Infor LN Service User Guide for Maintenance Sales Order Control (Depot Repair)

Publication Information

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About this document

This guide provides information about the various concepts and processes such as maintenance sales order, sales order status and sales order line status, available in Maintenance Sales Order.

Objectives

This document is a User's Guide that is designed to meet the following objectives:

Understand the following concepts
- Maintenance sales orders
- Sales order status
- Sales order line status

To perform the following tasks
- To create maintenance sales orders
- To close maintenance sales orders
- To cancel maintenance sales orders

In this document, the reader is assumed to already have an understanding of LN Service.

Document summary

This guide describes the various concepts and processes available in the Maintenance Sales Order.

How to read this document

This document is 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 the LN Service Online Help.

To locate a section referenced in this document, refer to the table of contents.

Underlined terms indicate a link to a glossary definition. If you view this document online, you click on underlined text to jump to the glossary definition at the end of this document.

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Chapter 1
Introduction

1

This chapter provides a brief introduction to the Maintenance Sales Order functionality available in the RMA & Depot Repair module.

Introduction

The Maintenance Sales Control (MSC) module covers the functionality to register the request made by customers to the service provider. In case of requests related to repair of parts, the Work Control System (WCS) module controls the actual work implementation. You can also handle the receipt and delivery of spares, replacements or loaners with the Maintenance Sales Orders.

For Depot Repair, the Maintenance Sales Control (MSC) module has a close relationship with the Work Control System (WCS) module, which controls the work implementation. The Maintenance Sales Control procedures manage the R.A. processes and other maintenance sales processes.

You can handle four types of item transactions in any maintenance sales order:

- **Part maintenance**
  If a part comes back for repairs, this process can be handled as a part-repair transaction. At this point, you must receive the part into a service customer owned warehouse to successfully carry out repair activities as a part of depot repair. A linked work order is required when the repairs are carried out through work orders, which you do using the WCS module. The part lines must await completion of work orders and further delivery into a planned warehouse, from which the item can be returned to the customer.

- **Part delivery**
  If parts must be delivered to a customer, this delivery is performed through a parts delivery line. The customers might possibly require new or upgrade type subassemblies or additional parts. The parts delivery lines enable you to deliver these parts to the customers.

- **Part receipt**
  You can use the part receipt lines to return defective or parts in good condition. Parts can be returned due to rejections or outdated parts can be sold back at reduced prices. By combining parts receipt and parts delivery lines, parts exchange is carried out. As a result, the customer receives a repaired or new part, while the service company owns the defective part. The opposite is true for part maintenance, for which the same part is returned to the customer.

- **Part loan**
  During the absence of the part due to repair or due to the temporary nature of part use, the customer would require a loaner for short time which the customer can use for a limited amount of time and then return the part back.

- **Convert to part delivery**
  In case the service department thinks that the loaned part need not be returned by the customer, for that item the **Convert to Part Delivery** option is used. You can invoice the customer for the delivered part.

- **Convert to part receipt**
  In case the service department thinks that the part under maintenance cannot be returned to the customer (Example not able to repair the part), the **Convert to Part Receipt** option can be used. While costing, a credit note is generated.

Chapter 2
Maintenance Sales Order Concepts

2

This chapter provides a brief description of the concepts available in a maintenance sales order.

Maintenance Sales Orders

Maintenance sales orders are sales agreements that specify the customer to whom the services are offered and other relevant details of the sales. Maintenance sales orders can consist of multiple line items. Information about the ship-to business partner are must for the delivery of repaired, loan, or replacement goods. Similarly, the details of invoice-to and pay-by business partners are required for invoicing the business partner.

Maintenance sales orders can be entered directly upon receipt of a customer request or can result from a transferred call, which can happen if the Call Management module registers the customer request. The first set of processes in regard to RMA tracking is to enter and provide details in the maintenance sales orders.

The following modules are closely related to the functioning within the Maintenance Sales Orders module:

- **Call Management (CLM)**
  Maintenance sales orders can originate from a transferred call. A call can be transferred to an existing maintenance sales order or can result in a new maintenance sales order.
- **Work Control System (WCS)**
  All maintenance sales orders with Part Maintenance lines will result in a work order. Work order execution is closely linked with the costing or invoicing of the maintenance sales order.
- **Configuration Management (CFG)**
  Maintenance sales order lines contain the details of the parts defined in the configuration details, in the form of serialized items and Installation groups.
- **Master Data Management (MDM)**
  Maintenance sales order and lines contain the service department responsible for processing the order, the service type, and the coverage type, as well as the items that are handled in the order.
- **Contract Management (CTM)**
  Maintenance sales order lines can be covered by contracts and warranties, if applicable.

- **Central Invoicing (CI)**
  Processed maintenance sales orders can be sent to Central Invoicing for billing.
- **General Ledger (GLD)**
  All costs and revenues of the maintenance sales orders are posted to general ledger.

Sales order status

Free

The order has been entered either manually or by means of a call transfer.

Released

The status of the maintenance sale order is set to **Released**. You must first release the order and then perform further transactions.

In Process

The status of the first line under the order has changed to **In Process**.

Completed

The status of the last line under the order has changed to **Completed**.

Costed

All order lines and coverage lines for the order are costed.

Closed

Indicates closure of the order.

Canceled

The order is not executed and is canceled for the reasons indicated under the order line cancel reasons.

Sales order line status

Free

Status during order line entry.

Released

The status of the maintenance sale order line is set to **Released**.

In Process

Depending on the line procedure, either the receipt or the delivery confirmation changes the order line status from **Free** to **In Process**.

Completed

Depending on the line procedure, either the delivery or the receipt confirmation changes the order line status from **Free** to **Completed**, or from **In Process** to **Completed**.

Costed

All coverage lines related to the order line are costed.

Closed

Indicates the closure of maintenance activities on the order line.

Canceled

The work on the order line is canceled and the reason and date of cancellation are recorded in LN. Cancellation can be immediate or postponed. In case of postponed cancellation, the order is initiated for cancellation and receives the **Canceled** status after you close the order.

Alternative Item

Alternative items serve as a substitute for the standard item when the standard item cannot be delivered or is being replaced. If several items can be substituted for a standard item, you can assign a priority code to each alternative item.

You can specify alternative items for the components in an item breakdown under different parent items. You can select the correct alternative item based on the parent item

When you delete an item breakdown relation then the corresponding alternative items are also deleted. When there is a change in the item breakdown then the corresponding item in the alternative items must be updated.

ATP

An item master plan contains ATP (ATP) information. You can use the ATP information to determine the quantity available and to support order acceptance.

You can use the information to :

- Determine the availability of the stock of the spare part.
- Identify warehouse in which it is available
- Determine the date when the spare part can be promised to determine the service execution dates and service delivery dates.

Impact of ATP Date

When an ATP check is performed successfully there is an impact of the ATP date on Earliest Start Time(EST), Planned Start Time(PST) , Planned Finish Time(PFT), Latest Finish Time (LFT) and Planned Delivery Date(PDD).

The below table displays the Earliest Start Time(EST), Planned Start Time(PST) , Planned Finish Time(PFT), Latest Finish Time (LFT) and Planned Delivery Date(PDD), when the ATP check is not performed:

EST	PST	PDD	PFT	LFT
5-Apr-07	7-Apr-07	7-Apr-07	10-Apr-07	11-Apr-07

When the ATP check is performed and in case the ATP Date is greater than the Planned Delivery Date then following is the impact of the ATP date:

- The EST date is reset to the ATP date.
- The LFT date increases by the same number of days as the difference between the EST and the new EST as shown in the table below:

ATP Date	EST	New EST	PST	New PST	PDD	New PDD	PFT	New PFT	LFT	New LFT
8-Apr-07	5-Apr-07	8-Apr-07	7-Apr-07	8- Apr-07	7-Apr-07	8-Apr-07	10-Apr-07	9-Apr-07	11-Apr-07	14-Apr-07

When the ATP check is performed and ATP is greater than PDD and the new EST is greater than PST date then following is the impact :

- The EST date is reset to the ATP date.
- The PST date is reset to the ATP date.
- The PDD also reset to the ATP date.
- The PFT date increases by the same number of days as the difference between the PST and the new PST.
- The LFT date increases by the same number of days as the difference between the EST and the new EST as shown in the table below:

ATP Date	EST	New EST	PST	New PST	PDD	New PDD	PFT	New PFT	LFT	New LFT
8-Apr-07	5-Apr-07	8-Apr-07	7-Apr-07	8-Apr-07	7-Apr-07	8-Apr-07	10-Apr-07	11-Apr-07	11-Apr-07	14-Apr-07

Note

The delivery date on the Maintenance Sales Order line is updated with the ATP date when an ATP check is performed successfully.

A parts (material) flow to the subcontractor and a broken part flow from the subcontractor

A parts (material) flow to the subcontractor

Material can also be sent to the subcontractor. This material is created/generated as Work Order Material Resources (tswcs4110m000) lines, linked to the subcontracted activity. Consequently, this material can only be added after processing the outgoing subassembly (when the subcontracted activity is created), and before the subcontracted activity is released. The required material can also be added to the reference activity linked to the outgoing subassembly.

When the **Supply Material to Subcontractor** check box is selected in the Work Order Activities (tswcs2110m000) session, the **Delivery Type** can be set to **From Warehouse**, **Via Purchase**, or **From Kit** in the Work Order Material Resources (tswcs4110m000) session.

The **Ownership** of the material can be set to **Company Owned** or **Customer Owned**, in the Work Order Material Resources (tswcs4110m000) session.

Note

The **Delivery Type** can be set to **Subcontracting Requirement**, only if the **Supply Material to Subcontractor** check box is cleared.

