logging** is set to **All** in the Purchase Contract Parameters (tdpur0100m300) session.
- Sets the status of the purchase schedule (line) to **Processed**.
- Changes the status of the schedule header from **Termination in Process** to **Terminated** when all lines are processed or canceled.

Note

- In case of consignment, two purchase orders can exist. One for the replenishment and one for the payment of the goods. The consignment replenishment order can be linked to a contract. When the consignment replenishment order is processed, the contract data is not updated, because no invoice is made for that order.
  At the moment the consignment payment is done and the order is processed, LN:
  a. Searches for the consignment replenishment order
  b. Retrieves the contract from the consignment replenishment order
  c. Updates called quantities/amounts and invoiced quantities/amounts on the purchase contract
- Processing of purchase orders and matching and approving of purchase orders in Financials can be executed independently from each other. For instance, you can approve the purchase invoice after you processed the purchase order. In this case, the invoice amount is not written to a turnover history record. As a result, you must repair the situation by running the Process Purchase Orders (tdpur4223m000) session again. In this case, LN notices that the invoice amount is not written yet to a turnover history record and adds additional turnover history records (- and +) with the invoice amount.

Purchase order/schedule history

You can use purchase order/schedule history to track creations and modifications to purchase orders/schedules. You can keep certain information after the original purchase order/schedule is removed.

Orders/schedules that are created, canceled, and fully processed are registered in history if the following apply:

- For purchase orders, the **Log Order History** and **Log Actual Order Receipt History** check boxes are selected in the Purchase Order Parameters (tdpur0100m400) session.
- For purchase schedules, the **Log Schedule History** and **Log Actual Schedule Receipt History** check boxes are selected in the Purchase Contract Parameters (tdpur0100m300) session.

The following record types are available in the history sessions:

- **Intake**
  The order/schedule line was added, changed, or deleted.
- **Cancellation**
  The order/schedule line was canceled.
- **Turnover**
  The order line was processed in the Process Delivered Purchase Orders (tdpur4223m000) session, or the schedule line was processed in the Process Delivered Purchase Schedules (tdpur3223m000) session.

Contents of history files

The purchase order/schedule history files contain:

- All created purchase order/schedule (line)s. These order/schedule (line)s are the not yet processed order/schedule (line)s.
- All invoiced purchase order/schedule (line)s. These order/schedule (line)s are the processed order/schedule (line)s.

The following fields determine if, when, and how and the purchase order/schedule history files are updated

Purchase orders	
Field	**Retrieved from session**
Log Order History	Purchase Orders (tdpur4100m000)
Start Logging History at	Purchase Orders (tdpur4100m000)
Level of Intake Logging	Purchase Order Parameters (tdpur0100m400)

Log Actual Order Receipt History	Purchase Order Parameters (tdpur0100m400)
Purchase schedules	
Field	**Retrieved from session**
Log Schedule History	Purchase Schedules (tdpur3110m000)
Level of Intake Logging	Purchase Contract Parameters (tdpur0100m300)
Log Actual Schedule Receipt History	Purchase Contract Parameters (tdpur0100m300)

For purchase schedules, history logging always starts during approval.

Clearing history files

You can restrict the total amount of history data with the Archive/Delete Purchase Order/Schedule History (tdpur5201m000) session.

You must realize that the history files are the base for statistics. If you clear the history files, check if the statistics are fully updated. You cannot fully update the statistics if the history files are cleared before the update.

Note

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

Chapter 6
Purchase Contracts

6

Purchase contract procedure

Purchase contracts

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

These agreements can be registered at the following levels:

- **Purchase contract lines**
  In contract lines, the agreements with a business partner about the delivery of a particular item or group of items for a specified period of time are registered. These agreements are focused on total quantities, prices, and discounts. You can specify an effective period and indicate whether the minimum quantity to purchase is binding.
- **Terms and conditions agreements**
  In terms and conditions agreements, detailed terms and conditions regarding orders, planning, logistics, invoicing, and demand pegging regarding the sale, purchase, or transfer of goods, are registered. A purchase terms and conditions agreement must be linked to a normal purchase contract before you can use it.

Contract types

You can specify these contract types:

- Normal contracts
- Special contracts

For each purchase business partner, you can close multiple special contracts in one period. In a specific period, you cannot specify more than one normal contract per item or price group for a buy-from business partner.

Purchase contracts are used as the basis of purchase orders or purchase schedules. The data specified in the purchase contract serves as a parent of the data that you specify in the linked purchase order or purchase schedule.

When creating planned purchase orders or purchase schedules from Enterprise Planning, during the supplier selection process, purchase business partners are searched for who can supply the required

item. Based on the priority search levels specified on the **Buy-from BP Search for Purchase Schedules** and **Buy-from BP Search Orders** tabs of the Purchase Contract Parameters (tdpur0100m300) session, purchase contracts can be used to search for these purchase business partners. If valid business partners are found, they are sent to and selected by Enterprise Planning.

Contracts in a multisite structure

Corporate purchase contracts

In a multicompany structure, you can also specify a corporate purchase contract. Such a contract is used to centrally specify price agreements (by purchase contract line), and to decentrally specify logistic agreements (by purchase contract line detail).

Corporate purchase contracts allow you to make keen price agreements on a corporate level and to use these prices on site level. You can use corporate purchase contracts only for push schedules.

Note

Corporate purchase contracts are not specified on contract header level, but on line level. Therefore, a purchase contract can include both lines of the **Total** type and lines of the **Contract Line** type. Total lines have linked contract line details, which can apply only to corporate purchase contracts. Contract lines apply to regular purchase contracts.

Central contracts

In a multicompany structure, you can define a central contract that can be used by various purchase offices from different logistic companies. The following are applicable to these contracts:

- The central purchase office maintains the purchase contract and purchase pricing.
- Price and logistic agreements are specified on a central level, by purchase contract line.
- Each separate logistic company (site) purchases goods directly from suppliers, handles receipts, and pays invoices.
- The local purchase orders are based on the conditions, prices, and discounts laid down in the central contract.
- The local companies' purchased quantities are aggregated to the central contract.
- In the company that maintains the central contract, you cannot use delivery schedules to update planned inventory transactions, because the inventory is present in other companies. You can only use the delivery schedules to display information.
- LN records the supplier performance information in the local companies that issue the purchase orders.

Note

Before you can use central contracts, the companies must share the contract tables by means of logical table linking or by replication.

If you share the contract lines table, the **Use Corporate Purchase Contracts** check box in the Purchase Contract Parameters (tdpur0100m300) session must have the same value for all companies.

For more information, refer to:

- *User's Guide for Multicompany Structures (U9504 US)*
- *User's Guide for Multicompany Table Sharing (U9505 US)*

Specifying purchase contracts

For more information, refer to *Specifying purchase contracts (p. 135)*.

Retrieving purchase contracts

For more information, refer to *Retrieving purchase contracts (p. 137)*.

Purchase contract additional processes

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

You can:

- Activate or deactivate a range of purchase contracts in the Activate/Deactivate Contracts (tdpur3205m000) session.
- Print contract acknowledgements to send to the buy-from business partner in the Print Purchase Contract Acknowledgments (tdpur3405m000) session.
- Copy one purchase contract to another in the Copy Purchase Contracts (tdpur3801m000) session.
- Copy quotations to a purchase contract in the Convert RFQs (tdpur1202m000) session.
- Create requests for quotation based on purchase contracts in the Generate RFQs from Contracts(tdpur3201m000) session.
- Check whether the agreed quantities are met at the end of a contract's effective period in the Evaluate Purchase Contracts (tdpur3420m000) session. You can also monitor, by extrapolating, the contract's progress during the effective period. A report is printed that contains the deviations. An evaluation for the complete contract can be executed by not printing the separate contract lines. Small deviations are tolerated and are not printed.
- Send a letter to inform the purchase business partner about the closure or expiration of the contract in the Print Purchase Contract Termination Letters (tdpur3406m000) session.
- Terminate or delete purchase contracts that are no longer valid, or that have ended early in the Delete/Terminate Purchase Contracts (tdpur3203m000) session.

Specifying purchase contracts

To record the agreements that you made with a buy-from business partner, complete the following steps:

Step 1: Purchase Contracts (tdpur3100m000)

Use the Purchase Contracts (tdpur3100m000) session to specify the general data for a purchase contract header. The information to be defined is mainly related to the purchase business partner to whom the contract relates. On the contract header, you can also link a terms and conditions agreement.

The terms and conditions agreement can be linked as follows in this session:

- Manually, by selecting an agreement from the Terms and Conditions (tctrm1100m000) session.
- By generating an agreement from a template, which is automatically linked to the contract header. Click **Generate Terms and Conditions from Template** on the appropriate menu to start the Generate Terms and Conditions from Template (tctrm2200m000) session.

The following can be linked to a contract:

- Both a terms and conditions agreement and contract lines
- Only a terms and conditions agreement and no contract lines
- Only contract lines and no terms and conditions agreement

Step 2: Purchase Contract Lines (tdpur3101m000)

Use the Purchase Contract Lines (tdpur3101m000) session to specify purchase contract lines, which include the agreements with a purchase business partner about a certain item during a period of time.

Step 3: Purchase Contract Price Revisions (tdpur3103m000)

Use the Purchase Contract Prices (tdpur3103m000) session to record prices and discounts for the purchase contract line in a purchase contract price revision.

However, If the contract line item is a configurable item, and the **Option Based Pricing** check box is selected in the Purchase Contract Lines (tdpur3101m000) session, item prices are retrieved from the generic price list in Manufacturing and not from the Purchase Contract Price Revisions (tdpur3103m000) session.

If no valid price and discount can be retrieved from the purchase contract, LN will continue searching for a price and discounts in other sources.

Step 4: Purchase Contract Line Logistic Data (tdpur3102m000)

Use the Purchase Contract Line Logistic Data (tdpur3102m000) session if you want purchase schedules with external business partners to be linked to the contract line. If you only use purchase schedules with internal business partners, you need not define a contract. Therefore, the Purchase Contract Line Logistic Data (tdpur3102m000) session is not a mandatory session in the purchase contract procedure.

The purchase contract line logistic data provides default values to the purchase schedule that is linked to the purchase contract line. If you do not specify logistic data, you cannot create a purchase schedule for an external business partner.

Step 5: Delivery Contract (tdpur3104m000)

If you define a contract and you already know the time-phased delivery details, in the Delivery Contract (tdpur3104m000) session, you can create a delivery contract instead of a purchase schedule. A delivery contract is not a real schedule, but a schedule solution to generate purchase orders in time.

Note

You can also complete all of these steps in the Purchase Contract - Lines (tdpur3600m000) session.

Retrieving purchase contracts

Purchase contracts and purchase schedules

LN automatically links purchase schedules to contracts with the **Active** status. LN automatically links a normal contract to the purchase schedule. However, instead, you can link a special contract to the purchase schedule. To unlink the normal contract and link a special contract to the purchase schedule, click **Change Contract** in the Purchase Schedules (tdpur3110m000) session. As a result, the Selected Purchase Contract Lines (tdpur3512s000) session starts from which you can select a special contract. However, you can replace the normal contract by a special contract only if no receipts are booked yet for the purchase schedule. If receipts are already booked, you must terminate the existing purchase schedule and create a new purchase schedule in the Terminate Purchase Schedule (tdpur3210m100) session. Now, you can link a special contract to the newly created purchase schedule.

When LN links a contract to the purchase schedule, the schedule header is loaded with the default values of the linked contract. Specific addresses, as well as contract terms and prices and discounts, are adopted on the schedule level. For nonreferenced schedules, LN uses the **Generation Date** in the Purchase Schedules (tdpur3110m000) session to determine which purchase contract price revision must be used from the Purchase Contract Prices (tdpur3103m000) session to retrieve prices and discounts. For referenced schedules, LN uses the **Price Date Type** field in the Pricing Parameters (tdpcg0100m000) session, which can be set to **Order Date**, **System Date**, or **Delivery Date** to determine which purchase contract price revision must be used.

