

User's Guide for Purchase and Sales Schedules

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About this document

Objective

The objective of this guide is to describe purchase and sales schedules in ERP LN.

Intended audience

This document is intended for persons in charge of purchase and sales schedules. The intended audience can include key users, implementation consultants, product architects, support specialists, and so on.

Document summary

Chapter number	Content
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Chapter 1	Purchase schedules
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Chapter 2	Sales schedules
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How to read this document

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

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

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

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

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

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Overview of purchase schedule handling

Overview of purchase schedule handling

A purchase schedule is a timetable of planned supply of materials. Purchase schedules support long-term purchasing with frequent deliveries and are usually backed by a purchase contract. All requirements for the same item, buy-from business partner, ship-from business partner, purchase office, and warehouse are stored in one schedule. Purchase schedules are used instead of standard purchase orders in cases where full visibility and time phasing of material requirement information is required. So, purchase schedules provide a more detailed way to specify the delivery dates/times per item.

The following types of purchase schedules exist:

- **Push schedule**
A list of time-phased requirements, generated by a central planning system, such as ERP LN Enterprise Planning or ERP LN Project that is sent to the purchase business partner. Push schedules contain both a forecast for the longer term and actual orders for the short term. A push schedule is also called a non-referenced schedule.
 - **Pull forecast schedule**
A list of time-phased planned requirements, generated by ERP LN Enterprise Planning, that is sent to the purchase business partner. Pull forecast schedules are only used for forecasting purposes. To actually order the items, a pull call-off schedule must be generated with the same schedule number as the pull forecast schedule. Like a push schedule, a pull forecast schedule is also a non-referenced schedule.
 - **Pull call-off schedule**
A list of time-phased specific requirements of purchased items, triggered from Assembly Control, Shop Floor Control, or ERP LN Warehouse Management (KANBAN, Time-phased order point). A pull call-off schedule is a referenced schedule.
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Purchase schedule master data

Before you can carry out the purchase schedule procedure, you must define the purchase master data.

For details, refer to:

- Purchase item data
- Purchase organizational data

Before you can create a purchase schedule, you must also:

1. Select the **Purchase Schedule in Use** check box for the item in the Item - General (tcibd0101s000) session and select a purchase schedule type in the **Schedule Type** field, which can be of the type push or pull.
 2. Set up a segment set by:
 - a. Creating segments in the Schedule Segments (tdipu0115m000) session.
 - b. Creating a segment set in the Schedule Segment Sets (tdipu0113m000) session.
 - c. Adding the segments to the segment set in the Segment Set - Segments (tdipu0114m000) session.
 3. Create patterns in the Patterns (tcccp0690m000) session.
 4. Define the following parameters:
 - The fields on the **Schedules** tab of the Purchase Contract Parameters (tdpur0100m300) session.
 - The **Number Group for Purchase Orders** field in the Purchase Order Parameters (tdpur0100m400) session.
 - The purchase schedule related parameters that apply for an item and business partner combination in the Purchase Contract Line Logistic Data (tdpur3102m000)/ Items - Purchase Business Partner (tdipu0110m000) sessions. Refer also to *Purchase schedule release types* (p. 1-13) .
 5. Store delivery patterns by warehouse, buy-from business partner/ship-from business partner and item in the Delivery Patterns by Warehouse / BP / Item (tdipu0124m000) session. Based on the combinations in this session, planned delivery moments can be generated in the Generate Planned Delivery Moments (tdipu0225m000) session.
 6. Generate planned delivery moments in the Generate Planned Delivery Moments (tdipu0225m000) session to determine when an item can be delivered. The dates returned, listed in the Planned Delivery Moments (Shipment Based) (tdipu0125m000) and the Planned Delivery Moments (Delivery Based) (tdipu0126m000) session, are used by Enterprise Planning for lead time offsetting.
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Purchase schedule procedure

The purchase schedule procedure consists of a number of steps for each schedule type.

Push schedules

The following steps are or must be completed in the push schedule procedure:

1. To generate a schedule header and lines.
2. To regenerate schedule lines.
3. To generate a purchase release (line)
4. To approve the purchase release line.
5. To print the purchase release.
6. To insert authorizations.
7. To insert receipt details.
8. To insert cumulatives.
9. To reset the cumulatives and authorizations
10. To update history and turnover data.

For more information, refer to *Push schedules (p. 1-5)* .

Pull forecast schedules

Based on the parameters and triggers, the following steps are completed in the pull forecast schedule procedure:

1. To generate a schedule header and lines.
2. To regenerate schedule lines.
3. To generate a purchase release.
4. To approve the purchase release.
5. To print the purchase release.
6. To insert authorizations.
7. To generate a pull call-off schedule.

For more information, refer to *Pull forecast schedules (p. 1-8)* .

Pull call-off schedules

Based on the parameters and triggers, the following steps are completed automatically in the pull call-off schedule procedure:

1. To generate a schedule header.
 2. To generate schedule lines
 3. To generate a purchase release.
-

4. To print the purchase release.
5. To insert receipt details.
6. To insert cumulatives.
7. To reset the cumulatives and authorizations.
8. To update history and turnover data.

For more information, refer to *Pull call-off schedules (p. 1-10)* .

To link a contract to a purchase schedule

If a purchase schedule contains an external business partner, it is always based on a contract (line). As a result, you must define the logistic data that is required for the purchase schedule in the Purchase Contract Line Logistic Data (tdpur3102m000) session. If you only do business with internal business partners, you need not define a contract. ERP LN then retrieves the logistic data for the schedule from the Items - Purchase Business Partner (tdipu0110m000) session.

ERP LN automatically links a normal contract to the purchase schedule. However, instead, you can link a special contract to the purchase schedule. To unlink the normal contract and link a special contract to the purchase schedule, click **Change Contract** in the Purchase Schedules (tdpur3110m000) session. As a result, the Selected Purchase Contract Lines (tdpur3512s000) session starts from which you can select a special contract. However, you can only replace the normal contract by a special contract as long as no receipts are booked yet for the purchase schedule. If receipts are already booked, you must terminate the existing purchase schedule and create a new purchase schedule in the Terminate Purchase Schedule (tdpur3210m100) session. Now, you can link a special contract to the newly created purchase schedule.

When ERP LN links a contract to the purchase schedule, the schedule header is loaded with the default values of the linked contract. Specific addresses, as well as contract terms and prices and discounts, are adopted on the schedule level. For non-referenced schedules, ERP LN uses the **Generation Date** in the Purchase Schedules (tdpur3110m000) session to determine which purchase contract price revision must be used from the Purchase Contract Price Revisions (tdpur3103m000) session to retrieve prices and discounts. For referenced schedules, ERP LN uses the **Purchase Price Date Type** field in the Pricing Parameters (tdpcg0100m000) session, which can be set to **Order Date**, **System Date**, or **Delivery Date** to determine which purchase contract price revision must be used.

Purchase schedule procedure

Push schedules

A push schedule is a non-referenced schedule that can either be generated by a planning system, or created manually. In both cases, the same procedure is followed.

For push schedules, the following steps must be completed:

Step 1: To generate a schedule header and lines

Create/generate a schedule header in the Purchase Schedules (tdpur3110m000) session, and schedule lines in the Purchase Schedule - Lines (tdpur3111m000) session.

Before a push schedule can be automatically generated by Enterprise Planning, the following information is exchanged between Enterprise Planning and the Purchase Control module:

- **Determination of supplier**

To determine a supplier, the following steps are completed:

- a. Enterprise Planning sends the required item (group) and warehouse to Purchase Control.
- b. Purchase Control searches for approved suppliers based on the priority levels defined on the **Buy-from BP Search Schedules** tab of the Purchase Contract Parameters (tdpur0100m300) session.
- c. Purchase Control sends all valid business partners to Enterprise Planning, after which Enterprise Planning selects a supplier.

For more information, refer to:

- To select external suppliers
- To select internal suppliers

- **Determination of requirement dates**

To determine requirement dates, Enterprise Planning carries out lead time offsetting. To carry out lead time offsetting, Purchase Control must generate planned delivery moments far enough in the future in the Generate Planned Delivery Moments (tdipu0225m000) session. The generated planned delivery moments are stored in the Planned Delivery Moments (Shipment Based) (tdipu0125m000) session or the Planned Delivery Moments (Delivery Based) (tdipu0126m000) session, from which they can be called on by Enterprise Planning. For more information on planned delivery moments, refer to *To use planned delivery moments (p. 1-17)* .

- **Determination of supply**

ERP LN can generate schedule lines dependent on a number of constraints.

For more information on these constraints, refer to:

- *Constraints for generating non-referenced purchase schedule lines (p. 1-18)*
- Purchase schedules and Enterprise Planning

ERP LN only generates a new schedule if Enterprise Planning does not find an existing push schedule for a combination of item, buy-from business partner, ship-from business partner, and purchase office.

At the moment of generating a push schedule in the Purchase Schedules (tdpur3110m000) session, a blanket warehousing order is created immediately. You can view blanket warehousing orders in the Warehousing Orders (whinh2100m000) session.

Step 2: To regenerate schedule lines

Regenerate schedule lines in the Regenerate Schedules (tdpur3211m000) session.

For push schedules, schedule line regeneration serves the following purposes:

- To determine the applicable segment set and pattern code as retrieved from the Purchase Contract Line Logistic Data (tdpur3102m000) session and/or the Items - Purchase Business Partner (tdipu0110m000) session, and to update the buyer.
- To calculate the schedule line's new requirement type based on the applicable segment set and issue pattern. As a result, the schedule line is moved in time.