If the **Delivery Type** is set to **Subcontracting Requirement**, the value in the **Ownership** field is set to **Not Applicable**.

When a purchase requisition is created, the material is not linked directly to the requisition. When the requisition is converted to a purchase order, the material to be supplied is retrieved from the work order material resources. The material can be added, modified, or deleted only until the purchase order is created. When the **Supply Material to Subcontractor** check box is cleared, material can not be supplied.

Usually, material is delivered to the work center of the activity, through a warehouse order. The warehouse order is not required when the material is linked to a subcontracted activity for which the **Supply Material to Subcontractor** check box is selected. The material specified in the Purchase Order Material Supply Lines (tdpur4116m000) session is shipped directly to the subcontractor's warehouse. The **Supply-from Warehouse** in the Purchase Order Material Supply Lines (tdpur4116m000) session is populated with the **Warehouse** specified in the Work Order Material Resources (tswcs4110m000) session.

For material with **Delivery Type** set to **Via Purchase**, the purchase order must be processed to receive the material in the warehouse. Otherwise, shortages can occur.

From the Purchase Order Material Supply Lines (tdpur4116m000), warehouse transfer orders are generated to send the material to the subcontractor, that is, from the **Supply-from Warehouse** to the **Supply-to Warehouse** (an administrative warehouse). If the **Supply-to Warehouse** is modified, the subcontractor's **Warehouse** on the related Work Order Material Resources (tswcs4110m000) line must be populated with this warehouse, and a warehouse order can be generated.

When the subcontracted item is received from the subcontractor, the material is assumed to have been consumed. So, this material is issued from the subcontractor's (administrative) warehouse (back flushing). This backflushing process is initiated by Purchasing.

Broken parts flow

In this scenario, broken parts can be received from the subcontractor.

This is done by adding outgoing subassemblies linked to the subcontracted work order activity, with **Action Outgoing Subassembly** set to **To Warehouse** in the Work Order Outgoing Subassemblies (tswcs4150m000) session . The **Warehouse** is populated with the **Warehouse Incoming Parts** of the **Service Department**. By default, the **Action Incoming Subassembly** is set to **No Action** and cannot be modified. The **Received from Subcontractor** check box indicates that this outgoing subassembly is a (broken) part received from the subcontractor. This checkbox is selected, when an outgoing subassembly for a subcontracted activity is added manually. This checkbox is required to distinguish broken parts from outgoing subassemblies.

To return these broken parts to the customer, the part delivery lines can be generated using the **Add as Part Delivery Line** option from the Action menu in the Work Order Outgoing Subassemblies (tswcs4150m000) session. This option is available:

- For an external work order, if the subassembly is linked to a subcontracted activity

■ If the **Action Outgoing Subassembly** is set as **To Warehouse** and **Action Incoming Subassembly** is set to **No Action**.

Subcontracting flows

An end-item/subassembly flow (to and from the subcontractor)

A Maintenance Work Order (MWO), generated from a part maintenance line, can be released when an item is shipped from the warehouse to the service department. The following scenarios are possible:

■ Planned subcontracting
■ Ad hoc subcontracting

Planned subcontracting

Planned subcontracting implies that the subcontracted activity is predefined in the reference activity linked to the part maintenance line. This activity specified for the MWO-header-item, can also be considered for a subassembly.

Owing to the material flow functionality, you must specify for which item the subcontracted activity is specified.

Consequently, a predefined (or manually added) subcontracted activity does not support the logistic flow of the MWO header item because the **Supply Item to Subcontractor** check box is cleared and cannot be modified. However, Infor LN supports the logistic flow of the material, hence, the **Supply Material to Subcontractor** check box can be selected.

Ad hoc subcontracting

The subcontracted activity is not yet created. The activity is created when the outgoing subassembly; with the **Action Outgoing Subassembly** set to **To Subcontractor** in the Work Order Outgoing Subassemblies (tswcs4150m000) session, is processed. This outgoing subassembly can comprise of a part of the MWO header item (a 'real' subassembly), or the MWO header item, and is linked to the disassembly activity. For the MWO header item that is used as outgoing subassembly, only the **To Subcontractor** action can be selected in the Work Order Outgoing Subassemblies (tswcs4150m000) session and the **Reference Activity** must be specified.

If the **Supply Item to Subcontractor** check box is selected in the Reference Activities (tsacm1101m000) session, a warehouse must be specified, to which the subassembly is sent, before being shipped to the

subcontractor. When the outgoing subassembly is processed, following are the possible scenarios:

Situation	Supply Item to Subcontractor	Supply Material to Subcontractor
1	No	No
2	No	Yes
3	Yes	No
4	Yes	Yes

- **Scenario 1**

  In this scenario, the MWO header item can also be used as the outgoing subassembly. The warehouse is not required.

  The subcontracted activity cannot be deleted. The **Supply Item to Subcontractor** check box in the Work Order Activities (tswcs2110m000) session is cleared, and cannot be modified. The **Supply Material to Subcontractor** check box can be selected until the activity is released. The subcontracting purchase order or requisition is created, and the activity cannot be modified anymore. On processing the subassembly, an incoming subassembly with **Action Incoming Subassembly** set to From Subcontractor in the Work Order Incoming Subassemblies (tswcs4151m000) session is created and linked to the assembly activity.

- **Scenario 2**

  This scenario is almost identical to scenario 1. The difference being the **Supply Material to Subcontractor** check box is selected in the Work Order Activities (tswcs2110m000) session, when the activity is created. This field can be modified, until the activity is released.

- **Scenario 3**

  In this scenario, specifying the **Warehouse** is mandatory. Infor LN defaults the warehouse outgoing parts of the work center, of the disassembly activity.

  When you process the subassembly, a warehouse inbound order is created to move the subassembly from the work center to the warehouse.

  A subcontracted activity is also created. The **Supply Item to Subcontractor** check box is selected, and cannot be modified. The **Supply Material to Subcontractor** check box can be selected, until the activity is released.

  An incoming subassembly with **Action Incoming Subassembly** set to From Warehouse is created and linked to the subcontracted activity. The warehouse of the incoming subassembly is populated with the subcontractor's warehouse.

  For the subcontracted activity, when the **Create Purchase Requisition** check box is selected, the subcontractor is not specified. So, the subcontractor's warehouse is also not specified. The warehouse for the incoming subassembly is populated with the warehouse that is populated for the outgoing subassembly. When the purchase requisition is transferred to a purchase order, the subcontractor is populated, and the warehouse is updated with the subcontractor's warehouse.

  This warehouse is retrieved from the Items - Sales Business Partner (tdisa0510m000) session. If not defined in this session, the subcontractor's warehouse is retrieved from Warehouses (tcmcs0503m000) session.

■ **Scenario 4**
This scenario is almost identical to scenario 3. The difference being the **Supply Material to Subcontractor** check box is selected when the activity is created. This field can be modified until the activity is released.

To Revert Outgoing Subassembly Actions

Outgoing Subassembly - Undo process

When you process an outgoing subassembly, the process of creating a warehouse order, a subcontracted activity, and an incoming subassembly is initiated. The status of the outgoing subassembly is set to processed.

It is possible that the specified action for the outgoing subassembly is not correct. For example, the subcontractor is unable to perform the task, and the work is required to be completed by another department, or the subassembly needs to be moved to a warehouse instead of a location. In such scenarios, you can use the **Undo Confirm** from the Action menu in the Work Order Outgoing Subassemblies (tswcs4150m000) session to revert the process.

Action Outgoing Subassembly To Location

When **Action Outgoing Subassembly** is set **To Location**, the subassembly is linked to the selected location. When you process this subassembly, an Incoming Subassembly is created for this location.

You can revert this process before the incoming subassembly is processed. The **Confirmed** check box is cleared, and the related incoming subassembly is deleted.

Action Outgoing Subassembly To Location for Work

When **Action Outgoing Subassembly** is set **To Location for Work**, the subassembly is linked to the selected location. A work order and an incoming subassembly is created. You can undo this process, as long as the **Status** of the related work order is **Free**. The **Confirmed** check box is cleared; the related work order and the incoming subassembly are deleted.

Action Outgoing Subassembly To Warehouse

When **Action Outgoing Subassembly** is set **To Warehouse**, the subassembly is linked to the selected warehouse. When you process this subassembly, a warehouse order is created to manage the inbound. You can undo this process, before the warehouse inbound procedure is initiated.

The **Confirmed** check box is cleared, the warehouse order, the planned inventory transaction and the incoming subassembly are deleted.

Action Outgoing Subassembly To Department

When **Action Outgoing Subassembly** is set **To Department**, the subassembly is maintained in a department other than the current department. Hence, the subassembly is returned to the warehouse of the service department, and transferred to the warehouse of the other department. A warehouse inbound and transfer order are created. Also a work order is created to manage the subassembly in the new department.

You can undo this process, if the warehouse inbound procedure is not initiated, and the **Status** of the related work order is still **Free**.

The **Confirmed** check box is cleared, the related warehouse order, the planned inventory transaction, the incoming subassembly, and the work order is deleted.

Action Outgoing Subassembly To Subcontractor

When **Action Outgoing Subassembly** is set **To Subcontractor**, the subassembly is managed by a subcontractor. When you process this subassembly, a new activity is linked to the work order.

You can undo this process, as long as the **Status** of the subcontracted activity is **Free**, and the warehouse inbound procedure is not initiated.

The **Confirmed** check box is cleared, and the related warehouse order, the planned inventory transaction and the related incoming subassembly are deleted. The subcontracted activity is also deleted. The **Subcontracting Activity** field in the Work Order Outgoing Subassemblies (tswcs4150m000) session is cleared.