Note

For schedules lines with a configured item, the **Option Based Pricing** check box is automatically selected in the Purchase Contract Lines (tdpur3101m000) session. For more information, refer to Configured items on purchase schedules.

Purchase contracts and purchase orders

LN automatically links purchase orders to contracts with the **Active** status. When a purchase order is created, LN first searches for special contracts and then for normal contracts. If more special contracts are valid for the buy-from business partner/item(group)/date, a selection screen appears from which you must select a contract.

To retrieve terms and conditions from an active contract for an order line, the contract need not be linked to the order line. As a result, the contract number is only filled on the order line if an active contract line is linked to the order line. For more information, refer to Retrieval of terms and conditions.

Purchase contract prices

Setting up purchase contract price revisions

To set up a purchase contract price revision, complete these steps:

1. Create a purchase contract in the Purchase Contracts (tdpur3100m000) session.
2. Create a purchase contract line in the Purchase Contract Lines (tdpur3101m000) session.
3. In the Purchase Contract Lines (tdpur3101m000) session, choose **Contract Prices**. As a result, the Purchase Contract Price Revisions (tdpur3103m000) session starts.
4. In the Purchase Contract Price Revisions (tdpur3103m000) session, you can specify the purchase contract price revisions.

Discount schedules on contracts

In the **Discount Schedule** field of these sessions, you can link one or more discount schedules:

- Purchase Contract Prices (tdpur3103m000)
- Sales Contract Lines (tdsls3501m000)
- Sales Contract Price Revisions (tdsls3103m000)

Linking one discount schedule to a contract

Purchase Contract Price Revisions (tdpur3103m000) and Sales Contract Lines (tdsls3501m000)

To specify a **Discount Schedule** in the Purchase Contract Price Revisions (tdpur3103m000) session or the Sales Contract Lines (tdsls3501m000) session, zoom to the Line Discount Schedules (tdpcg0521m100) session. To link one discount schedule, you must specify only one discount schedule in the Line Discount Schedules (tdpcg0521m100) session. Dependent on the ordered quantity and effectivity period of the discount schedule line and the price revision's or sales contract line's effectivity period, one line is selected from the discount schedule.

Sales Contract Price Revisions (tdsls3103m000)

To specify a **Discount Schedule** in this session, zoom to the Discount Schedules (tdpcg0112m000) session. Dependent on the ordered quantity and effectivity period of the discount schedule line and the price revision's effectivity period, one line is selected from the discount schedule.

Example

- Discount schedule: **Used for Purchase Contracts**
- **Discount Schedule Type**: Quantity Break
- Effectivity period of the contract line's price revision: 01/04 - 30/04

Break type	Break (pcs)	Effective date	Expiry date	Percent	Amount (euro)	Method	Discount code
Up to	100	01/05	-	-	10	Net	RHT
Up to	200	01/01	-	1	-	Gross	-
Up to	300	01/01	04/06	4	-	Net	MAQ
Up to	300	05/04	-	5	-	Gross	APC

If the ordered quantity is 100 pieces, the discount is 1% Gross. With a price of 50 euro, the net amount will be 49,500 euro.

Linking multiple discount schedules to a contract

Dependent on the value that is specified in the **Number of Discount Levels** field of the Pricing Parameters (tdpcg0100m000) session, you can link a maximum of five discount schedules to a price revision.

When you link more than one discount schedule to a price revision, dependent on the ordered quantity and effectivity period of the discount schedule lines, and the effectivity period of the price revision or contract line, one discount schedule line is selected from each linked discount schedule.

Purchase Contract Price Revisions (tdpur3103m000) and Sales Contract Lines (tdsls3501m000)

To link multiple discount schedules to a contract, when you zoom to the Line Discount Schedules (tdpcg0521m100) session from the **Discount Schedule** field of the Purchase Contract Price Revisions (tdpur3103m000) session or the Sales Contract Lines (tdsls3501m000) session, specify more than one discount schedule in the Line Discount Schedules (tdpcg0521m100) session.

Sales Contract Price Revisions (tdsls3103m000)

You can link more levels of discount schedules to the sales contract price revision in the Price and Discounts (tdpcg1600m000) session. To start this session, from the appropriate menu of the Sales Contract Price Revisions (tdsls3103m000) session, click **Price and Discounts**. On the Discounts tab, specify more than one discount schedule for the price revision.

Example

Two discount schedules are linked to a purchase contract price revision with an effectivity period of 01/05 - 01/06.

- Discount Schedule: PUR000002
- **Discount Schedule Type**: Quantity Break

Break type	Break (pcs)	Effective date	Expiry date	Percent	Amount (euro)	Method	Discount code
Upto	100	01/03/00	-	4	-	Gross	MHT
Upto	200	01/01/00	04/06	-	10	Net	-
Upto	300	01/01/00	-	4	-	Gross	LAQ
Upto	300	05/04/00	-	5	-	Gross	ZPC

- Discount Schedule Code : PUR000003
- **Discount Schedule Type**: Value Break

Break type	Break (euro)	Effective date	Expiry date	Percent	Amount (euro)	Method	Discount code
Min.	10000	01/05/00	-	-1	-	Gross	LHT
Min.	20000	01/01/00	04/06	-	-10	Net	-
Min.	30000	01/01/00	-	-1	-	Gross	NAQ
Min.	40000	05/04/00	-	-5	-	Net	BPC

If the ordered quantity is 100 pieces and the price is 50 euro, the net amount is retrieved as follows:

- The discount that is applied from PUR000002 is 4% Gross
- The net amount is now 48,000 euro
- The discount (read surcharge) from PUR000003 is -5
- The total net amount will be 48,500 euro

Setting up contract line logistic data

To set up logistic agreements for a purchase contract line, complete the following steps:

1. Create a purchase contract in the Purchase Contracts (tdpur3100m000) session.
2. Create a purchase contract line in the Purchase Contract Lines (tdpur3101m000) session, with:
   - The **Purchase Schedule in use** check box selected.

- The **Delivery Contract Available** check box cleared.

3. In the Purchase Contract Lines (tdpur3101m000) session, choose **Logistic Data**. As a result, the Purchase Contract Line Logistic Data (tdpur3102m000) session starts.
4. In the Purchase Contract Line Logistic Data (tdpur3102m000) session, you can specify the purchase contract logistic data.

Note

If the purchase contract is a corporate purchase contract and purchase contract line details are specified for a purchase contract line in the Purchase Contract Line Details (tdpur3101m100) session, you must also specify logistic agreements for the purchase contract line detail in the Purchase Contract Line Logistic Detail Line (tdpur3102m100) session. In the Purchase Contract Line Details (tdpur3101m100) session, choose **Logistic Detail Line**.

Setting up a delivery contract

If you specify a contract and you know the time-phased delivery details, you can create a delivery contract instead of a purchase schedule. A delivery contract is not a real schedule, but a schedule solution to generate purchase orders on time.

To set up a delivery contract, complete the following steps:

1. Create a purchase contract in the Purchase Contracts (tdpur3100m000) session.
2. Create a purchase contract line in the Purchase Contract Lines (tdpur3101m000) session, with:
   - The **Apply Contract for All Items in Price Group** check box cleared.
   - The **Purchase Schedule in use** check box cleared.
   - The **Delivery Contract Available** check box selected.
3. In the Purchase Contract Lines (tdpur3101m000) session, choose **Delivery Contract**. As a result, the Delivery Contract (tdpur3104m000) session starts.
4. In the Delivery Contract (tdpur3104m000) session, you can specify the date on which delivery must take place and the quantities to be delivered on the specified dates.
5. To generate purchase orders for the planned deliveries, in the Delivery Contract (tdpur3104m000) session, choose **Generate Purchase Orders** on the appropriate menu. The Generate Purchase Orders (tdpur3204m000) session starts in which you can generate purchase orders for the planned deliveries. You can only generate purchase orders for the planned deliveries if both the purchase contract and the purchase contract line have the **Active** status.

Corporate purchase contracts

Corporate purchase contracts are used by multisite companies to negotiate contractual agreements with a buy-from business partner, after which price agreements are centrally specified (by purchase contract line), and logistic agreements are decentrally specified (by purchase contract line detail). Corporate purchase contracts allow you to make keen price agreements on a corporate level and to use these prices on site level.

Corporate purchase contracts enable the following:

- Have a purchase contract per buy-from business partner and item for multiple sites
- Track the total quantity by purchase contract line and break down the requested quantity by site
- Track actual consumptions against the total quantity by contract line (representing the corporation), and contract line detail (representing a site) for performance analytics

Restrictions

Before you can specify corporate purchase contracts, the following restrictions are applicable:

- The **Use Corporate Purchase Contracts** check box must be selected in the Purchase Contract Parameters (tdpur0100m300) session.
- The **Purchase Schedule in Use** check box must be selected and the **Schedule Type** field must be **Push Schedule** for the contract item in the Item - General (tcibd0101s000) session. As a result, you can use corporate purchase contracts only for push schedules.
- The **Release to Warehouse** check box must be selected for the contract item in the Items - Purchase (tdipu0101m000) session.
- Before you can start specifying purchase contract line details for a purchase contract line, its status must be **Free** and the **Advised Quantity**, **Called Quantity**, and **Invoiced Quantity** must be zero.

Note

Corporate purchase contracts are not specified on contract header level, but on line level. Therefore, a purchase contract can include both lines of the **Total** type and lines of the **Contract Line** type. Total lines have linked contract line details, which can apply only to corporate purchase contracts. Contract lines apply to regular purchase contracts.

Specifying corporate purchase contracts

Complete the following steps to record the corporate agreements you made with a buy-from business partner:

Step 1: Purchase Contracts (tdpur3100m000)

Specify a purchase contract header in the Purchase Contracts (tdpur3100m000) session.

Step 2: Purchase Contract Lines (tdpur3101m000)

Specify a purchase contract line in the Purchase Contract - Lines (tdpur3600m000) session.

Step 3: Purchase Contract Line Logistic Data (tdpur3102m000)

Specify logistic agreements for the purchase contract line in the Purchase Contract Line Logistic Data (tdpur3102m000) session.

Step 4: Purchase Contract Price Revisions (tdpur3103m000)

Specify a contract price revision for the purchase contract line in the Purchase Contract Prices (tdpur3103m000) session.

These prices are also used by the purchase contract line details that are linked to the purchase contract (total) line.

If the **Calculate Price with Cumulative** check box is selected in the Purchase Contract Prices (tdpur3103m000) session, a schedule line's price is calculated based on the aggregated CUM values of all schedules that share this contract total line.

Step 5: Purchase Contract Line Details (tdpur3101m100)

Specify purchase contract line details in the Purchase Contract Line Details (tdpur3101m100) session.

Step 6: Purchase Contract Line Logistic Detail Line (tdpur3102m100)

Specify logistic agreements for a purchase contract line detail in the Purchase Contract Line Logistic Detail Line (tdpur3102m100) session. This session retrieves its defaults from the Purchase Contract Line Logistic Data (tdpur3102m000) session, which is linked to the parent purchase contract (total) line.

Step 7: Split Line (tdpur3101m200)

Optionally, in the Split Line (tdpur3101m200) session, you can split a purchase contract line detail into two line details. The information for the new contract line detail is retrieved from the Purchase Contract Line Details (tdpur3101m100) session from which the split is initiated. Logistic agreements are also automatically retrieved for the new purchase contract line detail.

Note

You can complete all of these steps also in the Purchase Contract - Lines (tdpur3600m000) and Purchase Contract Line (tdpur3601m000) sessions.