For more information on using segment sets when regenerating purchase schedule lines, refer to *To use segment sets (p. 1-28)* .

Step 3: To generate a purchase release (line)

Use the Generate Release Lines (tdpur3222m000) session to perform the following actions for **Material Release** and/or **Shipping Schedule**:

- Generate purchase release lines, which are displayed in the Purchase Release - Lines (tdpur3121m000) session.
- Cluster schedule lines, which are displayed in the Purchase Release Line - Details (tdpur3522m000) session.

For more information on:

- Purchase releases, refer to *Purchase releases (p. 1-30)* .
 - Clustering, refer to *To cluster purchase schedule lines (p. 1-34)* .
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Step 4: To approve the purchase release line

Approve the purchase release line in the Approve Release Lines (tdpur3222m100) session.

Step 5: To print the purchase release

Print the purchase release in the Print Purchase Releases (tdpur3422m000) session.

If the **Communication Channel** field in the Purchase Contract Line Logistic Data (tdpur3102m000) session and/or the Items - Purchase Business Partner (tdipu0110m000) session is set to **EDI** and the **Release EDI Message Directly** check box is selected in these sessions, you need not print the purchase release in the Print Purchase Releases (tdpur3422m000) session. ERP LN automatically prints the purchase release.

Step 6: To insert authorizations

Authorizations are inserted in the FAB/RAW Authorizations (tdpur3534m000) session.

For more information, refer to *Authorizations (p. 1-38)* .

Step 7: To insert receipt details

Receipt details are inserted in the Purchase Schedule - Receipts (tdpur3115m200) session.

For more information on receiving and inspecting scheduled items, refer to:

- *Receipts on push schedule lines (p. 1-42)*
- *To inspect scheduled items (p. 1-45)*

Step 8: To insert cumulatives

Cumulatives (CUMS) are inserted in the following sessions:

- Shipped Cumulatives (tdpur3131m000)
- Received Cumulatives (tdpur3132m000)
- Required Cumulatives (tdpur3130m000)
- Invoiced Cumulatives (tdpur3133m000)

For more information, refer to *Purchase schedule cumulatives (p. 1-48)* .

Step 9: To reset the cumulatives and authorizations

Reset the cumulatives and authorizations in the Reset Cumulatives (tdpur3230m000) session.

For more information, refer to *To reset purchase schedule cumulatives* (p. 1-53) and *To reset authorizations* (p. 1-56) .

Step 10: To update history and turnover data

Update purchase schedule history and turnover data in the Process Delivered Purchase Schedules (tdpur3223m000) session. As a result, the status of the schedule line is changed to **Processed**.

In the Delete Purchase Schedules (tdpur3224m000) session, you can delete the processed purchase schedule.

Pull forecast schedules

A pull schedule of the type forecast is a non-referenced schedule that can only be generated by Enterprise Planning and that cannot be created manually.

Based on the parameters and triggers, the following steps are completed:

Step 1: To generate a schedule header and lines

ERP LN generates a schedule header in the Purchase Schedules (tdpur3110m000) session and schedule lines in the Purchase Schedule - Lines (tdpur3111m000) session.

Before a pull forecast schedule can be automatically generated by Enterprise Planning, the following information is exchanged between Enterprise Planning and the Purchase Control module:

- **Determination of supplier**

To determine a supplier, the following steps are completed:

- a. Enterprise Planning sends the required item (group) and warehouse to Purchase Control.
- b. Purchase Control searches for approved suppliers based on the priority levels defined on the **Buy-from BP Search Schedules** tab of the Purchase Contract Parameters (tdpur0100m300) session.
- c. Purchase Control sends all valid business partners to Enterprise Planning, after which Enterprise Planning selects a supplier.

For more information, refer to:

- To select external suppliers
 - To select internal suppliers
- **Determination of requirement dates**

To determine requirement dates, Enterprise Planning carries out lead time offsetting. To carry out lead time offsetting, Purchase Control must generate planned delivery moments far enough in the future in the Generate Planned Delivery Moments (tdipu0225m000) session. The generated
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planned delivery moments are stored in the Planned Delivery Moments (Shipment Based) (tdipu0125m000) session or the Planned Delivery Moments (Delivery Based) (tdipu0126m000) session, from which they can be called on by Enterprise Planning. For more information on planned delivery moments, refer to *To use planned delivery moments (p. 1-17)* .

- **Determination of supply**

ERP LN can generate schedule lines dependent on a number of constraints. For more information on these constraints, refer to:

- *Constraints for generating non-referenced purchase schedule lines (p. 1-18)*
- Purchase schedules and Enterprise Planning

ERP LN only generates a new schedule if Enterprise Planning does not find an existing push schedule for a combination of item, buy-from business partner, ship-from business partner, and purchase office.

Although you cannot manually create pull forecast schedules, you can update an active pull forecast schedule in the Purchase Schedules (tdpur3110m000) session provided the schedule's linked release type is not **Sequence Shipping Schedule**, and no schedule lines exist yet.

Step 2: To regenerate schedule lines

Schedule lines must be regenerated in the Regenerate Schedules (tdpur3211m000) session.

For pull-forecast schedules, regeneration is only performed to retrieve the correct segment set, pattern code, and buyer for the purchase schedule.

For more information on using segment sets when regenerating purchase schedule lines, refer to *To use segment sets (p. 1-28)* .

Step 3: To generate a purchase release

The Generate Release Lines (tdpur3222m000) session is used to perform the following actions for **Material Release** and/or **Shipping Schedule**:

- Generate purchase release lines, which are displayed in the Purchase Release - Lines (tdpur3121m000) session.
- Cluster schedule lines, which are displayed in the Purchase Release Line - Details (tdpur3522m000) session.

For more information on:

- Purchase releases, refer to *Purchase releases (p. 1-30)* .
- Clustering, refer to *To cluster purchase schedule lines (p. 1-34)* .

Step 4: To approve the purchase release

The purchase release must be approved in the Approve Release Lines (tdpur3222m100) session.

Step 5: To print the purchase release

The purchase release must be printed in the Print Purchase Releases (tdpur3422m000) session.

If the **Communication Channel** field in the Purchase Contract Line Logistic Data (tdpur3102m000) session and/or the Items - Purchase Business Partner (tdipu0110m000) session is set to **EDI** and the **Release EDI Message Directly** check box is selected in these sessions, you need not print the purchase release in the Print Purchase Releases (tdpur3422m000) session. ERP LN automatically prints the purchase release.

Step 6: To insert authorizations

Authorizations are inserted in the FAB/RAW Authorizations (tdpur3534m000) session.

Pull forecast schedules use the required cumulatives from the pull call-off schedule to calculate fab authorizations and raw authorizations.

For more information, refer to *Authorizations (p. 1-38)* .

Step 7: To generate a pull call-off schedule

A pull call-off schedule must be generated.

For details on pull call-off schedules, refer to *Pull call-off schedules (p. 1-10)* .

Pull call-off schedules

A pull schedule of the type call-off is a referenced schedule that is triggered from the Assembly Control module, or from Warehouse Management (Kanban, time-phased order point).

The following steps are performed automatically based on the parameters and triggers:

Step 1: To generate a schedule header

A purchase schedule (header) is generated in the Purchase Schedules (tdpur3110m000) session. Because pull call-off schedules are usually preceded by a pull forecast schedule, ERP LN searches for the corresponding pull forecast schedule in the Purchase Schedules (tdpur3110m000) session. Once found, ERP LN creates a pull call-off schedule with the same schedule number as the pull forecast schedule. In this way, forecasting data and ordering data are separated.

However, if the release type, defined in the **Schedule Release Detail** field of the Purchase Contract Line Logistic Data (tdpur3102m000) session is set to **Shipping Schedule Only**, no forecasting data is generated, and the pull call-off schedule that is generated in the Purchase Schedules (tdpur3110m000) session, has no corresponding pull forecast schedule.

You cannot manually update pull call-off schedules. You can only change these schedules from the origin that generated the pull call-off schedule.

Step 2: To generate schedule lines

Schedule lines are generated in the Purchase Schedule - Lines (tdpur3111m000) session.

If the pull call-off schedule is triggered from Warehouse Management, the schedule lines in the Purchase Schedule - Lines (tdpur3111m000) session are generated from the Generate Orders (KANBAN) (whinh2200m000) session, or the Generate Orders (TPOP) (whinh2201m000) session.

If the pull call-off schedule is triggered from Assembly Control and the release type that is linked to the pull call-off schedule is **Sequence Shipping Schedule**, the number of lines for each schedule can be enormous. For every item, a schedule line per call-off is generated in the Purchase Schedule - Lines (tdpur3111m000) session. However, sequence details such as VIN number, line station, and so on, are not stored in the Purchase Schedule - Lines (tdpur3111m000) session, but in the Sequence Shipping data (tdpur3517m000) session. To start this session, click **Sequence Shipping data** on the **Specific** menu of the Purchase Schedule - Lines (tdpur3111m000) session.

For more information on sequence shipping schedules, refer to *To create and update sequence shipping schedule lines (p. 1-20)* .

Step 3: To generate a purchase release

A purchase release is generated with the status **Scheduled** in the Purchase Releases (tdpur3120m000) session. With every generation of a schedule line, ERP LN generates a release line detail record in the Purchase Release Line - Details (tdpur3522m000) session. This record has a one-to-one relationship with the schedule line and has the status **Scheduled**.