Action Outgoing Subassembly To Scrap

When **Action Outgoing Subassembly** is set **To Scrap**, the subassembly is scrapped. When you process this activity, the **Confirmed** check box is selected, the serial status and the physical breakdown is updated.

The **Confirmed** check box is cleared, the serial status is updated after the new action is processed.

Order and Activity based Pricing (Depot Repair)

A work order with multiple activities can be created for each part maintenance line. The sales price specified for the part maintenance line indicates the **Fixed Order Price** of the entire work order. To define the sales price as **Fixed Order Price**, you must set the **Pricing Method** field to **Fixed Order Price** for the part maintenance line.

The **Master Routing** field and the **Routing Option** (new field) default the **Fixed Order Price** from the pricing contracts, activity terms, master routing and routing options. When the **Master Routing** and the **Routing Option** on the part line are specified, subsequently, the activity lines are generated based on the activities defined for the master routing and the routing option.

Order activity lines

The maintenance sales order activity Lines are generated based on the part maintenance lines, reference activity and master routing/option. The lines can also be generated from a planned activity, notification, service order or quotation. You can also add or change the lines manually. These changes can be implemented on the part maintenance line and the work order.

You can add activities to part maintenance lines with **Pricing Method** field set to **Fixed Activity Price** or **Time and Material**, even if the **Pricing Method** field is set to **Fixed Order Price**. This is also applicable to the new activities added to the work order that is linked to the part maintenance lines. You can also add activities to the part maintenance lines using the Maintenance Sales Order Activity Lines (tsmsc1111m000) session. This session includes all the (reference) activities to be executed by the work order.

To differentiate the origins of a part activity line, **Origin** fields are added to the Maintenance Sales Order Activity Lines (tsmsc1111m000) session.

On the Maintenance Sales Order Activity Lines (tsmsc1111m000) session, the **Pricing Method** and/or **Sales Price** can be defined and/or maintained if the order activity line is not generated for a quotation, a repair warranty, or a fixed priced part line. The **Pricing Method** of the part maintenance line and order activity lines can be modified if the **Line Status** of the related coverage lines is not set to **Costed** or no related coverage line generated from the work order, is available.

If the **Method** field is set to **Fixed Order Price/ Repair Warranty/ Quotation Fixed/ Quotation Fixed Plus** in the Maintenance Sales Order - Part Lines (tsmsc1110m000) session, the value of the **Pricing Method** field in the Maintenance Sales Order Activity Lines (tsmsc1111m000) session, linked to the part lines, is set to **Fixed Order Price**. Else, the **Pricing Method** field is defaulted from the pricing contract or reference activity.

If the **Pricing Method** of a part activity line is set to **Fixed Activity Price** or **Time and Material**, the activity lines can be individually linked to a **Time and Material** or **Fixed Activity Price** contract. To unlink or link this line manually from or to a pricing contract, the **Pricing Contract**, **Pricing Contract Change** and **Pricing Contract Line** fields are specified in the Maintenance Sales Order Activity Lines (tsmsc1111m000) session. The contract can be linked or unlinked using the **Link / Unlink Contract** option from the Action menu. If the **Contract Ignored** check box is selected in this session, the pricing contract linked to the part line is not considered, during price determination.

You can view the coverage lines that are related to the order activity lines using the **Coverage Lines** option from the Action menu in the Maintenance Sales Order Activity Lines (tsmsc1111m000) session.

Fixed Order Price Determination

Infor LN uses the following search logic for defaulting the sales price:

- The pricing contract of the part maintenance line
- The installation group
- The master routing and routing option

Fixed Activity Price Determination

The sales price is defaulted, using the part line pricing contract and the maintenance sales order activity lines reference activity .

Note

If the **Contract Ignored** check box is selected, indicates that the pricing contract linked to the part line is not considered during price determination.

Price Origin

If a pricing contract is linked to the part maintenance line or to the part activity line and the sales price is retrieved from that contract, the **Price Origin** field is set to **Service Contract** in the Maintenance Sales Order - Part Lines (tsmsc1110m000) session.

Note

The **Price Origin** is set to **Service Contract**, even if the sales price is specified for master routing.

If the price is retrieved from a reference activity, master routing or routing option instead of pricing contract, the **Price Origin** field is set to **Master Routing**, **Routing Option** or **Reference Activity**.

Part Activity Line price re-calculation

- The price related fields on the order activity lines must be defaulted again:
- When the pricing contract of the part maintenance line is linked or unlinked.
- When the **Method** of the part maintenance line is updated.

Coverage Lines

For each part maintenance line, with **Pricing Method** set to **Fixed Order Price**, a coverage line is created with **Cost Type** set to **Order** in the Maintenance Sales Order - Coverage Lines (tsmsc1120m000) session.

For each maintenance sales order activity lines with **Pricing Method** set to **Fixed Activity Price**, a coverage line is created with **Line Origin** set to **Part Activity Line** and the **Cost Type** set to **Activity** in the Maintenance Sales Order - Coverage Lines (tsmsc1120m000) session.

The fixed **Sales Price** is specified for both these coverage lines . All other coverage lines linked to the same part activity line is used to register the costs and sales information is not available for these lines.

For each part maintenance line with **Pricing Method** set to **Time and Material**, a coverage line is created when you close the work order (activity).

Synchronization of Order activity lines and Work Order Activities.

If a work order is linked to the maintenance part line, the order activity line data is synchronised with the work order activity line. This synchronization depends on the status of the part line and the status of the work order (activity).

A new activity line can only be created before the related work order is completed or modified.

If the part line **Status** is not set to **Completed** in the Maintenance Sales Order - Part Lines (tsmsc1110m000) session or updated for quotation and the activity **Origin** is not set to **Part Line**, **Planned Activity** or **Quotation** in the Maintenance Sales Order Activity Lines (tsmsc1111m000) session, the reference activity or the order activity description can be updated in the part line session, as long as the related work order activity is not released and the activity line is not related to a work order activity that is generated for an outgoing subassembly. The updated reference activity or description is also updated on the work order activity.

An order activity can be deleted if the **Status** of the maintenance part line is not set to **Completed** or **Costed** and the quotation is not linked to the order activity. If the order activity is related to a work order activity, the order activity can be deleted as long as the work order activity is not updated for quotation; no outgoing subassemblies exist for the work order activity and the **Work OrderActivity Status** is set to **Free**, **Closed** or **Canceled**.

Copy Maintenance Sales Order (Part Line)

If the **Activity Lines** check box in the Copy Maintenance Sales Order (tsmsc2280m000) session is selected, all the order activity lines are copied. If the lines are not originating from the 'Part Lines', the origin is set to 'Manual' on the target order.

If this checkbox is not selected the order activity lines are created based on the part maintenance line. This is also applicable when copying a single part maintenance lines.

History

The part activity line and the related pricing information records are copied to history during the closing of the maintenance sales order.

Data setup for service subcontracting with material flow (Depot Repair)

To implement the Subcontracting with Material Flow in Depot Repair functionality, the data must be set up in various LN packages.

Common

- The **Service Subcontracting with Material Flow** check box must be selected in the Implemented Software Components (tccom0500m000) session.
- Define the business partner representing the subcontractor in the Business Partners (tccom4500m000) session. The **Role** of the business partner must be set to **Customer and Supplier**.

Note

When you define the business partner, the subcontractor must be the same as defined in the Reference Activities (tsacm1101m000) session.

Service

When you plan and release the subcontracted activity, an Other Resource line of type Subcontracted is created for the cost item.

The following check boxes must be selected in the Reference Activities (tsacm1101m000) session:

- **Subcontracted**
- **Supply Item to Subcontractor**
- **Supply Material to Subcontractor**

Procurement

Before you can generate subcontracting purchase documents from Service, specify this master data:

- **Items - Purchase (tdipu0101m000)**
  You must define a value in the **Source of Price** field (**Service Subcontracting** group box) on the **Purchase** tab in the Items - Purchase (tdipu0101m000) session.
- You can optionally set the following data in the Items - Purchase (tdipu0101m000) session:
  - Define the **Subcontracting Purchase Price**.
  - Select the **Requisition Mandatory for Service Subcontracting** check box.
- **Purchase Requisition Parameters (tdpur0100m200)**
  You must specify a value in the **Requisition Series for Service Subcontracting** and the **Submit Generated Requisitions Automatically** fields.
- **Purchase Order Parameters (tdpur0100m400)**
  You must specify the service subcontracting fields in the **Subcontracting** group box, such as **Order Series for Service Subcontracting**, and **Order Type for Service Subcontracting**.

Warehousing

- For each subcontractor, a **Warehouse** must be defined in the Warehouses (whwmd2500m000) session. The following data must be specified in the Warehouses (whwmd2500m000) session:

In the **Supply Settings** group box, on the **General** tab:

- Define the **Supply System**. The value must be set to **Order Controlled/Single**.
- Define the **Supply Company**.
- Define the **Supply Warehouse**. From this warehouse, the items are transferred to the subcontractor's warehouse.

- On the **Relationships** tab:
  - Clear the **Inventory Management** check box.
  - Define the **Business Partner** in the **Inventory Management** group box.
  - Define the **Business Partner** in the **Site** group box.
  - The **External Site** field must be set to Yes.
  - Define the **Sold-to** and the **Ship-to** fields in the **Business Partner** group box.

- The following data must be specified in the **Supply Settings** group box in the Item Data by Warehouse (whwmd2510m000) session:
  - Define the **Supply System**. The value must be set to **Order Controlled/Single**.
  - Define the **Supply Company**.
  - Define the **Supply Warehouse**. From this warehouse, the items are transferred to the subcontractor's warehouse.