Specifics

The following are specific to corporate purchase contracts:

- During the supplier selection process, when Enterprise Planning searches for a contract line detail that can be linked to a push schedule, the warehouse for the plan item in the Items - Planning (cprpd1100m000) session is used. This warehouse must be part of the same cluster as the purchase contract line detail's warehouse in the Purchase Contract Line Details (tdpur3101m100) session.
- A purchase contract **Total** line has linked purchase contract line details and includes the totaled quantities and amounts of these contract line details.
- Schedule cumulatives are reset by purchase contract **Total** line in the Reset Cumulatives by Contract Total Line (tdpur3230m100) session. This session is required to simultaneously reset the cumulatives for schedules that share the same contract total line, so the price breaks from the Purchase Contract Prices (tdpur3103m000) session make sense.

Copying purchase contracts

You can copy existing purchase contracts to create purchase contracts in the Copy Purchase Contracts (tdpur3801m000) session.

You can always copy a normal contract to a normal contract or a special contract to a special contract. Whether or not you can copy a normal contract to a special contract, and vice versa, depends on the settings of the following check boxes in the Purchase Contract Parameters (tdpur0100m300) session:

- **Copy Special Contract to Normal Contract**.
- **Copy Normal Contract to Special Contract**.

If you copy to a new normal contract, to determine the default value of the contract period, LN:

- Assigns an effective date directly following the expiry date of the old contract
- Sets up a contract period of one year

If you copy to a new normal contract, LN checks whether a normal contract already exists:

- In the same period
- With the same price group or item
- For the same buy-from business partner

If such a contract already exists and the contract status is **Active**, copying is not allowed.

Contracts are copied with a new contract number, which is determined in the same way as when you enter a new contract in the Purchase Contracts (tdpur3100m000) session, but with different effective and expiry dates. The purchase contract price revisions that are linked to the old contract with effective dates that are within the effectivity period of the new contract, are copied to the new contract. If no valid price revision exists, and you have selected the **Copy Prices** check box in the Copy Purchase Contracts (tdpur3801m000) session, the last price revision of the old contract is copied to the new contract's price revision with an effective date equal to the contract line's effective date.

Note

Discounts and discount schedules from the old price revision are not automatically included if you copy prices to the new contract's price revision. To copy discounts to the new contract's price revision as well, select the **Copy Discounts** check box in the Copy Purchase Contracts (tdpur3801m000) session.

If price books or discount schedules of the old contract's price revision are not valid in the run time of the new contract, you can create new price books and/or new discount schedules for the new contract by selecting the **Create New Price Book** check box and/or the **Create New Discount Schedule** check box in the Copy Purchase Contracts (tdpur3801m000) session.

You can copy the delivery contract(s) that are linked to the old contract to the new contract. To copy the delivery contract(s), select the **Copy Delivery Contract** check box in the Copy Purchase Contracts (tdpur3801m000) session.

If you copy contracts, the copied contract header and the item lines are logged in the contract history files. If you selected the **Copy Terminated Contract Lines** check box in the Copy Purchase Contracts (tdpur3801m000) session, the terminated contract lines are also copied to the new contract.

The currency of the buy-from business partner must be the same as the contract currency. If not, LN displays an error message. Buy-from business partners must have the status **Active** when a contract is agreed upon. A parent relation must exist between a buy-from business partner and the other business partner roles, which are given by default if the buy-from business partner is entered.

Evaluating purchase contracts

If a purchase contract is used for a purchase order or a purchase schedule, you can evaluate the purchase contract during and after the purchase order or schedule procedure. During the contract's effectivity period, you can check if the deliveries take place as agreed in the contract. At the end of the contract's effectivity period, you can check if the agreed quantities were met.

To evaluate contracts in the Evaluate Purchase Contracts (tdpur3420m000) session, the following conditions must be fulfilled:

- The contract status must be **Active**
- Call orders must exist for the contract
- The time elapsed (%) must be more than the specified percentage

Another session that you can use to view the progress of a contract is the Purchase Contract Results (tdpur3513m000) session.

Note

The Evaluate Purchase Contracts (tdpur3420m000) session is mandatory if the **Evaluate Contract before Deleting** check box is selected in the Purchase Contract Parameters (tdpur0100m300) session.

How a contract line is evaluated depends on the value of the **Binding** check box in the Purchase Contract Lines (tdpur3101m000) session. This check box determines whether the **Agreed Quantity** that you agreed with your purchase business partner is a mandatory quantity to purchase.

If the **Binding** check box is selected in the Purchase Contract Lines (tdpur3101m000) session, the Evaluate Purchase Contracts (tdpur3420m000) session prints the differences between:

- The **Called Quantity** and the **Maximum Quantity** fields in the Purchase Contract Lines (tdpur3101m000) session.
- The **Called Quantity** and the **Minimum Quantity** fields in the Purchase Contract Lines (tdpur3101m000) session.

If the **Binding** check box is cleared in the Purchase Contract Lines (tdpur3101m000) session, the Evaluate Purchase Contracts (tdpur3420m000) session prints the lines that exceed the boundaries that you defined in the Evaluate Purchase Contracts (tdpur3420m000) session.

You can accept small negative or positive deviations in the call order with regard to the quantities. The deviations are calculated as follows in the Evaluate Purchase Contracts (tdpur3420m000) session:

```
(Called Quantity + Invoiced Quantity - (Agreed Quantity * Elapsed Time
Factor)) ÷ Agreed Quantity * 100%
```

Example

- Agreed Quantity = 100
- Called + invoiced = 40
- Contract duration = 10 days
- Time Elapsed = 6 days

```
Negative Deviation = 40 - 100 * 6/10 ÷ 100 = -20%
```

If this percentage is greater than the allowed percentage, the contract line is printed.

Note

- The **Called Quantity** is increased when an order/schedule is linked to a contract. The **Called Quantity** is decreased again when an order/schedule line is processed in the Process Purchase Orders (tdpur4223m000)/ Process Purchase Schedules (tdpur3223m000) session.
- The invoiced quantity is increased when linked purchase order/schedule lines are processed in the Process Purchase Orders (tdpur4223m000)/ Process Purchase Schedules (tdpur3223m000) session.
- After a purchase contract is evaluated, LN updates the **Evaluation** field in the Purchase Contract Lines (tdpur3101m000) session.
- Extrapolating can produce a distorted picture if, for instance, the largest quantities are delivered at the end of the contract period. As a result, an interim evaluation will show a backlog that does not correspond with reality.

Chapter 7
Vendor Rating

7

General and master data

Overview of vendor rating

If multiple purchase business partners are available from whom you can purchase raw materials and supplies, you must determine which business partner to use. To make an informed decision, you can use the vendor rating procedure to measure the performance of vendors based on a vendor rating.

Objective criteria and subjective criteria can be used to calculate vendor ratings. The objective criteria are ratings generated by LN and only depend on current data and a weighting factor. The subjective criteria ratings are based on data that you specify. The overall vendor rating is calculated by LN.

Note

Before you can calculate and view vendor ratings, purchase orders must be available and processed.

Setting up vendor ratings

Before you can use the vendor rating procedure, you must specify the following:

- Vendor rating parameters
- Objective scoring schemes
- Subjective criteria
- Subjective values
- A classification scheme

Calculating vendor ratings

After orders are processed and questionnaires are compiled, you can run the Update Vendor Rating (tdpur8850m000) session to calculate the vendor ratings.

In the Update Vendor Rating (tdpur8850m000) session, you can do a full update or a net update of the vendor rating.

Deleting vendor ratings

To remove vendor rating data, use the Delete Historical Ratings (tdpur8851m000). LN deletes all vendor rating data for the specified year or the period combination. The result is that all vendor rating data goes back to the same year or the same period combination.

Setting up vendor ratings

Before you can use the vendor rating procedure, you must complete a number of steps.

Step 1: Business Partners (tccom4100s000)

Vendor ratings are calculated for business partners that have the **Vendor Rating** check box selected for the various business partner roles. You can select the **Vendor Rating** check boxes in the following business-partner role sub-sessions that you can start from the Business Partners (tccom4100s000) session:

- Buy-from Business Partners (tccom4120s000)
- Ship-from Business Partners (tccom4121s000)
- Invoice-from Business Partners (tccom4122s000)
- Pay-to Business Partners (tccom4124s000)

Step 2: Vendor Rating Parameters (tdpur0100m800)

Use this session to specify the following:

- Weightings for the objective criteria
- The method to calculate the overall vendor rating, which can be **Moving Average**, or **Smoothing Factor**
- The basis or value on which the weighting of the vendor rating criteria takes place
- The period table that is used for vendor rating

Step 3: Vendor Rating Objective Scoring Scheme (tdpur8195m000)

Use the Vendor Rating Objective Scoring Scheme (tdpur8195m000) session to create the scheme of values for the objective criteria that are set in the Vendor Rating Parameters (tdpur0100m800) session. An objective criterion is a criterion for which the score is calculated directly from the data in the system.

You must specify the Vendor Rating Objective Scoring Scheme (tdpur8195m000) session only if the following check boxes are selected in the Vendor Rating Parameters (tdpur0100m800) session:

- **Delivery Time**
- **Delivery Quantity**
- **Delivery Quality**
- **Order Confirmation**
- **Cost Performance**

If these check boxes are cleared in the Vendor Rating Parameters (tdpur0100m800) session, LN rates the concerning objective values on a linear basis. In other words, if the objective scoring schemes are not used to convert objective values to rating percentages, a linear relationship exists between value and rating. As a result, LN automatically calculates the rating for each objective criterion.

Step 4: Vendor Rating Subjective Criteria (tdpur8190m000)

If you want to use additional criteria to calculate vendor ratings besides the objective criteria specified in the Vendor Rating Parameters (tdpur0100m800) session, you must specify subjective criteria in the Vendor Rating Subjective Criteria (tdpur8190m000) session. Subjective criteria are criteria that are based on user judgements from a questionnaire, which you can print in the Vendor Rating Questionnaires (tdpur8454m000) and for which you can enter the results in the Questionnaire Results (tdpur8193m000) session.

You can use the Business Partners without Questionnaire (tdpur8452m000) session to print the business partners who do not have vendor rating questionnaire results for the specified year or the period combination.

Step 5: Vendor Rating Subjective Values (tdpur8192m000)

To use subjective criteria, you must specify values to give to vendors on the subjective criteria. You can specify these values in the Vendor Rating Subjective Values (tdpur8192m000) session.

Step 6: Vendor Classification Scheme (tdpur8194m000)

Once all the criteria are used to calculate and get an overall rating for a vendor, a classification scheme can equate the overall rating to a classification. Use the Vendor Classification Scheme (tdpur8194m000) session to specify a classification scheme.

Note

To calculate the vendor ratings, you must update the vendor ratings in the Update Vendor Rating (tdpur8850m000) session.

Vendor rating procedure

Calculating vendor ratings

To calculate the vendor ratings after orders are processed and questionnaires are compiled, you must update the vendor ratings. You can do a net update or a full update of vendor ratings.

Note

Because the full update process takes a lot of time, you are advised to only do a full update in the following cases:

- You changed the parameters in the Vendor Rating Parameters (tdpur0100m800) session.

- You no longer want to take into account the manual changes, which you can make in the Vendor Ratings by Period (tdpur8102m000), Vendor Ratings by Criterion (tdpur8102m100), and Objective Ratings (tdpur8106m000) sessions.

If you did not change parameters and also did not manually change the vendor ratings, calculating the vendor rating gives the same result for a full update and a net update.