If the schedule is a sequence shipping schedule, however, the following applies:

- Only a purchase release header is created. No purchase release lines and purchase release line detail records are created. The reason for this is that items in a sequence shipping schedule are required for a combination of vehicle number (VIN), line station, and assembly kit. For this reason, a link exists between the release header in the Purchase Releases (tdpur3120m000) session and the release lines in the Production Synchronous Calls (tdpur3523m000) session.
-

- The **Generate Release per Vehicle** or **Generate Release per Item** check boxes in the Purchase Releases (tdpur3120m000) session determine how the release is created: per vehicle, per item, or per business partner.

For more information on purchase releases, refer to *Purchase releases (p. 1-30)*.

Step 4: To print the purchase release

The purchase release is printed in the Print Purchase Releases (tdpur3422m000) session.

If the **Communication Channel** field in the Purchase Contract Line Logistic Data (tdpur3102m000) session and/or the Items - Purchase Business Partner (tdipu0110m000) session is set to **EDI**, and the **Release EDI Message Directly** check box in these sessions is selected, ERP LN automatically prints the purchase release. Otherwise, you must print the purchase release in the Print Purchase Releases (tdpur3422m000) session.

Step 5: To insert receipt details

Receipt details are inserted in the Purchase Schedule - Receipts (tdpur3115m200) session.

After receipts are confirmed in Warehouse Management, scheduled items can also be inspected. For more information, refer to *To inspect scheduled items (p. 1-45)*.

Step 6: To insert cumulatives

Cumulatives (CUMS) are inserted in the following sessions:

- Shipped Cumulatives (tdpur3131m000)
- Received Cumulatives (tdpur3132m000)
- Required Cumulatives (tdpur3130m000)
- Invoiced Cumulatives (tdpur3133m000)

For pull call-off schedules, cumulatives are filled for information purposes only. Pull call-off schedules do not use cumulatives. Pull forecast schedules, however, which usually have the same schedule number as a particular pull call-off schedule, use the required cumulatives from the pull call-off schedule to calculate fab authorizations and raw authorizations.

For more information on:

- Cumulatives, refer to *Purchase schedule cumulatives (p. 1-48)*.
 - Authorizations, refer to *Authorizations (p. 1-38)*.
-

Step 7: To reset the cumulatives and authorizations

The cumulatives and authorizations are reset in the Reset Cumulatives (tdpur3230m000) session.

For more information, refer to:

- *To reset purchase schedule cumulatives (p. 1-53)*
- *To reset authorizations (p. 1-56)*

Step 8: To update history and turnover data

Purchase schedule history and turnover data is updated in the Process Delivered Purchase Schedules (tdpur3223m000) session. As a result, the status of the schedule line is changed to **Processed**.

In the Delete Purchase Schedules (tdpur3224m000) session, you can delete the processed purchase schedule.

Purchase schedule release types

If purchase schedules are used, schedule release types must be defined, based on which a purchase release is sent.

In the **Schedule Release Detail** field of the Purchase Contract Line Logistic Data (tdpur3102m000) session and the Items - Purchase Business Partner (tdipu0110m000) session, you must choose one of the following release types:

- **Material Release**
Only a material release is sent.
- **Shipping Schedule**
Both a material release and a shipping schedule are sent.
- **Sequence Shipping Schedule**
Both a material release and a sequence shipping schedule are sent.
- **Shipping Schedule Only**
Only a shipping schedule is sent.

Note

You can only choose the **Material Release** type for push schedules and the **Sequence Shipping Schedule** type for pull schedules.

In the Purchase Contract Line Logistic Data (tdpur3102m000) session and/or the Items - Purchase Business Partner (tdipu0110m000) session, you must also enter segment set(s). Which segment set(s) can be entered depends on the chosen release type. A segment set consists of several segments, which in turn, are linked to requirement types. Dependent on the release type and the applicable requirement type, specific EDI messages can be generated in time when sending the purchase release to the supplier.

Note

- Because pull call-off schedule lines are not clustered and are automatically converted to purchase release line details with the status **Scheduled**, no segment sets are used. As a result, the requirement type is always **Firm**.
- For push schedules lines, requirement types in the Purchase Schedule - Lines (tdpur3111m000) session are calculated during the regeneration process, which you can perform in the Regenerate Schedules (tdpur3211m000) session. The requirement types in the Purchase Release Line - Details (tdpur3522m000) session are directly calculated from the schedule's applicable segment set and issue pattern, as stored in the Purchase Contract Line Logistic Data (tdpur3102m000) session and/or the Items - Purchase Business Partner (tdipu0110m000) session. As a result, if you do not regenerate the schedule line, the value of the **Requirement Type** field in the Purchase Schedule - Lines (tdpur3111m000) session is the same as the value of the **Requirement Type** field in the Purchase Release Line - Details (tdpur3522m000) session. Which schedule lines are included when you generate release lines in the Generate Release Lines (tdpur3222m000) session, depends on the push schedule's release type. For example, if the release type is defined as **Shipping Schedule Only**, no material release is created, so the purchase release does not contain **Planned** release lines.

Relation between release type, requirement type, and EDI message for push schedules with release type set to Material Release

Release Type	Linked Requirement Type	Linked EDI messages (BEMIS)
Material Release	Planned	BEM MRL001
Material Release	Firm	BEM MRL001
Material Release	Immediate	BEM MRL001

The **Material Release** release type is only used by push schedules and only generates the EDI message BEM MRL001. As a result, shipping is performed based on the EDI message BEM MRL001, but only for those schedule lines whose requirement type is **Firm** or **Immediate**.

Relation between release type, requirement type, and EDI message for push schedules with release type set to Shipping Schedule

Release Type	Linked Requirement Type	Linked EDI messages (BEMIS)
Material Release	Planned	BEM MRL001
Shipping Schedule	Firm	BEM SHP001
Shipping Schedule	Immediate	BEM SHP001

The **Shipping Schedule** release type generates both material releases (EDI message BEM MRL001) and shipping schedules (EDI message BEM SHP001). The schedule lines in a material release are released for planning purposes only. The shipping schedule only releases schedule lines whose requirement type is **Firm** or **Immediate**. Planned schedule lines are not included in the release. Shipping is performed based on the EDI message BEM SHP001.

Relation between release type, requirement type, and EDI message for push schedules with release type set to Shipping Schedule Only

Release Type	Linked Requirement Type	Linked EDI messages (BEMIS)
Shipping Schedule	Firm	BEM SHP001
Shipping Schedule	Immediate	BEM SHP001

The **Shipping Schedule Only** release type only generates shipping schedules. No planning data is released to the supplier. The shipping schedule only releases schedule lines whose requirement type is **Firm** or **Immediate**. Schedule lines with the **Planned** requirement type are not included in the release. Shipping is carried out based on the EDI message BEM SHP001.

Relation between release type, requirement type, and EDI message for pull schedules with release type set to Shipping Schedule

Release Type	Linked Requirement Type	Linked EDI messages (BEMIS)
Material Release	Planned	BEM MRL001
Shipping Schedule	Firm	BEM SHP001
Shipping Schedule	Immediate	BEM SHP001

A pull forecast schedule only generates material releases (EDI message BEM MRL001) that contain **Planned** lines. EDI message BEM MRL001 is released for planning purposes only. The pull call-off schedule generates the shipping schedule, releasing all the schedule lines whose requirement type is **Firm** or **Immediate**. Shipping is performed based on the EDI message BEM SHP001.

Relation between release type, requirement type, and EDI message for pull schedules with release type set to Sequence Shipping Schedule

Release Type	Linked Requirement Type	Linked EDI messages (BEMIS)
Material Release	Planned	BEM MRL001
Sequence Shipping Schedule	Firm	BEM SEQ001
Sequence Shipping Schedule	Immediate	BEM SEQ001

The **Sequence Shipping Schedule** release type is only used by pull schedules and generates the EDI messages BEM MRL001 and BEM SEQ001. A pull forecast schedule only generates material releases (EDI message BEM MRL001) that contain **Planned** lines. EDI message BEM MRL001 is released for planning purposes only. The pull call-off schedule only generates sequence shipping schedules and releases all the schedule lines with the **Firm** or **Immediate** requirement type. Shipping is performed based on the EDI message BEM SEQ001.

Relation between release type, requirement type, and EDI message for pull schedules with release type set to Shipping Schedule Only

Release Type	Linked Requirement Type	Linked EDI messages (BEMIS)
Shipping Schedule	Firm	BEM SHP001
Shipping Schedule	Immediate	BEM SHP001

The pull call-off schedule generates the shipping schedule, releasing all the schedule lines, which are always **Firm** or **Immediate**. No planning data is released to the supplier. Shipping is performed based on the EDI message BEM SHP001.

Note

EDI messages are only generated if the value of the **Communication Channel** field in the Purchase Contract Line Logistic Data (tdpur3102m000) session and/or the Items - Purchase Business Partner (tdipu0110m000) session is set to EDI.

To use planned delivery moments

In purchase scheduling, planned delivery moments must be generated for a combination of item, buy-from business partner, ship-from business partner, and warehouse, which are used by Enterprise Planning for lead-time offsetting.

To generate planned delivery moments, refer to *Overview of purchase schedule handling (p. 1-1)*.