Financials

An integration document type must be defined in the:

- Integration Document Types (tfgld4557m000) session
- Mapping Scheme (tfgld4573m000) session

Using the Part Maintenance Workbench

You can use the Part Maintenance Workbench (tsmsc1600m100) session to view, filter and process the part maintenance lines and the work orders. The workbench session comprises of:

- The Part Maintenance Workbench (tsmsc1610m100) session, wherein you can set the various filters for the part lines and work orders.
- The Part Maintenance Lines (tsmsc1110m500) session.
- The Work Orders (tswcs2100m200) session.

The workbench session can only be accessed from the main menu. The satellite sessions and the related options to filter the lines and orders, are displayed based the **Part Maintenance Workbench Appearance** field setting in the Service User Profiles (tsmdm1150m000) session.

Filtering the lines and orders:

To filter the lines and orders, you can specify the header data such as the **Item**, the **Serial Number**, the **Sold-to Business Partner**, the **Operations Department**, and the **Maintenance Sales Order**.

You can also use the options that are specific to the part lines and the work orders. These options are based on the status of the lines and orders. When you select an option, the count of the lines and orders, with that status is also displayed.

If you select a part line, only the work orders that are linked to the selected part line are displayed.

Using the workbench session:

You can use the workbench session to process the part lines and the work orders. The modified data is defaulted in the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) and Work Order (tswcs2100m100) sessions respectively.

For the part lines, you can perform actions such as:

- **Release Order**
- **Cancel...**
- **Convert to Part Receipt**
- **Create Work Order**
- **Transfer to Work Center**

For the work order, you can perform actions such as:

- **Plan...**
- **Close Order**
- **Cancel...**
- **Complete Order**
- **Check Material Availability**

Note

You cannot add part lines and work orders using in this session.

As part of the usability enhancement, the status of the lines and orders is displayed in specific colors.

Estimates in Maintenance Sales Control

You can maintain estimated sales and coverage amounts for the maintenance sales orders in the Maintenance Sales Order - Estimated Coverage Lines (tstdm4100m000) session, before the maintenance sales order or the activity is released (estimated phase). You can compare these estimated amounts with the actual amounts.

To implement the Estimates functionality for maintenance sales orders, you must select the **Use Coverage Calculation for Estimates** check box in the Maintenance Sales Control Parameters (tsmsc0100m000) session.

The impact of the estimates functionality

For maintenance sales orders

When Estimates functionality is implemented and a maintenance sales order is created, the **Use Coverage Calculation for Estimates** check box is selected in the Maintenance Sales Orders (tsmsc1100m000) session.

Also, LN creates the work orders automatically (since the **Create Work Order for Part Maintenance Line** field is set to **Automatic** in the Maintenance Sales Control Parameters (tsmsc0100m000) session) for part maintenance lines and you cannot delete these work orders. Hence the **Reference Activity** or the **Master Routing** of a part line cannot be modified.

For part lines and activity lines

If an activity line is created during the estimated phase (before the order or the activity is released), LN selects the **Estimated Activity Line** check box for the line.

In the estimated phase, LN defaults the **Sales Price** amount as the **Estimated Sales Price** for the part line and the activity line.

When a new part line is added to a maintenance sales order that is in the actual phase (order **Status** is set to **Released**, **In Process** or **Completed**), the status of the part line is set to **Free**. LN prompts you to confirm if the status of the new part line must be set to **Released**. If you select 'No', the new part line status is set to **Free** and you can use the **Release** option to release the part line later.

For coverage lines

In the estimated phase, when a part maintenance line with fixed price is created, LN creates the related estimated coverage line with fixed sales price. The estimated coverage lines with cost amount are created when the related work order is released.

If the **Pricing Method** of the part line or the activity line is changed from **Fixed Order Price** or **Fixed Activity Price** to **Time and Material**, the related estimated coverage line with the **Cost Type**, **Order** or **Activity**, is deleted.

For maintenance sales quotations

For the maintenance sales quotation that created from a part maintenance line, LN creates an estimated coverage line only when the part maintenance line **Status** is set to **Free**.

For additional coverage lines

When you add a coverage line manually during the estimated phase, the **Line Origin** field is set to **Additional Line** and LN creates a related estimated coverage line. You can also add a coverage line in the actual phase. However, a related estimated coverage line is not created.

The deletion of the additional coverage line is based on the **Allow to Delete Estimates** field setting in the Maintenance Sales Control Parameters (tsmsc0100m000).

On warranty and coverage

If you modify the **Serialized Item Warranty** or the **Generic Warranty** of a part line, all the amounts are updated accordingly on the related estimated coverage line. LN updates the estimated and actual coverage lines similarly, if the **Warranty** or the **Coverage Contract** is modified when you modify the following values of a part line:

- Installation Group
- Item
- Serial Number
- Coverage Type
- Warranty
- Time

For recalculation of prices and discounts

In the estimated phase, if the prices and discounts for a maintenance sales order or a part line are recalculated, the prices and discounts are recalculated for the related estimated coverage lines also. The discount amount that is modified manually (**Discount Origin** field is set to **Manual**) is recalculated only if the **Overwrite Manual Discounts** check box is selected in the Recalculate Sales Prices and Discounts (tsmsc2240m000) session. You can also recalculate the sales price and discount for the estimated coverage lines manually using the **Recalculate Price and Discounts** option in the Maintenance Sales Order - Estimated Coverage Lines (tstdm4100m000) session.

Deleting a maintenance sales order, part line and the coverage line

The deletion of a maintenance sales order, part line, activity line and the coverage line is based on the value set for the **Allow to Delete Estimates** field in the Maintenance Sales Control Parameters (tsmsc0100m000) session. When you delete a maintenance sales order, part line, activity line or the coverage line, the related estimated coverage line is also deleted in the Maintenance Sales Order - Estimated Coverage Lines (tstdm4100m000) session.

Chapter 3
Master Data Setup

<div style="text-align: right">3</div>

This chapter describes the steps you must follow to set up master data for the Maintenance Sales Order module.

Setting up Maintenance Sales Control Parameters

To use maintenance sales order, you must first set up parameters in the Maintenance Sales Control Parameters (tsmsc0100m000) session.

The settings in these parameters affect the way in which maintenance sales orders function and are set once, therefore, you must ensure that your parameters are set properly, according to your business functions.

Step 1:

Number Group

Enter the code of the number group used to identify sales orders.

Step 2:

Defaults

LN use the following default values:

- **Coverage type**
  Used when coverage lines are created.
- **Default service origin calls**
  Used when a maintenance sales order is created from a call.
- **Default service type**
  Used when a maintenance sales order is entered manually.
- The service type is used to identify if the repaired item is covered under warranty.

Step 3:

Maintenance sales order history

If this check box is selected, LN updates the maintenance sales order history.

Step 4:

Signal and Block

LN signals or blocks you from proceeding further if the following parameters are set:

- **If Credit Limit is Exceeded**
  If this check box is selected, LN signals or blocks you if the credit limit of an invoice-to business partner is exceeded.

- **If Credit Review is Overdue**
  If this check box is selected, LN signals or blocks you if the credit review of an invoice-to business partner is overdue.

- **If Invoice is Overdue**
  If this check box is selected, LN signals or blocks you if the invoice-to business partner has an overdue invoice.

- **If business partner is Doubtful**
  If this check box is selected, LN signals or blocks you if the invoice-to business partner is doubtful.

Chapter 4
Maintenance Sales Order Procedures

4

This chapter describes the Maintenance Sales Order procedures.

Creating maintenance sales orders

The process to create <u>maintenance sales order</u> includes the following activities:

- Create maintenance sales order header
- Create <u>maintenance sales order lines</u>
- Add or modify coverage lines to the maintenance sales order

Take the following steps to create maintenance sales orders:

Step 1:

Create maintenance sales order header

You can create maintenance sales order headers to identify the general and financial details of your <u>business partner</u>. You can define, modify, or view maintenance sales orders in the Maintenance Sales Orders (tsmsc1100m000) session.

Step 2:

Create Maintenance sales order lines

You can create and modify maintenance sales orders lines for sales orders in the Maintenance Sales Order (tsmsc1100m100) session.

You can also define maintenance sales order lines on the serialized items, generic items, or on labels. Labels enable you to handle the repair of items not listed in the application's data. The incoming defect item is assigned a label, which is stored in the maintenance sales order line in the label field. The label can then be used to identify the item throughout the maintenance work cycle.

Step 3:

Add or modify coverage lines to the maintenance sales order

Coverage lines are the lines that store the information on the costs incurred, amounts to be invoiced, and the amounts covered by the applicable contract and/or warranty. Most underline coverage lines are added through the maintenance sales order process, but can also be entered manually to register additional costs.

You can view, modify, and enter coverage lines directly in the Maintenance Sales Order - Coverage Lines (tsmsc1120m000) session. You can also access the coverage lines from the Specific menu of the Maintenance Sales Orders (tsmsc1100m000) or Maintenance Sales Order - Part Lines (tsmsc1110m000) sessions, or from the Coverage Lines tab of the Maintenance Sales Order (tsmsc1100m100) session.

Search path for labor rates (Service contract)

For service contracts and service quotations, LN allows you to specify the search criteria to retrieve labor rate code when you define labor cost terms. Based on this defaulted labor rate code the cost and sales rates are used to calculate the cost and sales amount of the labor cost term.

The **Search Path** field in the Contract Management Parameters (tsctm0100m000) session allows you to define three attributes that the LN uses to retrieve labor rate codes.