Net update of vendor ratings

To do a net update of the vendor ratings, clear the **Full Update** check box in the Update Vendor Rating (tdpur8850m000) session. As a result, only the purchase order lines that are newly processed in the Process Purchase Orders (tdpur4223m000) session and fall within the defined period, are taken into account. The calculation is as follows:

```
NR = ((OR * V) + (nRL * nVL)) / (V + nVL)
```

Legend

NR	new rating
OR	old rating
nRL	rating of new purchase order line(s)
V	value on which the old rating was based
nVL	value of new purchase order line(s)

Full update of vendor ratings

To do a full update of the vendor ratings, select the **Full Update** check box in the Update Vendor Rating (tdpur8850m000) session. As a result, all purchase order lines that are processed in the Process Purchase Orders (tdpur4223m000) session and fall within the defined period, are taken into account in the calculation of vendor rating. So, LN calculates totally new ratings that are fully based on the data in purchase order lines history.

If you do a full update of the vendor ratings, LN completes the following calculation steps:

Step 1: Calculating actual weightings

For more information, refer to *Calculating actual weightings (p. 151)*.

Step 2: Calculating ratings for objective criteria

For more information, refer to *Calculating ratings for objective criteria (p. 154)*.

Step 3: Calculating ratings for subjective criteria

For more information, refer to *Calculating ratings for subjective criteria (p. 160)*.

Step 4: Updating overall vendor rating

For more information, refer to *Updating overall vendor rating (p. 163)*.

Note

You can use the following sessions to view the calculated vendor ratings or manually modify the calculated vendor ratings:

- Vendor Ratings by Period (tdpur8102m000)
- Vendor Ratings by Criterion (tdpur8102m100)
- Graph Vendor Ratings (tdpur8701m000)

Calculating actual weightings

If you do a full update of the vendor ratings in the Update Vendor Rating (tdpur8850m000) session, the calculation of actual weightings is the first stage in the calculate/update vendor rating procedure.

If you rescale the criteria weightings in the Normalize Criteria Weightings (tdpur8852m000) session, you can choose to:

- Fully update the weightings
- Recalculate the weighting for one subjective criterion

After the rescale, the weightings represent a true percentage. So, weightings are not changed relative to other weightings.

Full update

When you recalculate all criteria weightings, the calculation is as follows:

Step 1: To sum the weightings

The weightings for all the objective criteria and the level 0 subjective criteria are summed.

Step 2: To recalculate objective and level zero subjective criteria

The following recalculation takes place for the objective criteria and level zero subjective criteria:

```
New weighting = (existing weighting/objective weightings and level zero
subjective weightings) * 100
```

Step 3: To calculate subjective weightings with level one or higher

The subjective weightings with level one or higher are calculated in the same way as the recalculation of one criterion, which is stated below.

Recalculation for one subjective criterion

When you recalculate the weightings for one criterion, the calculation is as follows:

```
New weighting = (current weighting/sum of all weightings) * 100
```

If the selected subjective criterion has level one or higher, the following applies:

```
Sum of all weightings = sum of all the weightings whose parent is the selected
 subjective criterion.
```

Example

The existing objective weightings and subjective weightings are:

Objective criteria	Weighting
Delivery time	60
Quality	60
Order confirmation	10

Level	Subjective criteria	Weighting
0	Customer service	40
1	Call handling	14
1	Product knowledge	6
0	Delivery service	30
1	Flexibility	25
1	Paperwork quality	15

Full update

1. Sum of all objective weightings and level 0 subjective weightings = 60 + 60 + 10 + 40 + 30 = 200.
2. The new weightings are:
   - **Delivery time**
     60/200 * 100 = 30%
   - **Quality**
     60/200 * 100 = 30%
   - **Order confirmation**
     10/200 * 100 = 5%
   - **Customer service**
     40/200 * 100 = 20%

- **Delivery service**
  30/200 * 100 = 15%

3. The subjective weightings of level one or higher are recalculated for customer service as stated below.

Recalculation for one criterion

Normalization of, for example, the weightings for customer service:

- Total of weightings = 14 + 6 = 20.
- New call handling weighting = (14/20) * 100 = 70%.
- New product knowledge weighting = (6/20) * 100 = 30%.

Ratings for objective criteria

Calculating ratings for objective criteria

If you do a full update of the vendor ratings in the Update Vendor Rating (tdpur8850m000) session, the calculation of the ratings for the objective criteria is the second stage in the calculate/update vendor rating procedure.

LN retrieves most of the data that is taken into account in the calculation of objective criteria ratings from the Purchase Order Line History (tdpur4551m000) session. Only purchase orders that are processed in the Process Purchase Orders (tdpur4223m000) session and are within the specified period are taken into account.

The procedure to calculate the objective criteria ratings includes the following steps:

Step 1: To calculate objective values per criterion

For more information, refer to *Calculating ratings for objective criteria (step 1) (p. 154)*.

Step 2: To convert objective values to ratings per criterion

For more information, refer to *Calculating ratings for objective criteria (step 2) (p. 156)*.

Step 3: To create a rating record for each purchase order line

For more information, refer to *Calculating ratings for objective criteria (step 3) (p. 158)*.

Calculating ratings for objective criteria (step 1)

The first step that LN carries out in the calculate objective criteria ratings process, is the determination of objective values.

The values for the following objective criteria are calculated:

- **Delivery Time**

- **Delivery Quantity**
- **Delivery Quality**
- **Order Confirmation**
- **Cost Performance**

Delivery Time

```
Actual Receipt Date  - Current Planned Delivery Date
```

Note

- The current planned delivery date is the highest of the delivery dates. As a result, this can be the planned delivery date or the confirmed delivery date.
- A negative delay means an early shipment

Delivery Quantity

```
((Approved Quantity + Rejected Quantity) / Ordered Quantity) * 100
```

Delivery Quality

```
((Approved Quantity + Rejected Quantity for which the own company is
responsible) / (Approved Quantity + Rejected Quantity)) * 100
```

Note

If the **Responsibility** field is **Own Company** in the Rejected Inventory (whwmd2570m000) session, the delivery quality rating is not negatively affected.

However, the responsibility for the rejected quantity is taken into account only if the following are applicable:

- The **Handle Rejected Goods** check box is selected and the **Inventory Disposition** check box is cleared in the Inventory Handling Parameters (whinh0100m000) session.
- The **Responsibility** field is manually specified for the rejected quantity in the Rejected Inventory (whwmd2570m000) session.
- The rejected quantity can be deleted before vendor ratings are updated.

Tip

Do not specify a partial responsibility for the rejected quantity. If the rejected quantity is handled in batches and the supplier is responsible for two pieces and your own company for three pieces, only the responsibility for the last batch is stored in history. Therefore, the delivery quality cannot be correctly calculated.

Example

Total rejected quantity: 10 pcs

The rejected quantity is processed in these batches:

- 3 pcs destroyed, responsibility is **Own Company**
- 5 pcs destroyed, responsibility is **Supplier**
- 2 pcs destroyed, responsibility is **Own Company**

In history, the following is registered: 10 pcs destroyed, responsibility is **Own Company**.

Therefore, the responsibility value is reliable only when the responsibility is the same for the total rejected quantity.

Order Confirmation

```
Order Confirmation Date - Purchase Order Entry Date (= delay)
```

Cost Performance

```
(Purchase unit price / Average purchase price) * 100
```

Calculating ratings for objective criteria (step 2)

The second step that LN carries out in the calculate objective criteria ratings process, is the conversion of the objective values to ratings.

LN rates the objective values according to the settings of these check boxes in the **Maintain Scoring Schemes** group box of the Vendor Rating Parameters (tdpur0100m800) session:

- **Delivery Time**
- **Delivery Quantity**
- **Delivery Quality**
- **Order Confirmation**
- **Cost Performance**

If these check boxes are selected, LN rates the calculated objective values based on an objective scoring scheme, as specified in the Vendor Rating Objective Scoring Scheme (tdpur8195m000) session.

If these check boxes are cleared, LN rates the concerning objective values on a linear basis.

Objective scoring scheme

You can assign scoring values to an objective criterion in the Vendor Rating Objective Scoring Scheme (tdpur8195m000) session. You can link rating percentages to the scoring values.

LN searches for an objective scoring scheme, which is used for the conversion of scoring values to rating percentages, in the following sequence:

1. LN searches for an objective scoring scheme for the business partner/item combination.
2. If no scheme is present for the business partner/item combination, LN searches for an objective scoring scheme for the business partner.
3. If no scheme is present for the business partner, LN searches for an objective scheme for the item.
4. If no scheme is present for the item, LN gets the default objective scoring scheme of the objective criterion.

Example 1

Criterion Type	**Delivery**	
Unit	**Days**	
Value	**Percentage**	**Values for which the percentage applies**
-5	10%	<= -5
-1	50%	-4 to -1
0	100%	0
5	40%	1 to 5
100	30%	6 to 100

If the order is 6 days late, the business partner receives a rating of 30% for the purchase order line.

Example 2

Criterion Type	**Quality**	
Value	**Percentage**	**Values for which the percentage applies**
20%	0%	0% - 20%
80%	50%	21% - 80%

90%	75%	81% - 90%
100%	100%	91% - 100%

If 25% of the delivered items are rejected and 75% is approved, the business partner receives a rating of 50% for the purchase order line.

After this conversion, LN carries out the third step in the calculate-objective-criteria-ratings procedure: the creation of a rating record per purchase order line in the Objective Ratings (tdpur8106m000) session.

Linear basis

If the check boxes in the **Maintain Scoring Schemes** group box of the Vendor Rating Parameters (tdpur0100m800) session are cleared, and therefore the objective scoring schemes are not used to convert objective values to rating percentages, a linear relationship exists between value and rating. As a result, LN calculates the rating for each objective criteria as stated below.

- **Delivery Time**
  ((Receipt date - current planned delivery date) / item lead time) * 100
- **Delivery Quantity**
  (Approved quantity / ordered quantity) * 100
- **Delivery Quality**
  ((Approved quantity + rejected quantity for which the own company is responsible) / (approved quantity + rejected quantity)) * 100
- **Order Confirmation**
  100 - ((Order confirmation date - order date) / (planned delivery date - order date)) * 100
- **Cost Performance**
  (Purchase price / average purchase price) * 100

Note

- If the **Responsibility** field in the Rejected Inventory (whwmd2570m000) session is **Own Company**, the delivery quality rating is not negatively affected.
- If the average purchase price is 0, the cost performance rating will be 0.
- If any of the ratings above is greater than 100, the rating = 200 - rating.
- If any of the ratings above is smaller than 0, the rating = 0.

Calculating ratings for objective criteria (step 3)

The third step that LN carries out in the calculate objective criteria ratings process, is the creation of rating records for each purchase order line in the Objective Ratings (tdpur8106m000) session.

In the Objective Ratings (tdpur8106m000) session, the ratings for all objective criteria are displayed. Also, the overall rating for the concerned purchase order line is displayed.

Calculation of overall rating purchase order line

The overall rating for the purchase order line is calculated as follows:

```
Overall rating purchase order line = sum (objective rating * weighting)
```

LN retrieves the weightings of the objective criteria from the Vendor Rating Parameters (tdpur0100m800) session. The weightings are recalculated to true percentages, which are taken into account.