When Enterprise Planning calls the Purchase Control module for planned delivery moments for a combination of item, buy-from business partner/ship-from business partner, and warehouse, ERP LN carries out the following steps:

1. Searches the Delivery Patterns by Warehouse / BP / Item (tdipu0124m000) session to retrieve the applicable delivery pattern. ERP LN searches in the following order:
 - By warehouse, buy-from business partner, ship-from business partner and item.
 - By warehouse, buy-from business partner, and ship-from business partner.
 - By warehouse.
2. Determines whether the purchase schedule is delivery-based or shipment-based. If a purchase schedule already exists for a combination of item, buy-from business partner, ship-from business partner, purchase

office and ship-to address, ERP LN checks whether the schedule is shipment-based or delivery-based from the **Shipment / Delivery** field in the Purchase Schedules (tdpur3110m000) session. If a purchase schedule does not exist, a new schedule is generated. In this case, the delivery-based or shipment-based information is retrieved from the Purchase Contract Line Logistic Data (tdpur3102m000) session or the Items - Purchase Business Partner (tdipu0110m000) session.

3. If the schedule turns out to be shipment-based, Enterprise Planning reads the planned delivery moments for a combination of warehouse, ship-from business partner and delivery pattern from the Planned Delivery Moments (Shipment Based) (tdipu0125m000) session. If the schedule turns out to be delivery-based, Enterprise Planning reads the planned delivery moments for a combination of warehouse and delivery pattern from the Planned Delivery Moments (Delivery Based) (tdipu0126m000) session.

Constraints for generating non-referenced purchase schedule lines

If Enterprise Planning automatically generates non-referenced purchase schedule lines, Enterprise Planning can send requirements to the Purchase Control module (generate/update schedule lines), dependent on the following constraints:

- Frozen zone settings.
- Generation horizon of the patterns.
- Expiry date of the contract.
- Firm Planned status of the schedule line.

Frozen zone settings

During the following frozen time zones, which are defined in the Purchase Contract Line Logistic Data (tdpur3102m000) session and/or the Items - Purchase Business Partner (tdipu0110m000) session, the Purchase Control module generates delivery moments. The delivery moments generated in the frozen time zone, can be viewed by Enterprise Planning in the Planned Delivery Moments (Shipment Based) (tdipu0125m000) session and the Planned Delivery Moments (Delivery Based) (tdipu0126m000) session, but each time interval has unique constraints for generating schedule lines:

- **Frozen period**
During the frozen period, Enterprise Planning cannot generate/update schedule lines.
 - **Upper bound**
During the period of upper bound, the schedule line quantities can decrease, but not increase. As a result, Enterprise Planning cannot generate new schedule lines in this period.
 - **Lower bound**
During the period of lower bound, the schedule line quantities are allowed to increase, but not to decrease. As a result, Enterprise Planning can
-

generate new schedule lines in this period, but existing schedule lines cannot be deleted.

Note

- Although Enterprise Planning cannot increase the schedule line quantity in the frozen period, or during the period of upper bound, ERP LN automatically stores the demand at the first available delivery moment that falls outside these periods.
- If schedule lines are already generated for a specific item, dependent on the schedule line's freezing status, which you can view in the **Frozen** field of the Purchase Schedule - Lines (tdpur3111m000) session, during order simulation, Enterprise Planning first removes all schedule lines with the freezing status **Free** and for which the **Firm Planned** check box is cleared in the Purchase Schedule - Lines (tdpur3111m000) session. Enterprise Planning then recalculates the requirements and inserts new schedule lines.

Generation horizon of the patterns

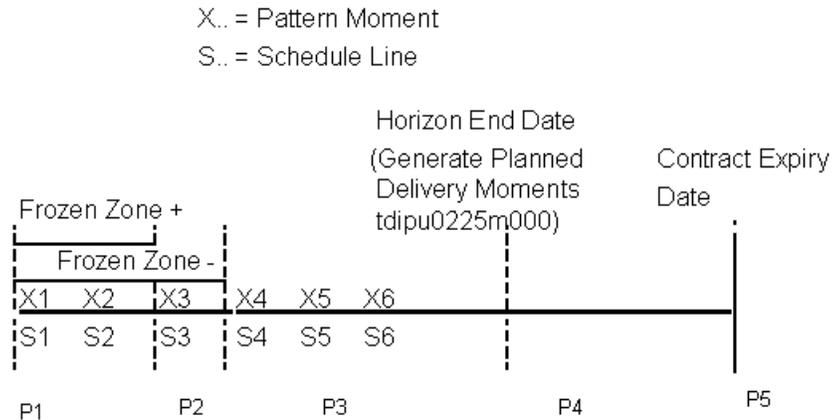
In Enterprise Planning, requirements are grouped based on the delivery moments generated in the Generate Planned Delivery Moments (tdipu0225m000) session. In the Generate Planned Delivery Moments (tdipu0225m000) session, you must define a horizon end date. The horizon end date is the date until which the delivery moments are stored in the Planned Delivery Moments (Shipment Based) (tdipu0125m000) session and the Planned Delivery Moments (Delivery Based) (tdipu0126m000) session, from which the delivery moments can be called on by Enterprise Planning for lead time offsetting. Because delivery moments are not calculated for the period after the horizon end date, Enterprise Planning cannot find valid delivery moments for this period. As a result, for the period after the horizon end date, Enterprise Planning is free to plan its own delivery moments.

Expiry date of the contract

If requirements fall after the contract's expiry date, valid business partners can no longer be found. As a result, Enterprise Planning generates planned purchase orders without a supplier. In this case, ERP LN sends a signal to Enterprise Planning that a planned purchase order is generated instead of a schedule line.

Firm Planned status of the schedule line

If you click **Firm Planned** in the Purchase Schedule - Lines (tdpur3111m000) session, you can make a schedule line Firm Planned. If a schedule line is made **Firm Planned**, the schedule line cannot be changed during the next run of Enterprise Planning.

Example**Legend**

- P1** The frozen period.
- P2** The period of lower bound. If the frozen zone- ended before the frozen zone+, an upper bound would be applicable.
- P3** For this period, the delivery moments generated in the Generate Planned Delivery Moments (tdipu0225m000) session, which are displayed in the Planned Delivery Moments (Shipment Based) (tdipu0125m000) or the Planned Delivery Moments (Delivery Based) (tdipu0126m000) session, can be used by Enterprise Planning for lead time offsetting, and schedule lines can be generated.
- P4** The period for which no valid delivery moments are displayed in the Planned Delivery Moments (Shipment Based) (tdipu0125m000) or the Planned Delivery Moments (Delivery Based) (tdipu0126m000) session. In this period, Enterprise Planning is free to plan its own delivery moments while generating schedule lines.
- P5** The contract has expired. A planned purchase order is generated instead of a purchase schedule line.

To create and update sequence shipping schedule lines

Sequence shipping schedules are pull call-off schedules that can only be generated under the following two conditions:

- Requirements are sent to the Purchase Control module by the Assembly Control module.
- The supply system is order-controlled/SILS.

To create sequence shipping schedule lines

If the Assembly Control module calls off goods via the SILS supply system, ERP LN performs the following steps:

1. In the Assembly Control module, a reference number/ID is generated, which represents a combination of **VIN**, **Line Station**, and **Assembly Kit**.
2. If a call-off is made, a schedule line for every item is generated in the Purchase Schedule - Lines (tdpur3111m000) session and the generated reference ID is inserted in the **Reference ID** field.
3. For every schedule line, sequence shipping data is inserted in the Sequence Shipping data (tdpur3517m000) session.
4. For every sequence shipping schedule line, a record is inserted in the Production Synchronous Calls (tdpur3523m000) session.

To update sequence shipping schedule lines

To update a sequence shipping schedule line, the assembly order that generated the sequence shipping schedule line must be changed.

Updates are of two types:

- **Non-unique fields**

Updates are made to fields that are not unique.

These are updates to the following fields in the Sequence Shipping data (tdpur3517m000) session:

- **Job Sequence**
- **Quantity**
- **Requirement Date**

- **Unique fields**

Updates are made to unique fields. These are updates to all other fields in the Sequence Shipping data (tdpur3517m000) session, such as **Assembly Kit**, **VIN**, **Line Station**, and so on.

The action ERP LN takes does not only depend on the kind of field that must be updated, but also on whether or not the sequence shipping schedule line is already sent in a purchase release.

Note

In the **Sent** field of the Sequence Shipping data (tdpur3517m000) session, you can view whether the sequence shipping schedule line is already sent in a purchase release.

To update not yet sent sequence shipping lines

- If the Assembly Control module changes any field on a sequence shipping line, the applicable field is simply updated in the Purchase Schedule - Lines (tdpur3111m000) session, the Sequence Shipping data

(tdpur3517m000) session, and the Production Synchronous Calls (tdpur3523m000) session. The status of the schedule line remains **Order Generated** in the Purchase Schedule - Lines (tdpur3111m000) session and **Created** in the Sequence Shipping data (tdpur3517m000) session/ Production Synchronous Calls (tdpur3523m000) session.

- If the Assembly Control module wants to delete a requirement, the applicable sequence shipping schedule line in the Purchase Schedule - Lines (tdpur3111m000) session and the Sequence Shipping data (tdpur3517m000) session get the status **Canceled**. The line is simply removed from the Production Synchronous Calls (tdpur3523m000) session.

To update a unique field on a sequence shipping line that is already sent in a purchase release

If an update is made to a unique field, ERP LN performs the following steps:

1. The old sequence shipping schedule line in the Purchase Schedule - Lines (tdpur3111m000) session receives the status **Canceled**.
2. The corresponding record in the Sequence Shipping data (tdpur3517m000) session keeps the status **Created**, but another record is inserted with the status **Canceled**. The value of the canceled sequence shipping schedule line's **Revision** field is incremented, because the line status changes from **Created** to **Canceled**.
3. The canceled sequence shipping line from the Sequence Shipping data (tdpur3517m000) session is inserted in the Production Synchronous Calls (tdpur3523m000) session under a new **Release Revision**. The reason for this is that the cancellation must also be communicated to the supplier by means of a (new) purchase release.
4. A new sequence shipping schedule line is created with the status **Order Generated** in the Purchase Schedule - Lines (tdpur3111m000) session and the status **Created** in the Sequence Shipping data (tdpur3517m000) session/ Production Synchronous Calls (tdpur3523m000) session.