LN retrieves the labor rate in the following order:
- Level 1
- Level 2
- Level 3

LN uses this search criterion to determine the labor rate for a service contract or a service quotation. If the labor rate is not specified at Level 1, the labor rate specified at level 2 is considered. If the labor rate is not specified at Level 2, the labor rate specified at level 3 is considered.

The labor rate can be defaulted from the following possible values defined for each level:
- Department
- Service Area
- Serialized Item Group
- Installation Group
- Reference Activity
- Task
- Skill
- Not Applicable

Example

Default labor rate code is retrieved from the Task associated with the labor cost term defined in the Contract Labor Terms (tsctm1132m300) session. If no Task is specified, it is retrieved from the Reference

Activity defined in the Contract Configuration Lines (tsctm1110m300) session. If no labor rate code is defined for the Reference Activity, the labor rate code is retrieved from the Service Department of the Reference Activity.

Note

ERP Enterprise does not allow you to select the same option at any two levels. For example, if level 1 is set to Department, the second and third level cannot be set to Department.

The second level can only be set when the value in first level is not set to 'Not Applicable'. The third level can only be set when the value in second level is not set to 'Not Applicable'.

To cancel maintenance sales orders

Use the Cancel Maintenance Sales Order - Item Line (tsmsc1210m000) session to cancel a maintenance sales order, including all the order's order lines, or a single maintenance sales order lines. You must enter a cancel reason and cancel date. Additional cancel text is optional.

To cancel a sales order (line) you must make sure that:

- No actual costs and revenues are recorded on this sales order or sales order line.
- The status of the order and the related item lines must be **Free** or **In Process**.
- The status of all item lines must be **Canceled**.
- The reason code, cancel text, and cancel date are filled on the sales order.

If you cancel a maintenance sales order, the following applies:

- LN changes the status of the sales order activity to **Canceled**.
- LN cancels the materials that are allocated for the sales order.
- LN cancels the warehouse orders that are created for the sales order, if the items/materials are not issued or received yet. If the items/materials are issued or received, return deliveries are created (warehouse orders of type **Transfer**).
- If you create the sales order from a call, LN changes the status of the call to **Solved**.
- If tools are required to carry out the sales order, the tool requirements are removed from the Estimated Tool Requirements (titrp0111m000) session.

Note

Sales orders that are blocked, cannot be canceled.

To unblock calls, service orders, and sales orders

To unblock calls, service orders, and maintenance sales orders, you can use the Blocking Reasons (tsmdm1101m000) session.

To unblock:

1.   Select the blocking line In the Blocking Reasons (tsmdm1101m000) session.

2.   On the <u>appropriate</u> menu, click **Release**. LN ERP fills in the **Time of Release** field automatically.

The call or order is unblocked and you can continue processing the call or order.

Project pegging in depot repair

Overview

In Service, you can implement project pegging in the Depot Repair module. You can peg the service cost to a project, element, and/or an activity.

To peg a project, specify the project, element, and/or activity information for the call, the contract, the maintenance sales quotation, maintenance sales orders or work orders. You must select the **Mandatory Project Peg** check box in the Items (tcibd0501m000) session if defining the PCA ID is mandatory to peg the cost of the item to the project.

Initiation of the pegged transaction

The peg is initiated only when a business process is started for transactions that register actual costs. For Example Calls and Maintenance Sales orders.

Project Cost Account is an account where the cost is pegged. Costs are pegged through Project Cost Account ID. You can populate the PCA ID:

■   By entering the PCA ID when you create a new call, contract, maintenance sales quotation, maintenance sales order, or an external work order.

■   By specifying the PCA ID on the service contract. You can also enter the PCA ID manually.

Propagation of the peg in the depot repair process

The PCA ID is propagated to the resulting transaction (Example, from call to MSO to Work order). You can change the PCA ID until the status of the call / contract / maintenance sales quotation / maintenance sales order / work order changes.

Propagation of the peg to service contract and configuration lines

In Service, the service contract can determine whether the call / contract / maintenance sales quotation / maintenance sales order / work order, linked to the service contract, retrieves the PCA ID from the contract. By default, the configuration lines retrieve the PCA ID from the service contract header. These

PCA IDs on the configuration line are propagated to the maintenance sales quotation lines, maintenance sales order part lines, and work orders.

Note

You can define the PCA ID for service contracts that have the status 'Free' or 'Active'.

Propagation of the peg to a call

The PCA ID of the call is retrieved from the service contract header by default, if the call is related to a service contract. You can specify or modify the PCA ID if the call status is 'Free'. You must specify the reason for the modification.

If the call is solved without being transferred (Example to a maintenance sales order or service order), the call can be invoiced. The costs are booked to the corresponding PCAs. The cost component is used to identify the appropriate project cost type using cost mapping in the Cost Mappings (tcmcs0149m000) session.

Propagation of the peg to the maintenance sales quotations

LN defaults the PCA ID of the quotation header line either from a service call, or a maintenance sales order part line, or a work order. If the PCA ID is not defaulted from these origins, LN defaults the ID from the service contract configuration line if the serialized item is linked to a service contract. You can specify or change the PCA ID, if the maintenance sales quotation status is 'Free'.

Propagation of the peg to the maintenance sales order

LN defaults the PCA ID of the maintenance sales order from the originating call or maintenance sales quotation. The PCA ID of the order part line is defaulted from a service call or maintenance sales order part line. If the PCA ID is not defaulted from these origins, LN defaults the ID from the service contract configuration line in case the serialized item is linked to a service contract. You can enter or change the PCA ID, if the maintenance sales quotation status is 'Free'.

Propagation of the peg to the work order for MSO part line

By default, the PCA ID is retrieved from the maintenance sales order. If the installation group or the item is linked to a service contract, the PCA ID is retrieved from the service contract configuration line. If the PCA ID is not defaulted from these origins, LN defaults the ID from the service contract configuration line in case the serialized item is linked to a service contract. You can specify or change the PCA ID, if the maintenance sales quotation status is 'Free'.

Propagation of the peg to the work order linked /originating from a maintenance sales order

LN defaults the PCA ID of the work order (linked/originating from maintenance sales order) from the service contract configuration line, if the serialized item is linked to a service contract. If the PCA ID is not defaulted from these origins, LN defaults the ID from the service contract configuration line in case the serialized item is linked to a service contracts. You can specify or change the PCA ID, if the maintenance sales quotation status is 'Free'.

Propagation of the peg to the follow-up work order

By default, the PCA ID is retrieved from the initiating work order. If the installation group or the item is linked to a service contract the PCA ID is retrieved from the service contract configuration line. If the PCA ID is not defaulted from these origins, LN defaults the ID from the service contract configuration line in case the serialized item is linked to a service contract. The user can specify or change the PCA ID, if the work order status is 'Free'.

Propagation of a material request to LN Warehousing from depot repair

When warehouse orders are generated from Service, in order to request material from a warehouse, the PCA ID is propagated to Warehousing only if the **Inherit Project Peg** check box in the Items (tcibd0501m000) session is selected. Warehousing uses the PCA ID for financial bookings to LN Project. Warehousing handles the potential peg transfers:

Example

Service needs materials B and material C to be used in the repair of item A. For item B, LN Service requests inventory with a peg. For item C, Service requests material with a peg, because the cost for B and C have to be reported to the project.

Warehousing checks if there is inventory of item B with the corresponding PCA. In the case of an inventory shortage, Warehousing checks whether transfer rules apply to meet the LN Service request. Warehousing handles the potential peg transfers in the background.

For item C, the process is the same. Service requests the material with a PCA, though there is inventory for item C without a peg.

For Example, a demand transaction for item A has a peg123 that requires material B and C. When the **Inherit Project Peg** check box in the Items (tcibd0501m000) session for Material B is set to Yes and for Material C is set to No:

	Inherit Peg	Cost Pegged To	Request to Warehouse
Material B	Yes	P1E10A10	Financially peg costs to: P1E10A10 Inventory from: P1E10A10
Material C	No	P1E10A10	Financially peg costs to: P1E10A10 Inventory from: <empty peg >

Since material C is without a peg in inventory, the costs are not yet pegged to the project. However, since material B is already cost pegged to the project, the cost do not have to be booked again to the project when the actual outbound process is executed.

Propagation of the Peg to generate purchase order

For project pegged items when purchase orders are generated, the PCA ID from Service (Example Subcontracting), is propagated to LN Order Management to generate the purchase order with the corresponding peg. For material request of type Via Purchase, the PCA ID is propagated only if the **Inherit Project Peg** check box in the Items (tcibd0501m000) session is selected.

Propagation of the peg to book hours

When hours are booked in Service, the PCA is processed to LN People to book hours on the work order.

Book other costs or bench stock material costs

When actual other costs or Bench stock material costs are defined in Service, the costs are logged in the PCL. If the item is defined for the maintenance sales coverage line, the item is used to identify the appropriate project cost type. In case the item is not defined, the cost component is used to identify the appropriate project cost type using cost mapping in the Cost Mappings (tcmcs0149m000) session.

Propagation of the peg to a maintenance sales order coverage line

When the maintenance sales order coverage lines are costed, the invoice is created in LN Invoicing. The revenues and costs are booked to the corresponding PCAs. If the item is defined for the maintenance sales coverage line, the item is used to identify the appropriate project cost type. In case the item is not defined, the cost component is used to identify the appropriate project cost type using cost mapping in the Cost Mappings (tcmcs0149m000) session. LN Invoicing receives the related PCA IDs for the actual costs.

Internal subcontracting for depot repair

Overview

When a defect occurs in a product, the customer requests for a repair and sends the product to the service department. The service department repairs the product, but a part of the repair is subcontracted to another repair center that belongs to another legal entity. Therefore an internal invoice is based on the actual material used, the actual hours booked, and the actual other costs such as transportation costs, is required to cover the repair costs incurred by the subcontracting repair center..