Calculation of new objective criterion rating

Each time you add a new line, LN automatically updates the objective criteria ratings per business partner/criterion combination in the following sessions:

- Vendor Ratings by Period (tdpur8102m000)
- Vendor Ratings by Criterion (tdpur8102m100)

The new rating is the running average, which is calculated as follows:

```
NR = ((ER * EV) + (R * V)) / (EV + V)
```

Legend

NR Newly calculated objective criterion rating
ER Rating for all existing purchase order lines of the purchase order, excluding the newly added line
EV Total value of all existing purchase order lines of the purchase order, excluding the newly added line
R Rating for the newly added purchase order line
V Value of the newly added purchase order line

Note

The value can be of the following types, according to the setting of the **Weighting Method** field in the Vendor Rating Parameters (tdpur0100m800) session:

- **Turnover**
- **Piece Count**
- **Order Lines**

Update of total values

The total values (also called: running totals) of the three above mentioned value types, are also automatically updated when you add an order line. The total values are updated by business partner in the following sessions:

- Vendor Ratings by Period (tdpur8102m000)
- Vendor Ratings by Criterion (tdpur8102m100)

The total values of all three value types are always updated, regardless of the used weighting methods. So, if you have a hundred business partners in a specific period, three hundred running totals must be updated.

Note

Subjective criteria are not taken into account in the calculation of the objective criteria ratings and the overall rating per purchase order line. So, the overall vendor rating for each business partner per period can only be calculated after the subjective criteria ratings are also calculated.

Ratings for subjective criteria

Calculating ratings for subjective criteria

If you do a full update of the vendor ratings in the Update Vendor Rating (tdpur8850m000) session, the calculation of the ratings for the subjective criteria is the third stage in the vendor rating calculation procedure.

LN completes the following steps:

1. Retrieves the subjective values per business partner from the Questionnaire Results (tdpur8193m000) session.
2. Assigns the percentage values, which are stated in the Vendor Rating Subjective Values (tdpur8192m000) session, to the corresponding subjective values.
3. Calculates the average rating for each subjective criterion per business partner.

The overall rating of a business partner/subjective criterion combination is calculated as follows:

```
Overall rating per criterion = SUM / OCC
```

Legend

SUM All percentage values that are assigned to one business partner/subjective criterion combination.

OCC The number of times that percentage values are assigned for the business partner/subjective criterion combination. A not applicable value is not taken into account.

Example 1

A business partner is rated on two subjective criteria by several employees:

- CS = Customer service
- DS = Delivery service

Subjective Criterion	Subjective Value	% value	Employee
CS	Average	50	Arthur
DS	Excellent	80	Arthur
CS	Good	60	Bob
DS	Good	60	Bob
CS	Poor	40	Carol
DS	Not applicable	**	Carol

The overall ratings for the business partner/subjective criterion combination are:

- CS = (50 + 60 + 40) / 3 = 50%
- DS = (80 + 60) / 2 = 70%

After the calculation, LN writes the ratings to the following sessions:

- Vendor Ratings by Period (tdpur8102m000)
- Vendor Ratings by Criterion (tdpur8102m100)

Example 2

The same example is used as stated above, but this time the subjective criterion CS contains three subcriteria. The subcriteria have the following weightings:

Subcriteria	Weighting
Flexibility	0.4
Call Handling	0.2
Support	0.4

The following percentage values are assigned:

Subjective Criterion	Subjective Value	% Value	Employee
Flexibility	Average	50	Arthur
Call Handling	Excellent	80	Arthur
Support	Poor	40	Arthur
DS	Excellent	80	Arthur
Flexibility	Good	60	Bob
Call Handling	Average	50	Bob
Support	Good	60	Bob
DS	Good	60	Bob
Flexibility	Poor	40	Carol
Call Handling	Excellent	80	Carol
Support	(not appl.)	0	Carol
DS	(not appl.)	0	Carol

1. **To calculate the overall ratings**
   LN calculates the overall ratings for the business partner/subjective criterion combination.
   - Flexibility = (50+60+40)/3 = 50%
   - Call Handling = (80+50+80)/3 = 70%
   - Support = (40+60)/2 = 50%
   - DS = (80+60)/2 = 70%
2. **To calculate the rating of the parent subjective criteria**
   Parent criteria rating = sum (child criteria % values * weightings)
   - Flexibility = 50% * 0.4 = 20
   - Call handling = 70% * 0.2 = 14
   - Support = 50% * 0.4 = 20
   - CS rating = 20 + 14 + 20 = 54%

3. **To write the ratings**
   After the calculation, LN writes the ratings to the following sessions:
   - Vendor Ratings by Period (tdpur8102m000)
   - Vendor Ratings by Criterion (tdpur8102m100)

Overall vendor rating

Updating overall vendor rating

If you do a full update of the vendor ratings in the Update Vendor Rating (tdpur8850m000) session, the calculation of the overall vendor rating for each business partner is the fourth stage in the vendor rating calculation procedure.

The following methods, which you specify in the **Methods/Factors** field of the Vendor Rating Parameters (tdpur0100m800) session, are used to calculate the overall vendor ratings:

- **Moving Average**
  For more information, refer to *Moving average (p. 164)*
- **Smoothing Factor**
  For more information, refer to *Smoothing factor (p. 165)*

The overall vendor rating is calculated by the Update Vendor Rating (tdpur8850m000) session and displayed in the Vendor Ratings by Period (tdpur8102m000) session and the Vendor Ratings by Criterion (tdpur8102m100) session.

Before LN calculates the overall vendor rating, the period rating for the newest business partner/period combination is calculated. LN calculates the period rating for the business partner/period combination as follows:

```
Period rating = sum (CR * AW)
```

Legend

CR Both the objective ratings and the subjective ratings for the newest business partner/period combination are taken into account. The objective ratings are retrieved from the Objective Ratings (tdpur8106m000) session and the subjective ratings from the Vendor Ratings by Period (tdpur8102m000) and Vendor Ratings by Criterion (tdpur8102m100) sessions.

AW The actual weightings are calculated in the first stage of the calculate/update vendor rating procedure. The objective criteria weightings are retrieved from the Vendor Rating Parameters (tdpur0100m800) session and the subjective criteria weightings from the Vendor Rating Subjective Criteria (tdpur8190m000) session.

Example

The following criteria apply to a business partner in the newest period:

Criterion	Rating	Actual Weighting
Delivery time	90	30%
Quality	80	40%
Customer Service	50	20%
Delivery Service	70	10%

The period rating for this business partner/period combination is calculated as follows:

```
Overall rating = (90 * 30%) + (80 * 40%) + (50 * 20%) + (70 * 10%) = 76%
```

LN writes the results of this calculation to the following sessions:

- Vendor Ratings by Period (tdpur8102m000)
- Vendor Ratings by Criterion (tdpur8102m100)

In this case, the **Criteria Type** field and the **Criteria** field are blank in the Vendor Ratings by Period (tdpur8102m000) and Vendor Ratings by Criterion (tdpur8102m100) sessions to make clear that the displayed vendor rating is the overall rating for the business partner/period combination.

Moving average

One of the two methods to calculate the overall vendor ratings is **Moving Average**.

If the method is **Moving Average**, you must define the number of periods that are taken into account in the **Moving Average Periods** field of the Vendor Rating Parameters (tdpur0100m800) session.

LN calculates the overall vendor rating for the defined number of periods for each business partner as follows:

```
New overall vendor rating = sum (PR * PV) / sum (PV)
```

Legend

PR The period rating per business partner/period combination.
PV The total value of the period.

LN retrieves the value type that is taken into account, from the **Weighting Method** field of the Vendor Rating Parameters (tdpur0100m800) session.

Example

- The period rating that is calculated for the newest period is 85%.
- The value for the newest period is 1000 pieces.
- The number of **Moving Average Periods** is set to three.
- The previous two period ratings were as follows:

Period rating	Value period 1
70%	2000
-	**Value period 2**
80%	1500

New overall vendor rating:

```
(85 * 1000) + (70 * 2000) + (80 * 1500)) / (1000 + 2000 + 1500) = 77%
```

LN writes the result of this calculation to the Vendor Ratings by Period (tdpur8102m000) and the Vendor Ratings by Criterion (tdpur8102m100) sessions.

Smoothing factor

One of the two methods to calculate the overall vendor ratings is **Smoothing Factor**.

If the method is **Smoothing Factor**, you must define the factor in the **Smoothing Factor** field of the Vendor Rating Parameters (tdpur0100m800) session.

LN calculates the overall vendor rating per business partner as follows:

```
New overall vendor rating =

(OR * OV * (1 - F)) + (PR * NV * F) /
(OV * (1 - F)) + (NV * F)
```

Legend

OR The existing overall vendor rating of the business partner.
OV The value on which the old rating was based.
NV The total value of the period. The value type is retrieved from the **Weighting Method** field of the Vendor Rating Parameters (tdpur0100m800) session.
F Smoothing factor that is defined in the Vendor Rating Parameters (tdpur0100m800) session.
PR The vendor rating for the newest business partner/period combination.

Example

- The existing overall vendor rating is 70%.
- The old value on which the existing rating is based is 8000 pieces.
- The **Smoothing Factor** is set to 0.8.
- The new value for the new period is 1000 pieces.
- The period rating calculated for the newest period is 85%.

New overall vendor rating:

```
(70 * 8000 * (1 - 0.8)) + (85 * 1000 * 0.8) / (8000 * (1 - 0.8)) + (1000 *
0.8) = 75%
```

Chapter 8
Statistics

8

Statistics

You can use Statistics to gain insight into the intake, turnover, and cancellation of orders and schedules. Statistics controls the activities that are required to define the desired format and layout for transferring historical data or actual data to statistical information. You can create user-defined statistical reports and displays to view this information, which facilitates data analysis.

You can also use Statistics to enter budgets. Budgets are used to compare the actual sales or purchases (statistics) with the estimated sales or purchases.

Procedure for statistics

To use statistics in a company:

Step 1: Specify master data for statistics

Select these check boxes:

1. **Purchase/Sales Statistics (STA)** in the Implemented Software Components (tccom0100s000) session.
2. **Maintain Statistics** in the User Profiles (tdpur0143m000) session of Procurement.
3. **Maintain Statistics** in the User Profiles (tdsls0139m000) session of Sales.

If no user profile (sales) or user profiles (purchase) is specified, a user is authorized to maintain the statistics.

Step 2: Specify levels for statistics

When updating the statistics, the sales, purchase and commission/rebate history is read and compressed to data in statistics. The level of compression depends on the statistical levels, as selected in the Statistics Parameters (tdsta0100m000) session.

Before you can select the statistical levels in the parameters, you must first specify the levels in the Statistics Level (tdsta0601m000) session. In this session, you must specify the levels on which you want

to create/update the statistics for the level types **Purchase**, **Purchase Actual**, **Sales**, and **Sales Actual**. In the Statistics Level Attributes (tdsta0102m000) session, you can specify the level attributes (fields) that must be included in the statistical reports and overviews for the level types.

The **Sales** and **Purchase** levels determine which attributes are used for compressing the history data. Therefore, these statistical levels also determine the sort attributes you can select for the sort (see step 4). For example, if a sort is specified for both sales and purchase, you can select sales attributes and purchase attributes, such as sold-to BP (sales) and buy-from BP (purchase). However, the sales field must be present in the **Sales** level, and the purchase field must be present in the **Purchase** level before you can select it as a sort attribute.

The **Sales Actual** and **Purchase Actual** levels determine which history fields are overwritten by actual data if the **Actual Data** check box is selected when you update the statistics (see step 7). In this case, the attributes (fields) that are linked to these levels are not retrieved from the history data, but from the actual data for the item or the business partner.

If an attribute is not linked to a level, the statistics cannot be maintained or updated for that attribute. Data related to this attribute will be excluded from displays and reports.

Step 3: Specify parameters for statistics

After the statistical levels are specified, you can link the levels to the relevant parameter, such as **Sales Intake Level**, **Purchase Turnover Level**, and **Sales Actual Level** in the Statistics Parameters (tdsta0100m000) session. You must also specify the dates based on which the statistics are updated for the levels.

In the Statistics Parameters (tdsta0100m000) session, you can also specify the following:

- How parent business partner data is updated when statistical data is updated.
- How the gross profit percentage is calculated and displayed in statistics.
- The various periods of a year, including the period number, start date, and end date that are used in statistics.
- Whether detailed discounts must be recorded for purchase discounts, sales discounts, rebates, and commissions.
- Standard item codes to store and retrieve statistical data.