To update a non-unique field on a sequence shipping line that is already sent in a purchase release

If an update is made to a field which is not unique, ERP LN takes the following steps:

1. The old sequence shipping schedule line in the Purchase Schedule - Lines (tdpur3111m000) session is simply updated and keeps the **Order Generated** status.
 2. The applicable sequence shipping schedule line in the Sequence Shipping data (tdpur3517m000) session keeps the **Created** status, but another record is inserted with the **Modified** status. The value of the modified sequence
-

shipping schedule line's **Revision** field is incremented, because the line status changes from **Created** to **Modified**.

- The modified sequence shipping line from the Sequence Shipping data (tdpur3517m000) session is inserted in the Production Synchronous Calls (tdpur3523m000) session under a new **Release Revision**. The reason for this is that the modification must also be communicated to the supplier by means of a (new) purchase release.

Example 1 - To create sequence shipping schedule lines

Requirements from Assembly Control:

VIN number	Job seq.	Assembly kit	Line station	Item	Date	Qty
VIN001	JS001	K01	LS01	ITEM1	10/1/99 8:00	2
VIN001	JS001	K01	LS01	ITEM2	10/1/99 8:00	4
VIN001	JS001	K01	LS01	ITEM3	10/1/99 8:00	4
VIN002	JS002	K02	LS01	ITEM1	10/1/99 12:00	2
VIN002	JS002	K02	LS01	ITEM2	10/1/99 12:00	5
VIN002	JS002	K02	LS01	ITEM4	10/1/99 12:00	4
VIN003	JS003	K03	LS01	ITEM1	10/1/99 16:00	2
VIN003	JS003	K03	LS01	ITEM2	10/1/99 16:00	4
VIN003	JS003	K03	LS01	ITEM5	10/1/99 16:00	8

Results in the Purchase Schedule - Lines (tdpur3111m000) session:

Schedule number	Pos.	Item	Requirement date	Qty
SCH0001	10	ITEM1	10/1/99 8:00	2
SCH0002	10	ITEM2	10/1/99 8:00	4
SCH0003	10	ITEM3	10/1/99 8:00	4
SCH0001	20	ITEM1	10/1/99 12:00	2
SCH0002	20	ITEM2	10/1/99 12:00	5
SCH0004	10	ITEM4	10/1/99 12:00	4
SCH0001	30	ITEM1	10/1/99 16:00	2
SCH0002	30	ITEM2	10/1/99 16:00	4
SCH0005	10	ITEM5	10/1/99 16:00	8

Results in the Sequence Shipping data (tdpur3517m000) session:

Schedule	Pos.	Seq. revision	VIN	Job seq.	Kit	Line station	Item	Date	Qty	Status
SCH0001	10	1	VIN001	JS001	K01	LS01	ITEM1	10/1/99 8:00	2	Created
SCH0002	10	1	VIN001	JS001	K01	LS01	ITEM2	10/1/99 8:00	4	Created
SCH0003	10	1	VIN001	JS001	K01	LS01	ITEM3	10/1/99 8:00	4	Created
SCH0001	20	1	VIN002	JS002	K02	LS01	ITEM1	10/1/99 12:00	2	Created
SCH0002	20	1	VIN002	JS002	K02	LS01	ITEM2	10/1/99 12:00	5	Created

SCH0004	10	1	VIN002	JS002	K02	LS01	ITEM4	10/1/99	12:00	4	Created
SCH0001	30	1	VIN003	JS003	K03	LS01	ITEM1	10/1/99	16:00	2	Created
SCH0002	30	1	VIN003	JS003	K03	LS01	ITEM2	10/1/99	16:00	4	Created
SCH0005	10	1	VIN003	JS003	K03	LS01	ITEM5	10/1/99	16:00	8	Created

Results in the Production Synchronous Calls (tdpur3523m000) session:

Release number	Release revision	Release pos.	Schedule	Schedule pos.	Seq. revision	Item	Qty	Status
REL001	0	10	SCH0001	10	1	ITEM1	2	Created
REL001	0	20	SCH0002	10	1	ITEM2	4	Created
REL001	0	30	SCH0003	10	1	ITEM3	4	Created
REL001	0	40	SCH0001	20	1	ITEM1	2	Created
REL001	0	50	SCH0002	20	1	ITEM2	5	Created
REL001	0	60	SCH0004	10	1	ITEM4	4	Created
REL001	0	70	SCH0001	30	1	ITEM1	2	Created
REL001	0	80	SCH0002	30	1	ITEM2	4	Created
REL001	0	90	SCH0005	10	1	ITEM5	8	Created

Example 2 - To update sequence shipping schedule lines

The Assembly Control module sends the following updates:

- VIN001 on JS001 is replaced by VIN004 on JS001.
- For VIN003, the quantity of ITEM2 is increased from 4 to 6.

- All requirements from Example 1 are already sent in a purchase release. As a result, the following changes are made in the Purchase Schedule - Lines (tdpur3111m000) session:

Canceled

Schedule	Pos.	Item	Requirement date	Qty	Status
SCH0001	10	ITEM1	10/1/99 8:00	2	Canceled
SCH0002	10	ITEM2	10/1/99 8:00	4	Canceled
SCH0003	10	ITEM3	10/1/99 8:00	4	Canceled

Updated

Schedule	Pos.	Item	Requirement date	Qty	Status
SCH0002	30	ITEM2	10/1/99 16:00	6	Order Generated

New

Schedule	Pos.	Item	Requirement date	Qty	Status
SCH001	40	ITEM1	10/1/99 8:00	2	Order Generated
SCH002	40	ITEM2	10/1/99 8:00	4	Order Generated
SCH003	20	ITEM3	10/1/99 8:00	4	Order Generated

As a result, the following changes are made in the Sequence Shipping data (tdpur3517m000) session:

Schedule	Pos.	Seq. revision	VIN	Job seq.	Kit	Item	Date	Qty	Sent	Status
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SCH0001	10	1	VIN001	JS001	K01	ITEM1	10/1/99 8:00	2	Yes	Created
SCH0001	10	2	VIN001	JS001	K01	ITEM1	10/1/99 8:00	2	No	Canceled
SCH0001	40	1	VIN004	JS001	K04	ITEM1	10/1/99 8:00	2	No	Created
SCH0002	10	1	VIN001	JS001	K01	ITEM2	10/1/99 8:00	4	Yes	Created
SCH0002	10	2	VIN001	JS001	K01	ITEM2	10/1/99 8:00	4	No	Canceled
SCH0002	40	1	VIN004	JS001	K04	ITEM2	10/1/99 8:00	4	No	Created
SCH0003	10	1	VIN001	JS001	K01	ITEM3	10/1/99 8:00	4	Yes	Created
SCH0003	10	2	VIN001	JS001	K01	ITEM3	10/1/99 8:00	4	No	Canceled
SCH0003	20	1	VIN004	JS001	K04	ITEM3	10/1/99 8:00	4	No	Created
SCH0002	30	1	VIN003	JS003	K03	ITEM2	10/1/99 16:00	4	Yes	Created
SCH0002	30	2	VIN003	JS003	K03	ITEM2	10/1/99 16:00	6	No	Modified

As a result, the following changes are made in the Production Synchronous Calls (tdpur3523m000) session:

Release number	Release revision	Release pos.	Schedule number	Schedule pos.	Seq. revision	Item	Qty	Status
REL001	1	10	SCH0001	10	2	ITEM1	2	Canceled
REL001	1	20	SCH0002	10	2	ITEM2	4	Canceled
REL001	1	30	SCH0003	10	2	ITEM3	4	Canceled
REL001	1	80	SCH0002	30	2	ITEM2	6	Modified
REL001	1	100	SCH0001	40	1	ITEM1	2	Created

REL001	1	110	SCH0002 40	1	ITEM2	4	Created
REL001	1	120	SCH0003 20	1	ITEM3	4	Created

To use segment sets

Segments have a specific segment length, are expressed in the segment time unit (weeks, months, four weeks, and so on), and are linked to requirement types. A segment set consists of a number of segments.

To set up a segment set, refer to *Overview of purchase schedule handling (p. 1-1)*.

Note

- Each segment in the segment set has a unique number. The schedule horizon is built according to the sequence number that is assigned by ERP LN in the **Sequence Number** field of the Segment Set - Segments (tdipu0114m000) session.
- In the Schedule Segments (tdipu0115m000) session, you cannot define a segment time unit and a segment length for a segment with the **Immediate** requirement type, because this requirement type involves undelivered requirements from the past that must be shipped as soon as possible.

Segment sets and purchase schedules

If you use push schedules or pull forecast schedules, the segment set from the Purchase Contract Line Logistic Data (tdpur3102m000) session and/or the Items - Purchase Business Partner (tdipu0110m000) session is used to:

- Regenerate schedule lines in the Regenerate Schedules (tdpur3211m000) session.
- Cluster schedule lines to generate release line details with the status **Preview**, which you can perform in the Generate Release Lines (tdpur3222m000) session.

For pull call-off schedules, no segment sets are used because these schedules lines are not regenerated, or clustered and are immediately converted to a release line detail with the status **Scheduled**. As a result, the requirement type is always **Firm**.