Creation of the Maintenance Sales Order

If a customer sends the product to a service department for repair, the service department creates a maintenance sales order using the Maintenance Sales Orders (tsmsc1100m000) session. Example The service department (in The Netherlands) receives an order from the customer to repair a defective product. The service department creates a maintenance sales order.

Creation of the Work Order

The service department must generate a work order for the repair center using the Work Orders (tswcs2100m000) session. The repair center must plan the repair activities and acquire the required material and/or tools. Example The service center generates a work order and assigns this work order to a repair center located at its own location.

Shipment of the Goods

The customer sends the defective product to the repair center. Example The customer sends the product to a repair center in Netherlands.

Receipt of the Product

The defective product is received at the repair center.

Repair Activity

The repair center repairs the product.if the product cannot be repaired at the current repair center, the repair work can be subcontracted to another repair center. A new repair order must be created for the product at the new repair center. Example At the repair center in the Netherlands, the first repair activity takes place. If the product cannot be repaired on this location, the repair order is created for another repair location in the United Kingdom and the product is send to this repair location for repair.

Transfer of the Product

The product is transferred to the next repair center. Example The product is transferred from repair center, in Netherlands, and received at repair centre in United Kingdom.

Repair at the Repair Center

The product must be repaired and all cost such as materials used, and hours spent must be captured in the work order. If Internal Invoicing is implemented, the cost must be available on the work order. Example The repair center in United Kingdom repairs the product and includes all the cost on the work order.

Customer Invoicing

The service department invoices the customer, unless the product is repaired under the warranty or contract.

Internal Invoicing

The internal invoicing can be based on the actual repair costs or a fixed repair price. For internal invoicing, the repair center must invoice the service department where the product is initially received. The internal invoice must be based on the Follow-up work order. The internal invoice must be created before the work order is closed using the Close Work Orders (tswcs2265m000) session. When the invoice is created, additional costs cannot be booked to the work order. The internal invoice is required for legal reporting and to support internal pricing. Example: The repair center in the United Kingdom invoices the service department (of the maintenance sales order) on time and material, based on the actual costs or based on a fixed repair rate. This internal invoice is created when all the costs (material, time and other costs) are booked on the work order and no changes are allowed resulting in all costs invoiced internally. For Internal Invoicing, thesePrice Methods can be used:

- Fixed Price : A fixed internal price is specified. This price does not depend on the type of repair or the actual costs but depends on the item to be repaired and on Enterprise Units, therefore, LN uses Price Books (tdpcg0111m000) logic. All cost lines must be passed to Invoicing with an invoice amount of zero, and the cost amount specified. When fixed repair price for the repair of this product is specified, the rate is independent for the actual cost. This price can be used when items are repaired on a regular basis. In this case, the internal price is known and the fixed repair price is set to reflect the average repair costs.
- Time and Material : The internal price is based on the actual costs, therefore, on the material used, the hours spent, and on other costs. All the actuals are priced and invoiced separately. The types of cost are:

   Material Pricing with Price Origins supported
   - Actual cost: The total cost amount specified in the Work Order Material Resources (tswcs4110m000) session is used. Surcharges are applicable.

- Commercial Price: When the price origin is Commercial Price, for the materials issued on the work order, the commercial rate is used to determine the price on the internal invoice. The Price Books (tdpcg0111m000) functionality can be used along with the **Internal Price Search Method** defined in the General Service Parameters (tsmdm0100m000) session. **Note**: The internal business partners linked to the enterprise units are used to search the price. For more Information please refer to *Internal commercial rates (p. 41)*.
- Zero pricing : For Price Origin Zero Pricing, LN creates invoicing lines with zero costs.

Labor Pricing with Price Origins supported

- Actual cost: The actual cost amount specified in the Work Order Labor Resources (tswcs4120m000) session is used. Additionally, Surcharges are applicable.
- Commercial Price: To determine a commercial price for labor, the **Internal Sales Labor Rate** defined in the Service Offices (tsmdm1100m000) session is used. This labor rate specifies the sales labor rate when this service department performs a task for another service department using the specific **Labor Rates** defined in Service Offices (tsmdm1100m000) session. Labor rates for internal business partner can be specified. **Note**: The internal business partners linked to the enterprise units are used to search the price. For more Information please refer to *Internal commercial rates (p. 41)*.
- Zero pricing: LN creates invoicing lines with zero costs for Price Origin Zero Pricing.

Pricing Other Cost
For the other costs such as tooling, travelling, and freight, a price based on the actual costs (with or without surcharge) is applicable. For Other Cost Pricing, these Price Origins are supported:

- Actual cost: The actual cost amount specified in the Work Order Other Resources (tswcs4130m000) session is used. Surcharges are applicable.
- Zero pricing: LN creates invoicing lines with zero costs for Price Origin Zero Pricing.
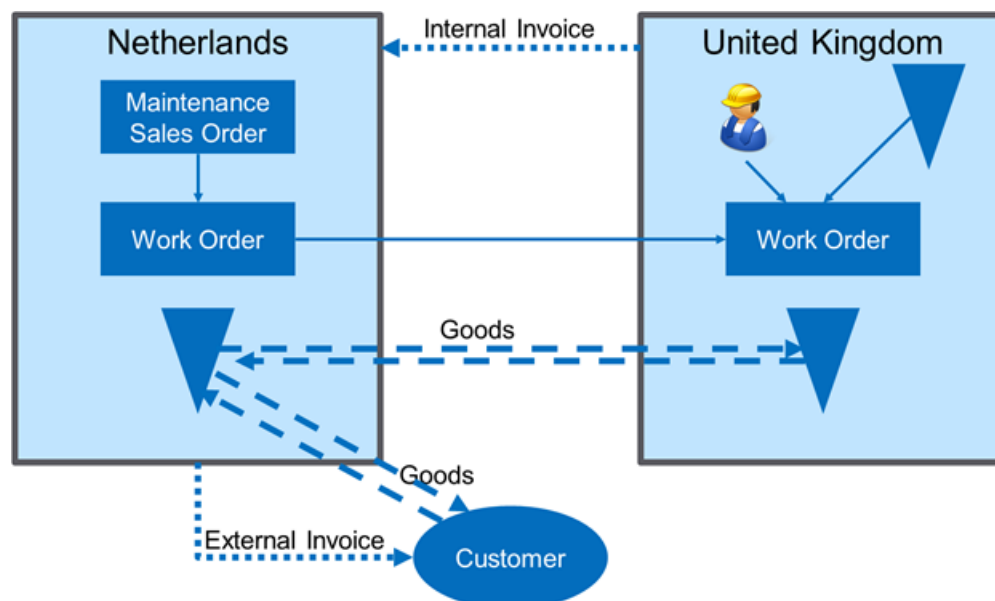
Internal commercial rates

Overview

For internal pricing, commercial prices can be used for material and labor. Additionally, a single fixed price can be specified. This is a fixed repair rate that must be paid, on the actual material used and hours spent.

Commercial Material Costs

When the price origin on the relationship detail for material is Commercial Price, for the materials issued for the work order, the commercial rate is used to determine the price on the internal invoice. You can use the **Internal Price Search Method** field in the General Service Parameters (tsmdm0100m000) session to retrieve the price. These are the possible options:

- Price Book Service/Sales : The **Default Service Price Book** is used. This price cannot be specific to one Business Partner. If this price book is not defined, the **Default Sales Price Book** is used.
- Price Book Transfer : Using the Sales price book with **Matrix Type** field set to **Transfer Price** on the Matrix Definitions (tdpcg0110m000) session, an internal sales price between two internal business partners can be specified. **Note**: LN considers the internal business partners linked to the enterprise units to search for the sales price.
- Item Service Price : The sales price defined on the Items - Service (tsmdm2100m000) session is used. This price can also be used for the internal invoice. Item Service Price is used if Service Price Book and Price Book Transfer is not defined.

Commercial Labor Rates

To define a commercial labor rate when the **Price Origin** for labor pricing is set to **Commercial Price** in the Intercompany Trade Agreements (tcitr1100m000) session, the **Internal Sales Labor Rate** field in the Service Offices (tsmdm1100m000) session is used. This labor rate specifies the sales labor rate when a service department performs the work for another service department. **Labor Rates** for internal business partners can be specified using commercial labor rates.

Note: Only the sales rates of the labor rate codes are used. The cost rates are not applicable, because actual costs of the work order are used.

Note: LN considers the internal business partners linked to the enterprise units to search for the price.

Recalculation of sales price and linking contracts to the MSO

If the pricing data is modified on the Maintenance Sales Order (MSO) Part Line and the Coverage Line, the sales price must be recalculated. You can also link/unlink a service contract with pricing terms to the MSO.

Sales Price on the Part Maintenance Lines

If you change the value in the **Pricing Method** field to in the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) session, the **Sales Price** is defaulted from the service contract (if pricing terms with contract price type set to 'Fixed Repair Price' exist) or from the Items - Service (tsmdm2100m000) session.

The **Sales Price** and **Total SalesAmount** on the Maintenance Sales Order - Coverage Lines (tsmsc1120m000) are based on the **Method**, **Pricing Contract**, **Pricing Contract Change** and the **Pricing Contract Line** fields. Prices and amount must be recalculated, if the values in these fields change.

Pricing Method - If you change the value of the **Pricing Method** field to in the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) session , the **Sales Price** is defaulted with the sales price defined in the service contract. LN sets the value of the **Price Origin** field to **Other**.