Step 4: Specify and activate sorts for statistics

In the Statistic Sorts (tdsta1600m000) session, specify sort codes, which are used to build a particular report or overview. You must indicate the type of statistical information (intake, turnover, cancellation) that must be kept for the sort and indicate whether budgets are allowed for the sort.

From this session, you can maintain the Statistics Sort Sequences (tdsta1101m000) session. In this session, you can select the sort attributes (fields) that are used to sort data in statistical reports and overviews.

With sort attributes, you can:

- Identify specific sequences for a selection of the level attributes, as specified in the Statistics Level (tdsta0601m000) session and as selected in the Statistics Parameters (tdsta0100m000) session.
- Fine-tune the level attributes, which can be regarded as a pre-selection from the database, for each individual statistics overview that you intend to build.

After specifying a sort, you must activate it before you can use it for a report or an overview. You can activate a sort directly in the Statistic Sorts (tdsta1600m000) session, or in the (De)activate Sorts (tdsta1200m000) session.

If the sort is set up for a budget, the sort need not be active to use it for a report or an overview. In addition, if you deactivate such a sort, the budget data is not deleted for the sort.

Step 5: Specify budgets

Optionally, a company can create budgets to compare with actual results, or to use them as a basis for planning in Enterprise Planning.

You can use the Budgets (tdsta2603m000) session to enter, maintain, and delete budgets for an active sort, year, and period. However, this is not a mandatory step in the procedure.

Before you create a new budget, you must first select a sort code. This choice will narrow down the data you can use in your budget. You can use the sort attributes as displayed in the Statistic Sorts (tdsta1600m000) session.

From this session, you can do the following:

- Maintain the Absolute Figures (tdsta2100m000) session, in which you can create or display detailed numbers for the budget in absolute figures.
- Maintain the Budget Percentages (tdsta2104m000) session, in which you can create or display detailed numbers for the budget in terms of percentages.

If the **Detailed Discount Specification** check box is selected in the Statistics Parameters (tdsta0100m000) session, from the Absolute Figures (tdsta2100m000) session or the Budget Percentages (tdsta2104m000) session, you can start the Sort Budget Data by Discount Type (tdsta2105m000) session to specify detailed discounts for sales and purchase discounts, rebates, or commissions.

Step 6: Specify a layout for statistics

Before you can print or display statistical data, you must link a sort code to a layout code and you must specify the layout for the data fields in the Statistics Layout (tdsta1610m000) session.

From this session, you can do the following:

- Maintain the Statistics Layout Column (tdsta1114m000) session. In this session, you can enter and view the column content, which defines the body of the report and what exactly is detailed in the report. If no column content is defined for the layout code, you cannot print or display statistical results.

- Maintain the Statistics Layout Content (tdsta1111m000) session. In this session, you can define the type of report that is printed: different types of statistics on one line, or a fixed type of statistics for each line.
- Maintain the Statistics Layout Selection (tdsta1112m000) session. In this session, you can select the data that is used and taken into account in the report calculation.
- Maintain the Statistics Layout Print/Page (tdsta1113m000) session. In this session, you can select the data that is actually printed on the report.

Step 7: Update statistics

Use the Update Statistics (tdsta2250m000) session to create or update the statistical files based on the history or the actual data.

If you decide to do a full update, the statistics are fully updated. Except for the budget data, all current statistical data is cleared and new statistics are created based on the current (history) data. You can also update the statistics based on new (history) data that was not taken into account before when updating the statistics.

Step 8: Display/Print statistics

Use the Statistics by Layout / Sort (tdsta1615m000) session to display the statistical results for a combination of layout code and sort code.

From this session, you can do the following:

- View the data for the sort attributes (fields) that are linked to a combination of layout code and sort code in the Statistics Sort Data Selection (tdsta1501m000) session.
- View the statistical results for a combination of layout code and sort code in absolute figures in the Figures by Layout / Sort (tdsta2500m000) session. The figures that are displayed depend on the statistics type.
- View the statistical results for a combination of layout code and sort code in absolute figures in the Figures by Layout / Sort (tdsta2500m000) session, only for the columns you entered on the **Columns** tab of the Statistics Layout (tdsta1610m000) session.
- Display the statistical results graphically.

Step 9: Print statistics

Use the Print Statistics (tdsta2400m000) session to print the statistical results.

From this session, you can do the following:

- View and maintain the data that is used and taken into account in the report calculation in the Statistics Layout Selection (tdsta1112m000) session.
- View and maintain the data that is printed on the report in the Statistics Layout Print/Page (tdsta1113m000) session.

Step 10: Archive and delete statistics

You can use the Archive/Delete Statistics (tdsta2250m100) session to transfer the statistics to an archiving file and/or to delete the statistics.

You can display the archived statistics and budgets under the company number as specified in the **Archiving Company** field of the Statistics Parameters (tdsta0100m000) session.

Appendix A
Glossary

A

acceptance rule

If an approval rule is based on acceptance rules, LN automatically approves a purchase order that meets a valid rule. If you define approval rules based on acceptance, you define for what combination of data elements you want LN to approve the purchase order.

activity

A step that you must carry out for the purchase/sales order type. An activity represents the sessions or the manual action that you must carry our for the purchase/sales order type.

additional cost line

Includes a cost item that can be linked as additional costs to an order or shipment. Examples of additional cost lines are administrative costs added to the order costs if the order amount is lower than a certain value, or freight costs added to the order if the total weight of the sold/purchased goods exceeds a certain value.

additional costs

Charges for extra services, such as extra packaging, insurance, and so on. Additional costs are added to the freight costs of a shipment, load, or a freight order cluster. They are levied for shipment lines or freight order cluster lines, which can be invoiced to the customer. This depends on the agreements made with the business partner.

additional cost set

The code under which a number of additional cost lines and scenarios can be stored. Cost sets can be linked to items, business partners or price lists and, via these, to orders and shipments.

advance shipping notice

A form of preinvoicing. The customer receives an advance notification of details of a shipment that is on its way to the customer.

Acronym: ASN

appropriate menu

Commands are distributed across the **Views**, **References**, and **Actions** menus, or displayed as buttons. In previous LN and Web UI releases, these commands are located in the *Specific* menu.

approval rule

A combination of data elements, such as buy-from business partner, buyer, planner, effective date, expiry date, and amount, based on which LN approves purchase orders. The approval rules, on their turn, are based on acceptance rules or exception rules.

approved

The status assigned to a purchase requisition when all relevant approvers have approved a requisition with the **Pending Approval** status.

approved supplier list

A list of buy-from business partners approved to deliver a specific item.

ASN

See: *advance shipping notice (p. 173)*

availability type

An indication of the type of activity for which a resource is available. With availability types, you can define multiple sets of working times for a single calendar.

For example, if a work center is available for production on Monday through Friday and available for service activities on Saturdays, you can define two availability types, one for production and one for service activities and link these availability types to the calendar for that work center.

backorder

An unfilled customer order, or partial delivery at a later date. A demand for an item whose inventory is insufficient to satisfy demand.

budget

A plan that includes the budgeted quantities and/or amounts by period for the sorts selected; the budgeted or expected sales or purchase figures.

budget control

Budget Control is an integrated information system that tracks and controls budget-related business transactions. Financial health is continuously monitored by capturing sources and uses of budgets as they are committed and realized.

business partner

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

The business partner definition includes:

- The organization's name and main address.
- The language and currency used.
- Taxation and legal identification data.

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

buyer

The employee of your company who is the contact to the concerned buy-from business partner. The buyer is also known as the purchasing agent.

calendar

A register of days that contains information on the availability of, for example, resources or business partners at a specified time range.

canceled

The status assigned to a purchase requisition when the requester cancels a requisition with the **Created**, **Modified**, or **Rejected** status. A canceled requisition cannot be changed.

carrier

An organization that provides transport services. To use a carrier for load building, freight order clustering, transport cost calculation, and invoicing, you must define the carrier both as a carrier and a buy-from business partner in Common. A carrier is also referred to as a forwarding agent.

Synonym: Logistics Service Provider (LSP)

carrier

An organization that provides transport services. You can link a default carrier to both ship-to and ship-from business partners. In addition, you can print sales and purchase orders on a packing list, sorted by carrier.

For ordering and invoicing, you must define a carrier as a business partner.

Synonym: forwarding agent, Logistics Service Provider (LSP)

carrier

The company responsible for the transportation of goods to the ship-to business partner.

carrier rate book

A freight rate book where you can maintain freight agreements with carriers.

catalog

The highest level of a category structure. A catalog contains one or more categories, which contain items or subcategories. A catalog cannot be a member of another category.

central contract

A contract to which no specific contract office is linked.

change order sequence number

A number that is used to assign the occurrence of changes to a purchase order or a sales order.

claim note

The notes printed to notify the buy-from business partner if the actual delivered quantity is less than the quantity on the packing slip

client rate book

A freight rate book where you can maintain freight agreements with business partners.

cluster

In Enterprise Planning, a grouping of warehouses connected to each other by supplying relationships.

A cluster represents a geographical location that consists of one or more warehouses. Enterprise Planning considers these warehouses as one unit for planning purposes.

clustering

Grouping several schedules lines to send the lines in one purchase release.

For clustering, first the next schedule issue date, according to the issue pattern, is determined. Next, the schedule lines are clustered based on the segment time unit, and the segment length, derived from the segment set.

Note

Clustering only applies to non-referenced schedules.

commingle

To group a number of purchase orders that originate from different sources, into a single purchase order. Commingling reduces the number of purchase orders and enables you to obtain the best available prices and discounts.

commitments

Represents the start of a spending process through the generation of a purchase requisition. A commitment sets aside an estimate amount from the budget. This prevents other commitments that could exceed the budget. A commitment is not a legal obligation.

company

A working environment in which you can carry out logistic or financial transactions. All the transaction data is stored in the company's database.

Depending on the type of data that the company controls, the company is:

- A logistic company.
- A financial company.
- A logistic and a financial company.

In a multisite structure, some of the database tables can be unique for the company and the company can share other database tables with other companies.

configurable item

An item that has features and options and must be configured before any activities can be performed on it. If the configurable item is generic, a new item is created after configuration. If the item is manufactured or purchased, the configuration is identified by item code and option list ID.

Manufactured items with the default supply source set to **Assembly** and **Generic** items are always configurable. **Purchased** items with a purchase schedule in use can be configurable.

configured item

A configurable item that is configured, which means options and features are chosen for the item.

A configured item can have components that are also configured, for example, a bike with a bike light. If a configured item is an end item, it is configured with its configurable components and stored as a product variant.

consigned

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

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

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

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

See also: ownership

Synonym: Pay on Use

consignment inventory

The goods owned by a third party and that are stored in a warehouse belonging to another party.

Two types of consignment inventory exist:

- **Owned consignment inventory**
  Goods your company owns and stores in a customer's warehouse without receiving payment until the goods are used or sold. You do not register the goods as consignment inventory, because the goods are still part of your inventory.
- **Not-owned consignment inventory**
  Goods a supplier owns, but that are stored in your warehouse without being paid for until the goods are used or sold. You register the goods as consignment inventory.

consumption

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

contract price revision

A date-controlled agreement for price and discount elements on the contract line. Price revisions enable you to have several prices over time. An active revision is valid from its effective date up to the effective date of the next revision, or the expiry date of the contract line.

converted

The status assigned to a purchase requisition when the buyer converts a requisition with the **Approved** status to a request for quotation (RFQ) or a purchase order.

corporate purchase contract

A purchase contract line, used by multisite corporations, in which the agreements with a business partner about an item are specified by site (warehouse). Contractual agreements that apply to the entire corporation, such as price and quantity conditions, are specified on the contract line. Logistic agreements, which apply only to a specific site, are specified on the contract line details. The contract (total) line holds the aggregated quantity information of the linked contract line details.