Note

If you link segments to the segment set in the Segment Set - Segments (tdipu0114m000) session, you must make sure that you use the correct segment time units. Make sure that:

- You correctly define the first segment time unit of the first segment in a segment set. For example, if you set the first segment time unit to Week or Four Weeks, and if the calculated schedule issue date does not fall on a Monday, some days can be excluded from the clustering or regeneration process. Note that these segment time units always have Monday as a starting point for their activities. As a result, for a segment time unit defined as Week or Four Weeks, ERP LN only starts clustering or regenerating schedule lines from a Monday on and therefore starts to cluster or regenerate schedule lines from the first Monday that follows the previously calculated schedule issue date. For a segment time unit defined as Month, ERP LN does not start to cluster or regenerate schedule lines on the first available Monday, but on the first available Monday of the following month.
- The various segments connect. For example, if you combine the weekly time unit, which runs from Monday through Sunday, with the monthly time unit, which runs from the first Monday of the month through the day before the first Monday of the following month, when you regenerate or cluster schedule lines, a period of time can be undefined.

Example

Next schedule issue date: 19/07/99

Segments in the segment set:

Segment Code	Requirement Type	Time Unit	Segment Length
1	Firm	Weeks	1
2	Planned	Months	1
3	Planned	Months	1

Segment time calculation, based on schedule issue date:

Segment Code	Start Date	End Date	Requirement Type
1	19/07/99	25/07/99	Firm
2	02/08/99	05/09/99	Planned
3	06/09/99	03/10/99	Planned

In this example, a time gap of one week exists between 26 July 1999 and 2 August 1999. Although ERP LN automatically fills this time gap, to avoid time gaps in a segment set, use the four weeks time unit in combination with the weekly time unit.

Note

- When ERP LN regenerates schedule lines, if a period is undefined between two segments, the schedule lines that fall in this time gap automatically receive the requirement type of the segment with the highest sequence number. For example, if a time gap exists between a segment that calculates the **Firm** requirement type and a segment that calculates the **Planned** requirement type, the schedule lines that fall in this time gap automatically receive the **Firm** requirement type. As a result, the time gap from the previous example that runs from 26 July 1999 through 2 August 1999, automatically receives the **Firm** requirement type.
- When ERP LN clusters schedule lines, if a period is undefined between two segments, ERP LN automatically adds another segment that fills this time gap so that the schedule lines that fall in this time gap are also included in the clustering process. All the schedule lines that fall within the time period of that newly generated segment, are clustered into one release line detail.
- All schedule lines in a purchase release that fall after the period calculated by the last segment in a segment set, automatically receive the **Planned** requirement type.

Purchase releases

Purchase release header statuses

In the Purchase Releases (tdpur3120m000) session, purchase release headers are displayed. Each header contains a release status that indicates which steps in the release procedure have already been carried out and what the next step must be. Naturally, the type of step to be taken also depends on the schedule type (push schedule, pull forecast schedule, or pull call-off schedule).

A purchase release can have the following statuses:

- **Preview**
The purchase release contains lines that all have the release status **Preview**, or lines of which some have the status **Preview** and some have the status **Scheduled**.
- **Scheduled**
The purchase release is approved and contains lines that all have the release status **Scheduled**.
- **Sent**
The purchase release is printed/EDI messages are sent and contains lines that all have the release status **Sent**.

Purchase release line (detail) statuses

In the Purchase Release - Lines (tdpur3121m000) session and the Purchase Release Line - Details (tdpur3522m000) session, these statuses represent the following:

- **Preview**
The purchase release line in the Purchase Release - Lines (tdpur3121m000) session and the linked release line detail(s) in the Purchase Release Line - Details (tdpur3522m000) session, which can contain clustered schedule lines, are not approved.
- **Scheduled**
The purchase release line and the linked release line detail(s) are approved.
- **Sent**
The purchase release line with the status **Scheduled** and the linked release line detail(s), are printed in the Print Purchase Releases (tdpur3422m000) session with the **Final Report** check box selected, or EDI messages are prepared and sent by Electronic Commerce.

Note

- For non-referenced schedules, you can approve the purchase release line, and consequently the linked release line detail(s), in the Approve Release Lines (tdpur3222m100) session. For referenced schedules, ERP LN automatically converts the schedule lines into a purchase release line and a release line-detail with the status **Scheduled**. The schedule lines are not clustered.
- For non-referenced schedules, you can cluster schedule lines in the Generate Release Lines (tdpur3222m000) session.
- EDI messages are automatically prepared if a purchase release receives the status **Scheduled** and you have selected the **Release EDI Message Directly** check box in the Purchase Contract Line Logistic Data (tdpur3102m000) session and/ or the Items - Purchase Business Partner (tdipu0110m000) session.

Relation between purchase release header and generating releases

When running the Generate Release Lines (tdpur3222m000) session for non-referenced schedules, or when generating schedule lines for referenced schedules, ERP LN first checks whether a purchase release exists in the Purchase Releases (tdpur3120m000) session for the combination of buy-from business partner, ship-from business partner, release type, shipment based/delivery based schedule, and communication method.

Purchase release does not exist

If no purchase release exists, ERP LN takes the following steps:

1. A new purchase release is created in the Purchase Releases (tdpur3120m000) session with a release revision number of zero and a release status of **Preview** for non-referenced schedules, or **Scheduled** for referenced schedules.
2. A purchase release line is created in the Purchase Release - Lines (tdpur3121m000) session with the release status **Preview** (non-referenced), or **Scheduled** (referenced).
3. (A) purchase release line detail record(s) is/are inserted in the Purchase Release Line - Details (tdpur3522m000) session with the status **Preview** or **Scheduled**. If the schedule is a non-referenced schedule, the records in the Purchase Release Line - Details (tdpur3522m000) session can be clustered schedule lines.

Note

If the referenced schedule is a sequence shipping schedule, only a purchase release header is created. No purchase release lines and purchase release line detail records are created. The reason for this is that, usually, a release is sent by item. Items in a sequence shipping schedule, however, are required for a combination of vehicle number (VIN), line station, and assembly kit. For this reason, a link exists between the release header in the Purchase Releases (tdpur3120m000) session and the release lines in the Production Synchronous Calls (tdpur3523m000) session. For details, refer to *To create and update sequence shipping schedule lines (p. 1-20)*.

Purchase release does exist

If a purchase release already exists, dependent on the purchase release's status, when running the Generate Release Lines (tdpur3222m000) session for non-referenced schedules, or when generating schedule lines for referenced schedules, ERP LN takes the following steps:

- If the purchase release's highest revision in the Purchase Releases (tdpur3120m000) session has the status **Preview**, the release lines in the Purchase Release - Lines (tdpur3121m000) session, which can have the status **Scheduled** and/or **Preview**, and the release line details in
-

the Purchase Release Line - Details (tdpur3522m000) session, are simply updated.

- If the purchase release's highest revision has the status **Sent**, a new release revision is created with the status **Preview** or **Scheduled**.
- If the purchase release's highest revision has the status **Scheduled**, you must either send the purchase release or run the Approve Release Lines (tdpur3222m100) session with the **Rebuild Release** check box selected. If you choose the last option, the release lines are generated again for the specific purchase release. The purchase release keeps the same release revision number as the previous one and receives the status **Scheduled**.

Note

- Rebuilding the release in the Approve Release Lines (tdpur3222m100) session is only applicable to non-referenced schedules.
- Even if the status of the purchase release's highest revision is not **Sent**, ERP LN can still generate new revision numbers when generating release lines. This occurs if schedules with various schedule issue dates are stored under one purchase release. Any schedule with a schedule issue date different from the issue date of the last release, receives a new revision number.
- Pull call-off schedules, for which no schedule issue dates are defined, are automatically stored under the last purchase release revision with the status **Scheduled**. Because call-off schedules are not released based on schedule issue date, it is better to select the **Release EDI Message Directly** check box in the Purchase Contract Line Logistic Data (tdpur3102m000) session and/ or the Items - Purchase Business Partner (tdipu0110m000) session. If you select the **Release EDI Message Directly** check box, ERP LN automatically generates EDI messages for **Scheduled** purchase release lines, which Electronic Commerce sends to the supplier.

Purchase releases - additional information

- The way in which ERP LN handles schedule lines in a purchase release also depends on the value of the **Tax Purchase Release Line** check box in the Purchase Contract Parameters (tdpur0100m300) session.
- If, after sending a release, the released requirements of the non-referenced schedule are deleted, you can run the Generate Release Lines (tdpur3222m000) session to create a release with no requirements. Because no lines are available for clustering, ERP LN creates a release line for the item with a quantity of zero in the Purchase Release Line - Details (tdpur3522m000) session. In this way, the supplier is informed about the cancellation of the previously communicated requirements. For referenced schedules, ERP LN automatically communicates the cancellation to the supplier. For more information, refer to *Zero required quantity for sales schedule lines (p. 2-18)*.

- For non-referenced schedules that must be sent in a purchase release, ERP LN retrieves a purchase schedule's warehouse from the Purchase Schedules (tdpur3110m000) session. For referenced schedules, however, ERP LN retrieves the purchase schedule's warehouse from the Purchase Schedule - Lines (tdpur3111m000) session, which can differ from line to line. As a result, the schedule lines of the same pull call-off schedule can be stored under different purchase releases.
- You can print the differences between two release revisions of a purchase release in the Print Purchase Release Variance Reports (tdpur3422m100) session.
- You can delete purchase release revisions in the Delete Purchase Revisions (tdpur3222m200) session.