Pricing Contract Line - If the pricing contract changes resulting in change in value of the **Pricing Contract Change** or **Pricing Contract Line** fields in the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) session, the sales price must be recalculated on the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) and/or all related Maintenance Sales Order - Coverage Lines (tsmsc1120m000).

Sales Price on the Part Loan, Part Delivery and Part Receipt Lines

The sales price is defaulted from the applicable service contract (if pricing terms with contract price type set to 'Time and Material' is exist) or from the pricing data.

The sales price is also defaulted when **Item** or **Serial Number** or **Converted Time** or **Serial Number** or **Sales Price** or **Planned Time** fields are modified in the Maintenance Sales Order - Part Lines (tsmsc1110m000) session.

The **Contract Ignored** check box in the Service Orders (tssoc2100m000) session indicates if a valid fixed price contract exist for the activity line. and the contract is unlinked and the sales price is manually overwritten.

You can use the **Recalculate Price/Discounts Entire Line** option in the Part Maintenance, Part Loan, Part Delivery and Part Receipt Lines sessions to recalculate prices of an entire order or an activity. The Price and Discount Recalculation (tssoc2240m000) session opens. Use this session to retrieve the default price and price origin of the part lines and their related coverage lines. You can select the

Overwrite Manual Price check box in this session to overwrite the manually modified sales price with the default sales price defined for the service contract.

Sales Price for the Coverage Line

The sales price is modified on the coverage line if **Item** or **Serial Number** or **Converted Time** or **Serial Number** or **Sales Price** or **Planned Time** fields are modified on the Maintenance Sales Order - Part Lines (tsmsc1110m000) session.

If a part maintenance line is converted to a part receipt or if a part loan line is converted to a part delivery line, the related coverage line data is modified. If the **Method** field in the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) session is modified or a line procedure is modified, the related coverage lines must be deleted and new coverage lines are created. If the **Order Status** field is set to Costed in the Part Maintenance, Part Loan, Part Delivery and Part Receipt Lines session, the **Status** of all the related coverage line must be set to Costed in the Maintenance Sales Order - Coverage Lines (tsmsc1120m000) session.

The sales price is always defaulted from the part loan, part delivery and part receipt line but if the pricing method is set to fixed repair price or if the coverage line is of the type Fixed Price, the sales price is defaulted from the part maintenance lines

For part loan, part delivery and part receipt lines, the sales price on the Maintenance Sales Order - Coverage Lines (tsmsc1120m000) session with the **Line Origin** field set to Part Line is always defaulted from the part line. For part maintenance lines, the sales price on the Maintenance Sales Order - Coverage Lines (tsmsc1120m000) with the **Line Origin** field set to Part Line is defaulted from the part line, if the **Method** is set to Quotation Fixed or Quotation Fixed Plus.

If the **Method** field in the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) session is set to Time and Material, the sales price is defaulted from the service contract or from the Items - Service (tsmdm2100m000) session.

If you change the sales price manually in the Maintenance Sales Order - Coverage Lines (tsmsc1120m000) session, LN sets the value of the **Price Origin** field to Manual. The **Contract Ignored** check box in the Maintenance Sales Order - Coverage Lines (tsmsc1120m000) session indicates if a valid price contract is present and the contract is unlinked or the price is manually overwritten.

You can use the **Recalculate Price and Discounts** option in the Maintenance Sales Order - Coverage Lines (tsmsc1120m000) session to recalculate the prices.

Unlink and Link Pricing Contract

Click **Link / Unlink Contract** in the Maintenance Sales Order - Part Lines (tsmsc1110m000) session to link or unlink a service contract with pricing terms to a part line. If a contract is linked to a part line, LN populates the **Pricing Contract**, **Pricing Contract Change** and the **Pricing Contract Line** fields in the Maintenance Sales Order - Part Lines (tsmsc1110m000) session. The contract can be a Time and Material contract or Fixed Repair Price contract. For more information on pricing contract, refer to Contract Terms for Service Contract and Service Contract Quotation. When link or unlink a pricing contract, the pricing data on the related coverage lines are recalculated.

If the **Contract Ignored** check box is selected/cleared in the Part Maintenance, Part Loan, Part Delivery and Part Receipt Lines sessions, the following are possible scenarios:

- If this check box is selected and the **Pricing Contract**, **Pricing Contract Change** and the **Pricing Contract Line** fields are specified, a valid service contract is linked and the sales price of the service contract is overruled.
- If this check box is selected and the **Pricing Contract**, **Pricing Contract Change** and the **Pricing Contract Line** fields are not specified, a valid service contract is not linked.
- If this check box is not selected and the **Pricing Contract**, **Pricing Contract Change** and the **Pricing Contract Line** fields are specified, a valid service contract exist and pricing terms data is used.
- If this check box is not selected and the **Pricing Contract**, **Pricing Contract Change** and the **Pricing Contract Line** fields are not specified, a valid service contract does not exist.

Note

- The **Link / Unlink Contract** option is disabled only if pricing contract data does not exist or the part line status cannot be modified.
- The **Link / Unlink Contract** option is enabled only if **Use Prices in Service Contracts** check box is selected in the Contract Management Parameters (tsctm0100m000) session.
- The **Contract Ignored** check box is visible only if the **Use Prices in Service Contracts** check box is selected in the Contract Management Parameters (tsctm0100m000) session.

Transfer orders for depot repair - using warehouse or location

All the items scheduled for repair are received in the central warehouse. The repair is performed by a repair center that may be situated at some other location. Therefore a transfer order is required to move the item from the central warehouse to the warehouse of the repair center. After repair, the item is returned to the central warehouse, from where the item is shipped to the customer. In Depot Repair, the transfer of item from and to warehouse (center warehouse and repair center) can be executed using;

- warehouse
- location
- both warehouse and location

Note

A service department can be specified as **Service Office** on the Maintenance Sales Order (MSO) and as an Execution **Operations Department** on the MSO Lines. These departments can be different from each other. The warehouse linked to these departments can be different. You can also use locations in place of warehouses.

Using Warehouses

When you create a Part Maintenance Line, Infor LN defaults the value in the receipt **Warehouse** and delivery **Warehouse** fields with the **Warehouse Incoming Parts** and **Warehouse Outgoing Parts** specified for the **Service Office** in the Maintenance Sales Order (tsmsc1100m100) session. The **Warehouse Incoming Parts** and **Warehouse Outgoing Parts** are originally defined in the Service Offices (tsmdm1100m000) session.

If the value in the **Operations Department** field in the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) session and the **Service Office** field in the Maintenance Sales Order (tsmsc1100m100) session are same, the values in the **Work Order Warehouse** and **Work Order Warehouse** in Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) session is the same as the value in the receipt **Warehouse** and delivery **Warehouse**, and the transfer order is not required.

If the value in the **Operations Department** field is not the same as the **Service Office** field, the value in the **Work Order Warehouse** and **Work Order Warehouse** fields are defaulted from the **Warehouse Incoming Parts** and **Warehouse Outgoing Parts** specified for the **Operations Department** in the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) session. When the value in the **Work Order Warehouse** and **Work Order Warehouse** field are not the same as the receipt **Warehouse** and delivery **Warehouse**, the transfer order is created.

The item can be moved from the receipt **Warehouse** to the **Work Order Warehouse** and from delivery **Warehouse** to **Work Order Warehouse**. If a transfer order is required, Infor LN selects the **Transfer order is applicable** check box in the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) session.

The transfer order is created after the final receipt of the part maintenance lines, for the received quantity which can be different from the required quantity, specified for the part maintenance lines.

When a work order is created using the **Create Work Order** option in the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) session, Infor LN defaults the **Warehouse** field and **Warehouse** field in the Work Order (tswcs2100m100) session from the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) session. You can modify the value of the **Warehouse** field. Infor LN defaults this modified value to **Work Order Warehouse** in the part maintenance line. After the work order is closed, the item must be received in the **Warehouse** and a transfer order is created.

The item is moved from the **Warehouse** to delivery **Warehouse** specified in Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) session. After the transfer order is processed, the item can be returned to the customer.

Note

When a part maintenance line is canceled, the relevant work order is deleted, and a warehouse order is created to return the item to the customer. The open transfer order are also deleted. When the transfer order are processed, a new transfer order is created to return the item to the delivery **Warehouse**.

Using Locations

When you create a Part Maintenance Line, Infor LN defaults the value in the receipt **Location** and the delivery **Location** field with the **Location Incoming Parts** and **Location Outgoing Parts** specified for the **Service Office** in the Maintenance Sales Order (tsmsc1100m100) session. The **Location Incoming Parts** and **Location Outgoing Parts** are originally defined in the Service Offices (tsmdm1100m000) session.

> **Note**
>
> The receipt **Location** and delivery **Location** fields are applicable only if the value in the receipt **Warehouse** and delivery **Warehouse** fields are not specified.

The value in the **Location** field and **Location** field in the Work Order (tswcs2100m100) session is defaulted from the value in the **Location** and delivery **Location** field in the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) session. After the work order is closed, the item must be received in the **Location** and the item can be returned to the customer.

Transfer orders for depot repair - using both warehouse and location

In depot repair, both warehouse and location can be used to store the item. A transfer order is generated to move the item between the location warehouse and central warehouse.

The item is received in a Location, and delivered from a Warehouse

When you create a Part Maintenance Line, Infor LN defaults the value in the receipt **Location** and delivery **Location** field with the **Location Incoming Parts** and **Location Outgoing Parts** specified for the **Operations Department** in the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) session. The **Location Incoming Parts** and **Location Outgoing Parts** are defined in the Service Offices (tsmdm1100m000) session.