Corporate purchase contracts are mainly used to make keen price agreements on a corporate level and to use these prices on site level.

cost item

An administrative item that is used to post extra costs to an order. Extra costs are, for example, accounting expenses, clearance charges, design costs, and freight expenses.

Cost items are not used for production and cannot be held in inventory. They are also referred to as expense items.

created

The status assigned to a purchase requisition when the requester enters and saves a purchase requisition.

cross-docking

The process by which inbound goods are immediately taken from the receipt location to the staging location for issue. For example, this process is used to fulfill an existing sales order for which no inventory is available.

LN distinguishes the following three types of cross-docking:

- **Static**
  To initiate this type of cross-docking, you must generate a purchase order from a sales order in Sales.
- **Dynamic**
  This type of cross-docking, available in Warehousing, can be:
  - Based on inventory shortages.
  - Defined explicitly during receipt of goods.
  - Created on an ad hoc basis.
- **Direct Material Supply**
  You can use this type of cross-docking, available in Warehousing, to meet demand in a cluster of warehouses, and is based on:
  - Receipts
  - Inventory on hand

Note

You can maintain cross-dock orders that originate from Sales in the same way as cross-dock orders created in Warehousing, with the exception of the sales order/purchase order link, which you cannot change.

See: direct material supply

cumulatives (CUMs)

The year-to-date totals for quantities shipped, received, required, and invoiced.

Cumulatives are used as schedule statistics to track if its status is ahead or behind schedule compared to the demand.

customer furnished material

An item supplied by the customer being used as material in the production of an end-item for that same customer.

deleted

The status assigned to a purchase requisition when a requisition with the **Converted** or **Canceled** status is deleted.

delivery contract

A list of time-phased delivery, derived from a contract and converted to purchase orders. A delivery contract is not a real schedule, but a schedule solution to generate purchase orders in time.

Example

Contract line	Delivery contract	Purchase order (PO)
100 pieces (pcs)	2000/12/01 20 pcs	PO1 2000/12/01 20 pcs
-	2000/02/08 25 pcs	PO2 2000/02/08 25 pcs
-	2000/12/15 40 pcs	PO3 2000/12/15 40 pcs
-	2000/12/22 15 pcs	PO4 2000/12/22 15 pcs

demand peg

A relationship between a planned order, or an actual supply order, and an item requirement that represents a definite commitment. LN cannot use the demand pegged supply for anything else than the pegged requirement, unless the peg is explicitly deleted.

- **Pegged supply**
  The pegged supply can be a purchase order, a planned purchase order, a production order, a planned production order, a warehousing order with transaction type transfer, or a planned distribution order.
- **Pegged requirement**
  The pegged requirement can be, among other things, a sales order line or a required component for a production order.

Related term: soft peg

dependent currency system

A currency system in which you can use multiple home currencies within a single company. For most entities, the financial company determines the local currency that is used. All transactions are registered in all the home currencies.

Currency rates are defined between the external currencies and the reference currency, and between the reference currency and the other home currencies. Transaction amounts are first converted into the reference currency and then the transaction amount in the reference currency is converted into the other home currencies.

See: standard currency system

direct delivery

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

In a Vendor Managed Inventory (VMI) setup, a direct delivery is achieved by creating a purchase order for the customer warehouse.

A seller can decide for a direct delivery because:

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

discount schedule

An entity in which you can store discount information that is valid for a given period of time and that is used to calculate discounts for an item.

A discount schedule includes the following elements:

- A discount schedule header, which contains the code, type, and use of the discount schedule.
- One or more discount schedule lines, which contain the discounts.

The discounts specified in a discount schedule are expressed as a percentage or an amount and are subject to a minimum or maximum quantity or value.

A discount schedule can be linked to a price book.

EDI messages

An electronic document (for example, an electronic order acknowledgment) that consists of an organization and a message.

Incoming and/or outgoing messages are processed in specific libraries invoked by EDI communication sessions (for example, in the Sales Control (SLS), Sales Invoicing (SLI), Accounts Payable (ACP), Cash Management (CMG), Purchase Control (PUR), Inventory Handling (INH), and Electronic Data Interchange (EDI) modules).

effectivity period

The period of time defined by the effective date and expiry date in which a record is valid.

electronic data interchange

Way to exchange information with your business partners by using electronic mail. Information include catalogs, sales and purchase orders, and all other types of information necessary to carry out business transactions.

electronic data interchange (EDI)

The computer-to-computer transmission of a standard business document in a standard format. Internal EDI refers to the transmission of data between companies on the same internal company network (also referred to as multisite or multicompany). External EDI refers to the transmission of data between your company and external business partners.

encumbrance

An obligation in the form of a purchase order, contract or salary commitment that is chargeable to an appropriation, and for which part of an appropriation is reserved.

equipment item

Reusable items used to produce or to ship goods for a project. Equipment is not consumed while the project is carried out. Equipment can be internally owned or externally rented. Equipment items can range from tools such as electric drills and wheelbarrows, to machines, large cranes, trucks, tug boats, and so on.

exception rule

If an approval rule is based on exception rules, LN automatically approves a purchase order that does not meet a valid rule. If you define approval rules based on exception, you define for what combination of data elements you do not want LN to approve the purchase order.

exchange rate

The price at which one currency can be exchanged for another currency. In other words, the amount which one currency will buy another currency at a particular time.

forwarding agent

See: *carrier (p. 175)*

freight order

A commission to transport a particular number of goods. A freight order includes an order header and one or more order lines.

A freight order header includes some general information, such as the delivery date and the name and address of the customer who is to receive the goods listed on the freight order.

A freight order line includes an item to be transported and some details about the item, such as the quantity and the dimensions.

full supply time

The total time required to obtain an item that is not forecasted. This time is used to calculate the full cumulative order lead time for an item, which includes the cumulative lead time of purchased parts.

Example

For item A, the supplier communicated a *supply time* of 50 days. This is in fact a reduced lead time and is only possible because a three year forecast is sent to the supplier for this item. If additional quantities are needed, which are not included in the forecast, the supplier needs the *full supply time*, which is 300 days.

generation date

The date the specific schedule is (re)generated.

generic item

An item that exists in multiple product variants. Before any manufacturing activities are performed on a generic item, the item must be configured to determine the desired product variant.

Example

Generic item: electric drill

Options:

- 3 power sources (batteries, 12 V or 220 V)
- 2 colors (blue, gray).

A total of 6 product variants can be produced with these options.

generic price list

A product variant that is generated from customer specifications can have a detailed sales price based on the selected options. Purchase prices for generic items can also be generated. The purchase price is used to calculate the cost price. Matrices can be defined if options exist for different product features that have mutual relationships that influence the purchase or sales price.

independent currency system

A currency system in which all financial companies and logistic companies that are related to each other in the enterprise structure model use the same two or three home currencies. All transactions are registered in all the home currencies.

Currency rates are defined between the transaction currencies and all home currencies. Transaction amounts are converted directly from the transaction currency into the home currencies.

See: standard currency system

internal processing time

The time required between the recognition of needs and the release of the purchase order. Internal processing time includes document preparation and sourcing.

inventory commitment

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

item

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

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

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

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

item order plan

A time-phased overview of your order planning.

The item order plan contains overview values for demand and forecast on one hand, and the other hand it provides information about scheduled receipts (actual orders) and planned supply (planned orders).

landed costs

The total of all costs that are associated with the procurement of an item until delivery and receipt in a warehouse. Landed costs typically include freight costs, insurance costs, customs duties, and handling costs.

In LN, landed costs can be part of multiple landed costs sets.

layout code

An identifying code and description of the layout properties of a report, such as paper size, font, range of data, column headings, and data.

level attribute

A data field whose information is updated and set aside for statistics overviews. It can be regarded as a pre-selection of statistics information, which can be fine-tuned later by means of sorts.

list item

A type of item that consists of multiple components. The components can also be managed and ordered separately. The type of list item (kit, menu, options, or accessories) indicates how the components are related.

List items are used to speed up the order-entry process. The order lines for a list item can contain main items or components.

list type

The way in which a list item can be defined.

logistic agreements

Conditions that must be formally agreed upon between a supplier and a customer regarding logistic data, such as schedule messages, frozen periods, authorizations, delivery patterns, carrier, and so on.

Logistics Service Provider (LSP)

See: *carrier (p. 175)*

Logistics Service Provider (LSP)

See: *carrier (p. 175)*

maintenance activity

The smallest unit of work that form the base for all maintenance to be carried out.

manufacturer part number (MPN)

The unique identification of a manufacturer's item code, which is used in the item ordering and identification process.

modified

The status assigned to a purchase requisition when the requester changes a requisition header or line for a requisition with the **Rejected** status. The modified requisition can be resubmitted for approval.

moving-average unit cost (MAUC)

An inventory valuation method for accounting purposes.

The MAUC is the average value for each unit of the current inventory. For each new receipt the MAUC is updated.

MPN set

A set of manufacturer part numbers (MPNs) that belongs to a purchase order line or a purchase schedule line.

net order line amount

The net order line amount, expressed in the transaction currency. This amount is calculated as follows:

```
Amount = (Quantity * Price) - Order Line Discount
```

normal contract

A customer-oriented contract, agreed upon by suppliers and customers, that is used to record specific agreements. A normal contract is usually valid for approximately one year.

A normal contract cannot be activated if another active contract exists for the same business partner in a specific period.

objective criterion

A criterion for which the score is calculated directly from the data in the system.

The following objective criteria are available:

- **Delivery**
- **Quality**
- **Quantity**
- **Cost Performance**
- **Order Confirmation**
- **Period Rating**

operation

One of a series of steps in a routing that are carried out successively to produce an item.

The following data is collected during a routing operation:

- The task. For example, sawing.
- The machine used to carry out the task (optional). For example, sawing machine.
- The place where the task is carried out (work center). For example, woodwork.
- The number of employees required to carry out the task.

This data is used to compute order lead times, to plan production orders and to calculate cost prices.

operation subcontracting

The work on one or more operations in an item's production process is outsourced to a subcontractor.

order date

The date on which the order is manually entered into the system or is automatically generated.

packing slip

An order document that shows in detail the contents of a particular package for shipment. The details include a description of the items, the shippers or customers item number, the quantity shipped, and the inventory unit of the shipped items.

Pay on Use

See: *consigned (p. 178)*

peg

A combination of project/budget, element and/or activity, which is used to identify costs, demand, and supply for a project.

pending approval

The status assigned to a purchase requisition when the requester submits a requisition with the **Created** or **Modified** status for approval.

period table

A table that consists of any number of time units, for example, months or weeks.

A period is used to define the time horizon during which, for example, a schedule is valid.

planned delivery date

The planned date on which the items on the order/schedule line must be delivered. The planned delivery date cannot occur before the order date/schedule generation date.

planned inventory transactions

The expected changes in the inventory levels due to planned orders for items.

Planned load date

The date and time loading is planned at the ship-from location.

position number of an order line

The number used to identify the position of the order line on the sales or purchase order.

potential backorder

A backorder that must be manually confirmed and that can be modified by the user.