To cluster purchase schedule lines

Clustering serves to:

- Reduce the number of schedule lines that must be processed. Especially those lines for which no accurate planning is required yet, can be grouped.
- Provide the supplier a clear view of the schedule lines without having to bother about schedule origin.

Conditions for clustering

For one purchase schedule, several schedule lines can be generated with the same characteristics (common buy-from business partner, ship-from business partner, release type, shipment based schedule/ delivery based schedule, communication method), which differ only in their origin. These schedule lines, which are stored under one purchase release, can have different planned delivery dates (or planned shipment dates) that fall in one specific period. The schedule lines that fall in that specific period, determined by the applicable segment, which is derived from the schedule's applicable segment set, are clustered and put together in the Purchase Release Line - Details (tdpur3522m000) session.

Note

In the Purchase Release Line - Details (tdpur3522m000) session, schedule lines are only clustered in the same purchase release line detail if the following fields on the schedule lines are the same:

- **Purchase Unit**
 - **Purchase Price Unit**
 - **Price**
 - **Warehouse**
 - **Address**
 - **Exempt**
 - **Tax Country**
-

- **Tax Code**
- **Own Tax Number**
- **BP Tax Country**
- **BP Tax Number**
- **Exempt Reason**
- **Exempt Certificate**
- **Preferred Manufacturer Part Number**
- **Manufacturer**
- The contents of the MPN sets that are linked to the purchase schedule lines.

The following fields, which are derived from the **Schedule Quantity**, but are defined in Common Data, must also match to cluster several schedule lines into one release line detail:

- **Conversion Factor Purchase to Inventory Unit**
- **Conversion Factor Price to Inventory Unit**
- **Length**
- **Width**
- **Height**

The way in which *tax* fields are used in a purchase release, depends on the value of the **Tax Purchase Release Line** field in the Purchase Contract Parameters (tdpur0100m300) session.

Use of segment sets for clustering

To cluster schedule lines, first the next schedule issue date must be determined. This date is derived from the schedule's applicable issue pattern, which is defaulted from the Purchase Contract Line Logistic Data (tdpur3102m000) session and/ or the Items - Purchase Business Partner (tdipu0110m000) session.

Note

- You can define patterns in the Patterns (tcccp0690m000) session.
- On the schedule issue date, schedule lines are always clustered from 00:00 hours on and not from the time that is indicated by the issue date.

Example

- Release type: material release.
- Next schedule issue date: 26/07/99 10:00 hrs.

Segments in the segment set for material release:

Segment	Segment time unit	Segment length
1	Week	1
2	Four Weeks	1
3	Four Weeks	1

Schedule (SCH001) requirements in schedule lines:

Position number	Origin	Planned delivery date	Quantity
10	EP	23/07/99	15
20	EP	26/07/99	10
30	Manual	28/07/99	10
40	EP	03/08/99	15
50	Manual	10/08/99	15
60	EP	24/08/99	20
70	EP	31/08/99	20

Creation of clustered lines:

Release number	Release revision	Schedule number	Release position	Start date	End date	Quantity
REL001	0	SCH001	1	26/07/99	01/08/99	20
REL001	0	SCH001	2	02/08/99	29/08/99	50
REL001	0	SCH001	3	30/08/99	26/09/99	20

All schedule lines that fall within one week, calculated from the next schedule issue date on, are clustered in one release line detail (segment 1). After this period, all schedule lines that fall within the next four weeks are clustered in another release line detail (segment 2). Finally, the schedule lines that fall within the next four weeks are clustered in the last release line detail.

Note

- If schedule lines exist with planned delivery/shipment dates that fall before the next schedule issue date, these lines are inserted as immediate requirements in the Purchase Release Line - Details (tdpur3522m000) session for receipt based schedules.
- If a period is undefined between two segments, ERP LN automatically adds another segment that fills this time gap, so the schedule lines that fall in this time gap are also included in the clustering process. All the schedule lines that fall within the time period of that newly generated segment are clustered into one release line detail. For details, refer to *To use segment sets (p. 1-28)*.
- If the first segment time unit of the first segment in a segment set is set to **Week**, **Four Weeks**, or **Month**, which are all segment time units that have Monday as a starting point for their activities, and if the calculated schedule issue date does not fall on a Monday, some days can be excluded from the clustering process. For more information on using segment time units in a segment set, refer to *To use segment sets (p. 1-28)*.

Overall process for clustering schedule lines

1. To cluster schedule lines, you can run the Generate Release Lines (tdpur3222m000) session. The clustered schedule lines are stored in the Purchase Release Line - Details (tdpur3522m000) session with the status **Preview**. The linked release line in the Purchase Release - Lines (tdpur3121m000) session, also has the status **Preview**.
2. If you agree to the release line detail with the status **Preview** and you do not want to change the release line detail, you can approve the line (detail) in the Approve Release Lines (tdpur3222m100) session. The clustered lines in the Purchase Release Line - Details (tdpur3522m000) session and the release line in the Purchase Release - Lines (tdpur3121m000) session receive the status **Scheduled**.
3. As soon as the release line with the status **Scheduled** is printed in the Print Purchase Releases (tdpur3422m000) session with the **Final Report** check box selected, or when EDI messages are automatically generated and sent, the clustered lines in the Purchase Release Line - Details (tdpur3522m000) session and the release line in the Purchase Release - Lines (tdpur3121m000) session receive the status **Sent**.

To update clustered schedule lines

If you check the clustered schedule lines with the status **Preview** in the Purchase Release Line - Details (tdpur3522m000) session, and you do not want these lines to be approved in this format, or if you check the clustered schedule lines with the status **Scheduled** and you do not want the lines to be sent to the supplier in this format, you can update the lines. To update the release line (detail) of a non-referenced schedule, take the following steps:

1. In the Purchase Release Line - Details (tdpur3522m000) session, select a record.
2. On the **Specific** menu of the Purchase Release Line - Details (tdpur3522m000) session, click **Purchase Schedule - Lines**, which will start the Purchase Schedule - Lines (tdpur3111m000) session.
3. Double-click the schedule line that you want to update and make the change.
4. On the **Specific** menu of the Purchase Release Line - Details (tdpur3522m000) session, click **Update Release**. The release is now updated with the changes you made on the schedule line(s).

To receive clustered schedule lines

If a supplier sends the goods based on the clustered lines, and goods are received in Warehouse Management against a blanket warehouse order, the received quantity is distributed over the push schedule lines, based on the following rule:

Received quantity is booked in the **Received Quantity** field of the Purchase Schedule - Lines (tdpur3111m000) session for the purchase schedule line that has the oldest unfulfilled requirement of the type immediate or firm. See also Blanket warehousing orders.

A purchase schedule line is unfulfilled if:

- The delivered quantity is less than the ordered quantity.
- The ordered quantity is equal to the delivered quantity, but the sum of the approved quantity and the rejected quantity is less than the delivered quantity.

Note

- No receipts can be made on schedule lines with the planned requirement type.
- If no unfulfilled purchase schedule lines can be found, goods cannot be received on a purchase schedule.

Authorizations

When purchase schedules are used, a supplier ships the goods based on the requirement type. The **Firm** requirement type, however, can deviate from the earlier received **Planned** requirement type.

If authorizations are used, before the **Firm** requirement type is communicated, a buyer gives permission to the supplier to fabricate goods or to buy raw materials up to a certain quantity level. The essence of an authorization is that you bear the risk if you do not need the goods. In other words, you must pay for the fabrication and/or raw materials, whether or not the goods are required.

Authorizations

The following types of authorizations are available:

- [fab authorization](#)
- [high fab authorization](#)
- [raw authorization](#)
- [high raw authorization](#)

To use authorizations, take the following steps:

1. Select the **Authorizations** check box in the Purchase Contract Line Logistic Data (tdpur3102m000) session and/or the Items - Purchase Business Partner (tdipu0110m000) session.
2. If you want to give a FAB authorization, define a [FAB period](#) in the **FAB Period** field of the Purchase Contract Line Logistic Data (tdpur3102m000) session and/or the Items - Purchase Business Partner (tdipu0110m000) session.
3. If you want to give a RAW authorization, define a [RAW period](#) in the **RAW Period** field of the Purchase Contract Line Logistic Data (tdpur3102m000) session and/or the Items - Purchase Business Partner (tdipu0110m000) session.

In the FAB/RAW Authorizations (tdpur3534m000) session, you can view the various authorizations for a specific purchase schedule.

Authorizations for the schedule are updated in the FAB/RAW Authorizations (tdpur3534m000) session as soon as:

- The authorizations and cumulatives are reset in the Reset Cumulatives (tdpur3230m000) session.
- A purchase release receives the status **Sent**. As a result, most of the fields in the FAB/RAW Authorizations (tdpur3534m000) session are defaulted from the Purchase Release - Lines (tdpur3121m000) session.

Note

Authorizations are only used in case of [non-referenced schedules](#) that are sent to the supplier in a [material release](#).

To calculate FAB and RAW authorizations

FAB and RAW authorization quantities are only calculated for push schedules and pull forecast schedules. However, the way in which the calculation is executed for both schedules, differs.

Push schedules

FAB and RAW authorizations are calculated from the schedule issue date on.

- **FAB Authorization**
Required CUM on the schedule issue date + requirements of released schedule lines for which no receipts are booked yet on the schedule issue date + sum of all schedule requirements that fall into the FAB period.
- **RAW Authorization**
Required CUM on the schedule issue date + requirements of released schedule lines for which no receipts are booked yet on the schedule issue date + sum of all schedule requirements that fall into the RAW period.