The **Work Order Warehouse** field in the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) field is not applicable as the item is received in a location. The value in the **Work Order Warehouse** field is defaulted from the **Warehouse Outgoing Parts** specified for the **Operations Department** in the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) session.

After the work order is closed, the item must be received in the **Warehouse** and a transfer order is created. The item is moved from **Warehouse** to delivery **Warehouse**. After the transfer order is processed, the item can be returned to the customer.

The item is received in a warehouse, and delivered from a location

When you create a Part Maintenance Line, Infor LN defaults the value in the receipt **Warehouse** and delivery **Warehouse** field with the **Warehouse Incoming Parts** and **Warehouse Outgoing Parts** specified for the **Service Office** in the Maintenance Sales Order (tsmsc1100m100) session. The value in the delivery **Location** field is defaulted from the **Location Outgoing Parts** specified for the **Operations Department** in the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) session. The value in the **Work Order Warehouse** field is defaulted from the Warehouse Incoming Parts specified for the **Operations Department** in the Maintenance Sales Order - Part Maintenance Lines (tsmsc1110m100) session.

The transfer order is created after the final receipt of the part maintenance lines, for the received quantity which can be different from the required quantity, specified for the part maintenance lines. After the work order is closed, the item must be received in the **Location** and the item can be returned to the customer.

Handling return of maintenance item(s) and non-consumed items in MSC

In maintenance sales order control, for the part lines, the **Order Status** can be set to **Completed** only when the linked work order **Status** is set to **Closed** or **Canceled** and the maintained item is (are) sent back to the customer. Hence, the Work Order Costs - coverage lines are created before the part maintenance line are set to **Costed**.

Closing the work order

When the work order is **Closed**, the problem and solution on the part maintenance line are updated.

Delivering the maintenance item back to the customer

The work order **Status** must be set to **Completed** before the maintained item is sent back to the customer. The maintained item can be sent back to the customer using the warehousing order or using the Confirm Item Receipt/Delivery in Location (tsmsc1100m200) session. The **Order Status** of the part maintenance line is set to **Completed** either after delivery of the maintained item to the customer, when the status of the work order is **Closed** or after closing the work order, when the maintained item is returned to the customer.

Canceling a Part Maintenance line

When you cancel a part maintenance line for which the maintained items are already shipped from the warehouse to the depot, the work order and the part maintenance line is set to **Initiate Cancelation**. The work order must be **Completed** and **Closed** first before you cancel the part maintenance line. The

part maintenance line can be set to **Canceled** when the **Status** of the maintenance sales order is set to **Closed**.

Converting a Part Maintenance line to a Part Receipt line

When you convert a part maintenance line to a part receipt line, the work order **Status** can be set to **Completed**. When non-consumed items are not present and the **Automatically Close Work Order** parameter is selected in the Work Order Parameters (tswcs0100m000) session, the maintained quantity must be zero and the work order is closed by LN. If non-consumed items are present, you must close the work order manually, after the warehouse receipt order is processed for these items.

Subcontracting with material flow for Depot Repair

When a subassembly is subcontracted, an outgoing subassembly is created with **Action Outgoing Subassembly** set to **To Subcontractor** in the Work Order Outgoing Subassemblies (tswcs4150m000) session. When this subassembly is processed, a subcontracted activity is created.

When you plan and release the subcontracted activity, an Other Resource line is created for the cost item, and based on that a purchase requisition or a purchase order is created, with the outgoing subassembly on a material supply line and on the purchase order line. The material supply lines are also created for the material linked to the subcontracted activity in the Purchase Order Material Supply Lines (tdpur4116m000) session.

Note

The 'planned' subcontracting (the subcontracting activity is created when creating the work order) only supports the material flow, and not the end-item / subassembly flow.

The following are the possible scenarios:

Scenario 1: Sending an item to the subcontractor and receiving the same item back

The maintenance sales order can be created manually or generated from a call, for the item (serialized). When the item is specified on the part maintenance line, the related work order is generated. For more information refer to *Subcontracting flows (p. 17)*.

For this work order activity, a purchase order is generated, only if the **Subcontracted** check box is selected. The item to be repaired is specified by creating an outgoing subassembly.

A warehouse transfer order is generated from this material supply line to transfer the item to be repaired to the subcontractor. After repairing the item, subcontractor returns the item to the warehouse, so it is received on the purchase order line. Subsequently, the item is issued to the work center by means of an incoming subassembly. The work order can be closed after all the activities are completed and the related MSO is updated. The repaired item is sent back to the customer and an invoice can be sent to

the customer. The purchase invoice is costed on the MSO and the purchase invoice sent by the customer is managed in ACP.

Note

In this scenario, the item to be repaired is owned by the customer.

Scenario 2: Sending an item and part to the subcontractor and receiving the same repaired item back

The process of subcontracting the item is the same as that described in scenario 1, an additional component is sent to the subcontractor, along with the item, to be repaired. This component is specified on the material supply lines.

Note

The additional component can be company-owned or customer-owned.

A warehouse transfer order is generated from this material supply line to transfer the item, and the additional component, to the subcontractor. After repairing the item, subcontractor returns the item to the warehouse. Subsequently, the item is issued to the work center. The work order can be closed after all the activities are completed and the related MSO is updated. The repaired item is sent back to the customer and an invoice can be sent to the customer. The purchase invoice is costed on the MSO and the purchase invoice sent by the customer is managed in ACP.

Note

- When the item is received back from the subcontractor in the warehouse, backflushing (decreasing the stock in the administrative warehouse) is required.
- In this scenario, the item to be repaired is owned by the customer.

Scenario 3: Sending an item and material to the subcontractor and receiving the same repaired item and a broken part, back

The process of subcontracting the item is the same as that described in scenario 2, except that, after repairing the item, the subcontractor returns the item along with the broken part, to the warehouse.

Scenario 4: Sending item A serial 123 and receive item A or item B with a different / other serial number

In this scenario, the item scheduled for repair, is sent to the subcontractor along with the additional component. A warehouse transfer order is generated from the material supply line to transfer the item and the additional component; to the subcontractor. After repairing the item, subcontractor returns the item to the warehouse.

In this scenario, as the item returned from the subcontractor has a different serial number, the related orders such as the work order and the maintenance sales order, must be updated with the new serial number using the supersede procedure.

Note

In case a service contract is specified for the old serial number and is not specified for the new serial number, the receipt of the item is not possible. Hence, it is recommended that you define a contract at a higher level such as, the item.

To support these scenarios, the following processes are possible:

- An end-item/subassembly flow (to and from the subcontractor)
- A parts (material) flow to the subcontractor
- A broken parts flow from the subcontractor

Appendix A
Glossary

A

administrative warehouse

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

Administrative warehouses are used in situations such as the following:

- The warehouse is at your location, but a supplier manages and possibly owns the inventory until you use the items.
- The warehouse is at the customer's location. You own the inventory until the customer uses the items, but the customer manages the inventory.
- The warehouse is at the subcontractor's location. You own the unfinished goods present in the warehouse, but the subcontractor manages the inventory.

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

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.

ATP

The item quantity that is available to be promised for a customer either immediately, or at a specific time in the future.

ATP check

A check on the quantity that can be promised to a customer based on the allowed demand. The main purpose of the ATP check is to reserve a certain quantity of the spare part or item.

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

coverage lines

Lines that store the information on the costs incurred, amounts to be invoiced, and the amounts covered by the applicable contract and/or warranty. Most coverage lines are added through the maintenance sales order process, but can also be manually entered.

coverage type

A financial classification that indicates to what extent work is covered under warranty or contract, and what part of the activities can be charged.

integration document type

Represents a type of Operations Management transaction for the purpose of mapping and posting the integration transactions to Financials and for financial reconciliation.

The integration document types supplied by LN each have the corresponding business object attached to them. For example, the integration document types for the various sales order transactions have the **Sales Order** business object linked to them.

labor rate

The labor rate code, defined in the Labor Rate Codes (tcppl0190m000) session in People. A sales rate and cost rate can be specified in this labor rate code.

You can assign labor rates on a wider scale to, for example,

- A service department, for all work done by the service department.
- An installation group, for all work carried out on the installation group.

In the Service Order Parameters (tssoc0100m000) session, default labor rate search paths can be set for the following:

- Estimated sales rate
- Estimated cost rate
- Actual sales rate
- Actual cost rate

maintenance sales order

Orders that are used to plan, carry out, and control the maintenance on customer-owned components, products and the logistic handling of spare parts.

maintenance sales order lines

Lines that store all details of the items that must be maintained, loaned, replaced, delivered, or received.

price book

An entity in which you can store price information that is valid for a given period of time.

A price book includes the following elements:

- A price book header, which contains the code, type, and use of the price book.
- One or more price book lines, which contain the items.

A quantity or value break discount schedule can be linked to a price book.

problem

A source or symptom of malfunction or disturbance.

service order

Orders that are used to plan, carry out, and control all repair and maintenance on configurations as present on customer locations or as present with the company.

service type

The service classification that service providers offer. The service type determines which availability type applies to a service order header, and provides a default order procedure and coverage type.

solution

Codes on calls and service orders that enable you to analyze the orders.

warehouse order

See: *warehousing order (p. 54)*

warehousing order

An order for handling goods in the warehouse.

A warehouse order can be of the following inventory-transaction types:

- **Receipt**
- **Issue**
- **Transfer**
- **WIP Transfer**

Each order has an origin and contains all the information required for warehouse handling. Depending on the item (lot or non-lot) and warehouse (with or without locations), lots and/or locations can be assigned. The order follows a predefined warehousing procedure.

> **Note**
>
> In Manufacturing a warehousing order is often called a warehouse order.

Synonym: warehouse order

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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