The following can result in a potential backorder:

- The received quantity of the purchase order line is less than the ordered quantity at the time of delivery date.
- The received quantity is partially rejected during inspection.
- The received quantity is equal to the ordered quantity, but the user changes the backorder quantity from zero into a higher value.

priority

An option that enables you to add a certain rating for suppliers. If the priority is defined, the item/supplier combinations are sorted according to descending priority.

production order

An order to produce a specified quantity of an item on a specified delivery date.

purchase contract

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

A contract is comprised of:

- A purchase contract header with general business partner data, and optionally, a linked terms and conditions agreement.
- One or more purchase contract lines with (central) price agreements, logistic agreements, and quantity information that apply to an item or price group.
- Purchase contract line details with logistic agreements and quantity information that apply to an item or price group for a specific site (warehouse) of a multisite corporation. Contract line details can exist only for corporate purchase contracts.

purchase contract line

The agreement with a supplier about a certain item. A purchase contract line contains both commercial and logistic conditions related to the supply of one item, during a period of time.

In case of a corporate purchase contract, the purchase contract line is a **Total** line, because it has linked purchase contract line details.

purchase contract line detail

The agreement with a supplier about a certain item for a specific site (warehouse). A purchase contract line detail contains quantity and logistic conditions related to the supply of one item by a specific warehouse, during a period of time.

Contract line details can exist only for corporate purchase contracts.

purchase invoice

Purchased goods that are received, inspected (if required), and posted to inventory are placed on a purchase invoice. You must pay the buy-from business partner for the quantity on the invoice.

The buy-from business partner, order, item data, prices, and discounts are printed on the invoice. You can compare the data on the invoice to the invoice you receive from the buy-from business partner.

purchase office

A department in your organization that is responsible for buying the materials and services needed by your organization. You assign number groups to the purchase office.

In this way, you can assign serial numbers to:

- Purchase orders
- Purchase schedules
- Requests for quotations
- Purchase contracts

You can also define a default warehouse where goods ordered by the purchase office must be delivered.

purchase office for requisitions

A department, clearly identified in the company business model, that manages business partner purchase relationships. This department identifies the location from which a purchase requisition is initiated. Purchase office information is used to convert the requisition to a purchase order or request for quotation (RFQ).

purchase order

The order that indicates which items are delivered by a buy-from business partner according to certain terms and conditions.

A purchase order contains:

- A header with general order data, buy-from business partner data, payment terms, and delivery terms
- One or more order lines with more detailed information about the actual items to be delivered

purchase order advice

A recommendation based on the economic stock and the reorder point of an item. Purchase order advices must be confirmed and transferred to convert them into actual purchase orders.

purchase order header

The general information of a purchase order.

A purchase order header contains, among other things:

- General order data
- General buy-from business partner data
- Payment terms
- Delivery terms

purchase order type

The order type determines which sessions are part of the order procedure and how and in which sequence this procedure is executed.

purchase payable receipt

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

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

purchase requisition

A request by a user to obtain authorization for the procurement of goods and services.

A purchase requisition includes both standard and nonstandard material, cost, or service requirements. Information on a purchase requisition includes name, department, location, purchase office, and approver in the header section. The requisition line detail includes item, supplier, quantity, price, and amount.

A purchase requisition can be converted to one of the following:

- Purchase order
- Request for quotation (RFQ)

purchase schedule

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

push schedule

A list of time-phased requirements, generated by a central planning system, such as Enterprise Planning or Project, that are sent to the supplier. Push schedules contain both a forecast for the longer term and actual orders for the short term.

A push schedule can use one of the following release types:

- **Material Release**: only material releases are sent. Shipping is performed based on the **Firm** and **Immediate** requirements in the material release.
- **Shipping Schedule**: both material releases and shipping schedules are sent. Shipping is carried out based on the **Firm** and **Immediate** requirements in the shipping schedule. The material release only sends forecasting data.
- **Shipping Schedule Only**: only shipping schedules are sent. Shipping is carried out based on the **Firm** and **Immediate** requirements in the shipping schedule. No forecasting data is sent to the supplier.

rate determiner

The method to decide which date is used to determine the exchange rates.

During the composing process, all amounts in foreign currencies are converted to the home currency, based on the determined exchange rate.

receipt

The physical acceptance of an item into a warehouse. A receipt registers: received quantity, receipt date, packing-slip data, inspection data, and so on.

receipt number

The sequence number assigned to every individual receipt of goods.

rejected

The status assigned to a purchase requisition when an approver rejects a requisition with the **Pending Approval** status.

reject location

A location in a warehouse in which the rejected goods are stored.

From a reject location you can:

- Accept the rejected goods
- Return the rejected goods to the buy-from business partner
- Destroy the rejected goods

reminder

A purchase order document that urges the supplier to deliver the ordered goods under the conditions agreed upon.

request for quotation (RFQ)

A purchasing document that is used as a request to bidders to submit their terms, such as price, discount, delivery time, and payment terms for delivering a (quantity of a) product.

You can send the RFQ to several bidders. The bidders can submit RFQ responses for the specified items.

You can record the responses, negotiate, and compare the prices and discounts that are offered by different bidders.

An accepted response can be copied to a contract, an order, or a price book.

request for quotation (RFQ) line

The lines that include the item details in a request for quotation (RFQ), such as required quantity, time to be delivered, delivery warehouse and so on.

The item lines are sent to the bidder. As a result, the bidder can respond to each item individually. The bidder can also give alternatives for the required item.

response date

The last date on which the bidder can submit an RFQ response on the request for quotation.

response line

A response to a request for quotation line, which includes a bidder's bid for the RFQ line. A bid offers goods or services for a certain price and terms of sale and can be considered as an offer to sell.

RFQ criterion

A subjective criterion used to determine which RFQ response is accepted. You can link RFQ criterions to RFQ criterion sets.

RFQ response

A response to a request for quotation, which includes one or more response lines with bids. A bid offers goods or services for a certain price and terms of sale and can be considered as an offer to sell.

route

Line of travel from your warehouses to the ship-to or ship-from business partner's warehouse and vice versa. Use routes to group business partners that are located in the same area or along one convenient route.

You can arrange addresses by routes to print picking lists and shipping notes sorted by route.

route plan

A network of loading and unloading addresses, one of which is a pooling point. A route plan is usually defined for routes that involve multi-modal transport. A route plan consists of one or more legs. Each leg, or part of the route, can be handled differently depending on the specified transport category and transport means group.

routing

The sequence of operations required to manufacture an item.

For each operation, the task, machine, and work center are specified, as well as information about setup time and cycle time.

safety time

The time that you can add to the normal lead time to protect delivery of goods against fluctuations in the lead time so that an order can be completed before the order's real need date.

self-billing

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

sequence number

The number that identifies a data record or a step in a sequence of activities. Sequence numbers are used in many contexts. Usually LN generates the sequence number for the next item or step. Depending on the context, you can overwrite this number. You can sometimes influence the numbering by setting the corresponding parameters.

service item

A standard item that represents services instead of goods.

service level

The level of service offered by a carrier in connection with goods transports, such as speedy delivery, delivery within twelve hours, and so on. Usually, a service level is related to the freight rates that a carrier uses to calculate prices for transportation services.

single currency system

A currency system in which a company uses only one home currency.

See: standard currency system

sort code

An identifying code and description of a set of data fields grouped in a sequence. These data fields are used in statistics reports and displays. When a report or display is generated, the fields are filled with data from the database and displayed in the report or display according to the sequence defined in the sort code.

sourcing percentage

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

sourcing rule

The planning system that contains the rules for allocating demand based on a combination of supplier priority and percentage allocation to specific suppliers.

special contract

A customer-oriented contract, agreed upon by buy-from business partners and sold-to business partners that is used to record specific agreements for specific projects. A special contract can also be a promotional contract.

For special contracts, an overlap in effectivity periods is allowed for the same item/business partner combination.

SSP

See: *supplier stage payments (p. 197)*

standard calendar

A calendar that is used as the default calendar. For the seven days the week, the standard calendar defines the working times for each availability type. Other calendars are derived from this calendar. If a planning run proceeds beyond the end date of a calendar or its parent calendar, LN falls back on the standard calendar.

standard route

A standard route is a fixed route that is traveled with a particular frequency, such as a truck that visits delivery and/or loading addresses according to a fixed schedule, a rail service, or a boat service. Usually, transportation via standard routes costs less than travel via non-fixed routes. For example, you can define a route like Amsterdam via Rotterdam to Antwerp that is run once a day.

subcontracted service

The auxiliary item code for recording subcontracting operations. Items of this type also belong to the administrative items. These items are non-physical items which are used to record the subcontracting costs.

subcontracting

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

Subcontracting is considered as purchasing a subcontracting service.

subcontracting rate

The rate that is used to calculate the subcontracting costs. How LN uses the subcontracting rate in the calculation depends on the calculation method:

- **Fixed Amount by Product**
- **Operation Rate**
- **Man Hour Rate**
- **Machine Hour Rate**

subcontractor

A third-party service provider. The subcontractor is referred to as buy-from business partner, because he is considered to be a business partner from whom services are bought.

subjective criterion

A criterion whose rating is based on user judgements that are entered in a questionnaire.

You can classify subjective criteria in a tree structure.

Subjective criteria are taken into account in vendor rating.

supplier price book

A standard purchase price book that is used to store the following:

- The default purchase price of an item by buy-from business partner, ship-from business partner, or both
- The prices copied from RFQ responses
- The default prices of items

supplier stage payments

Spread payments that are made by customers to suppliers over a period of time. With stage payments, customers can make payments for an item before or after the item is actually received. An item's invoice flow is separated from its goods flow.

Abbreviation: SSP

supplier stage payment schedule

A schedule set with supplier stage payment defaults used to generate stage payment lines on purchase order lines or RFQ responses.

After specifying the desired schedule number, you can specify the defaults for a number of stage payment lines. The time fence between the order date and the invoice date, and the percentage of the total net amount are specified on a stage payment line.

supply time

The total time required to obtain an item that is forecasted. This time is used to calculate an item's order lead time, based on which a company takes commitment decisions and executes capacity planning and order management.

Example

For item A, the supplier communicated a *supply time* of 50 days. This is in fact a reduced lead time and is only possible because a three year forecast is sent to the supplier for this item. If additional quantities are needed, which are not included in the forecast, the supplier needs the *full supply time*, which is 300 days.

terms and conditions agreement

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

The agreement includes the following:

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

transport means group

A classification used to group means of transport, such as:

- Vans
- Trucks
- Container ships
- Cargo aircraft

For each group, properties are defined, such as:

- The average speed
- The loading capacity

Each means of transport defined in Freight belongs to a transport means group. For example, transport means group: Vans, means of transport: van with licence number XX333444 .

Unload date

The date and time unloading takes place at the ship-to location.

user profile (sales)

The default data that is recorded by the user and influences the creation of sales quotations, sales contracts, sales orders, and sales schedules. This data determines the method of order entry, default values during order input, and so on.

user profiles (purchase)

The default data that is recorded by the user and influences the creation of purchase requisitions, requests-for-quotation, purchase contracts, purchase orders, purchase schedules, purchase releases, call-offs, and approval rules. This data determines the method of order entry, default values during order input, and so on.

vendor managed inventory (VMI)

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

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

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

vendor rating

A classification of a supplier based on certain criteria. These criteria can be based on deliveries (on time, sufficient quality) and on other factors.

warehouse

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

warehousing order type

A code that identifies the type of a warehousing order. The default warehousing procedure that you link to a warehousing order type determines how the warehousing orders to which the order type is allocated are processed in the warehouse, although you can modify the default procedure for individual warehousing orders or order lines.

warehousing procedure

A procedure to handle warehousing orders and handling units. A warehousing procedure comprises various steps, also called activities, that a warehousing order or a handling unit must take to be received, stored, inspected, or issued. A warehousing procedure is linked to a warehousing order type, which in turn is allocated to warehousing orders.

work order

Orders that are used to plan, carry out, and control all maintenance on items in a maintenance shop or in a repair shop. A work order consists of at least one work order header, and can have a number of activities that must be carried out on a repairable service item.

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