Pull forecast schedules

FAB and RAW authorizations are calculated from the current date on.

- **FAB Authorization**
Required CUM on the current date + requirements of released schedule lines for which no receipts are booked yet on the current date + sum of all schedule requirements that fall into the FAB period.
- **RAW Authorization**
Required CUM on the current date + requirements of released schedule lines for which no receipts are booked yet on the current date + sum of all schedule requirements that fall into the RAW period.

Note

- The pull forecast schedule retrieves the required CUM from the pull call-off schedule, as stored in the Required Cumulatives (tdpur3130m000) session.
 - For pull forecast schedules, you cannot use the schedule issue date to calculate the FAB and RAW authorizations, because pull call-off schedules are not released based on schedule issue date. If you use the schedule issue date, several call-off schedule lines can be excluded from the FAB and RAW calculation, because of the short horizon of these schedule lines. As a result, the current date is used, which can be one of the following:
 - The date on which release lines are generated in the Generate Release Lines (tdpur3222m000) session.
 - The date on which a release is updated, which you can perform by clicking **Update Release** on the **Specific** menu of the Purchase Release Line - Details (tdpur3522m000) session.
-

- The date on which a release is rebuilt, which you can perform by selecting the **Rebuild Release** check box in the Approve Release Lines (tdpur3222m100) session.

Example Authorization

Requirement type	Time period
Firm	01/01 - 15/01
Planned	15/01 --->

- The time period from 01/01 - 15/01 contains real orders. The delivery is certain.
- For the time period from 15/01 - 01/02, you can give, for instance, a FAB authorization.
- For the time period from 01/02 - 15/02, you can give, for instance, a RAW authorization.

Sometimes an authorization must be adjusted. In this case, the highest authorization that is given to the buy-from business partner for the specific period is valid. In other words, the buyer must pay the highest authorized quantity for the specific period.

Example High authorization

period	FAB authoriza- tion	High FAB authoriza- tion	Schedule issue date
15/1 - 1/2	100	100	1/1
15/1 - 1/2	150	150	5/1
15/1 - 1/2	125	150	10/1

Note

The period during which high authorizations are valid is calculated from the current CUM reset date on up to the moment that the CUM reset date is reset in the Reset Cumulatives (tdpur3230m000) session. As a result, the CUM reset date is the date and time at which a schedule's authorizations and cumulatives are reset.

Receipts on push schedule lines

Receipts

For push schedules, goods are usually received against a blanket warehouse order, and the purchase release usually contains clustered schedule lines. When goods are received, the goods are distributed over the schedule lines with the oldest unfulfilled requirement of the type **Immediate** or **Firm**.

For more information on:

- The integration between Purchase Control and Warehouse Management when goods are received on a blanket warehousing order, refer to *Purchase schedule cumulatives (p. 1-48)* .
- Clustering schedule lines, refer to *To cluster purchase schedule lines (p. 1-34)* .
- Blanket warehousing orders, refer to Blanket warehousing orders.

Receipt correction

If receipts are made in Warehouse Management, and the goods are not yet inspected, you can correct the delivered quantity in the Receipt Correction (whinh3121s000) session.

Note

For inspected receipts, no receipt correction is possible. Whether or not goods must be inspected upon receipt depends on the value of the **Inspection** check box in the Purchase Contract Lines (tdpur3101m000) session and/or the Items - Purchase Business Partner (tdipu0110m000) session.

If goods must be inspected, the **Approved Quantity** and **Rejected Quantity** fields in the Purchase Schedule - Lines (tdpur3111m000) session and the Purchase Schedule - Receipts (tdpur3115m200) session are retrieved from Warehouse Management. If these fields are filled, you cannot correct the receipt for the inspected quantity.

If goods must not be inspected, the **Approved Quantity** field is equal to the **Received Quantity** field in the Purchase Schedule - Lines (tdpur3111m000) session and the Purchase Schedule - Receipts (tdpur3115m200) session. The rejected quantity is always zero. Unless the quantities received are invoiced, you can always perform a receipt correction.

Note

When the purchase schedule line is invoiced, you can no longer update the receipt in Warehouse Management. However, you can/must still update the received CUMs in the Update Received CUMs (tdpur3432m000) session.

To increase the delivered quantity

If, in Warehouse Management, the delivered quantity is increased after prior confirmation of a receipt, ERP LN takes the following steps:

1. Goods are assigned to (the) schedule line(s) with the oldest unfulfilled requirement of the type **Immediate** or **Firm** in the Purchase Schedule - Lines (tdpur3111m000) session.
2. In the Purchase Schedule - Receipts (tdpur3115m200) session, an entry is created if the goods are assigned to a new schedule line, or a record is updated if the goods are added to a schedule line on which goods are received, but that is not fulfilled yet.
3. The Received Cumulatives (tdpur3132m000) session is updated.

To decrease the delivered quantity

If, in Warehouse Management, the delivered quantity is decreased after prior confirmation of a receipt, goods must be taken from the schedule lines with the youngest requirement. Following the general rule of modifying the youngest requirements, no logical relationship would exist anymore between the delivered quantity and a combination of schedule position number, receipt number, packing slip number, and receipt date in the Purchase Schedule - Receipts (tdpur3115m200) session.

For this reason, ERP LN takes the following steps:

1. In the Purchase Schedule - Lines (tdpur3111m000) session, the youngest requirement is selected that contains a delivered quantity. Of this purchase schedule line, the **Received Quantity** field and the **Approved Quantity** field (in case goods need not be inspected) are modified until the delivered quantity is zero. Then, the next (youngest) requirement that meets this condition is selected, and so on.
2. In the Purchase Schedule - Receipts (tdpur3115m200) session, a new record is created for the combination of schedule number, receipt number, packing slip number, and receipt date with a negative delivered quantity and a negative approved quantity.
3. Planned inventory transactions are updated for the selected purchase schedule line(s).
4. Accounts Payable is updated about the adjusted purchase schedule line(s).
5. In the Received Cumulatives (tdpur3132m000) session, the received quantity and the received cumulative are updated for a combination of schedule number, receipt number, packing slip number, and receipt date. All successive received CUMs are also updated with the new quantity.

Example

In Warehouse Management, on 11 February 2001, a receipt is confirmed for 20 pieces. An inspection is carried out for 10 pieces of which three pieces are

rejected and seven pieces are approved. On 13 February 2001 a receipt is confirmed for five pieces. Those five pieces must still be inspected. The following tables show the information that is written to successively the Purchase Schedule - Lines (tdpur3111m000) session and the Purchase Schedule - Receipts (tdpur3115m200) session.

Schedule line	Requirement date	Required quantity	Receipt date	Delivered quantity	Approved quantity	Rejected quantity
10	13/2/2001	15	11/2/2001	15	7	3
20	14/2/2001	5	11/2/2001	5	0	0
30	15/2/2001	5	13/2/2001	5	0	0
40	16/2/2001	8	-	-	-	-

Schedule line	Receipt number	ASN number	Packing slip number	Receipt date	Delivered quantity	Approved quantity	Rejected quantity
10	RCP0001	BP001	PS0001	11/2/2001	15	7	3
20	RCP0001	BP001	PS0001	11/2/2001	5	0	0
30	RCP0002	BP002	PS0002	15/2/2001	5	0	0
40	-	-	-	-	-	-	-

Now, a receipt correction is performed on the receipt number RCP0001. Instead of receiving 20 pieces, the delivered quantity is changed to 12. Less than 10 pieces is not allowed because 10 pieces are already inspected and approved or rejected.

The following tables show the result of the receipt correction, in the Purchase Schedule - Lines (tdpur3111m000) session and the Purchase Schedule - Receipts (tdpur3115m200) session.

Schedule line	Requirement date	Required quantity	Receipt date	Delivered quantity	Approved quantity	Rejected quantity
10	13/2/2001	15	11/2/2001	15	7	3
20	14/2/2001	5	11/2/2001	2	0	0
30	15/2/2001	5	13/2/2001	0	0	0
40	16/2/2001	8	-	-	-	-

Schedule line	Receipt number	ASN number	Packing slip number	Receipt date	Delivered quantity	Approved quantity	Rejected quantity
10	RCP0001	BP001	PS0001	11/2/2001	15	7	3
20	RCP0001	BP001	PS0001	11/2/2001	2	0	0
30	RCP0002	BP002	PS0001	13/2/2001	5	0	0
	RCP0002	BP001	PS0001	11/2/2001	-5	0	0
40	-	-	-	-	-	-	-

To inspect scheduled items

For a purchase schedule, receipts are made in Warehouse Management. Whether or not goods must be inspected upon receipt depends on the value of the **Inspection** check box in the Purchase Contract Lines (tdpur3101m000) session and/or the Items - Purchase Business Partner (tdipu0110m000) session.

If goods must not be inspected after a receipt is confirmed in Warehouse Management, Warehouse Management does not approve or reject the received goods. As a result, in the Purchase Schedule - Lines (tdpur3111m000) session and the Purchase Schedule - Receipts (tdpur3115m200) session, the **Approved**

Quantity field is equal to the **Received Quantity** field. The **Rejected Quantity** field is always zero.

If goods must be inspected after a receipt is confirmed in Warehouse Management, the values of the **Approved Quantity** and **Rejected Quantity** fields in the Purchase Schedule - Lines (tdpur3111m000) session and the Purchase Schedule - Receipts (tdpur3115m200) session are retrieved from Warehouse Management. The type of schedule, push schedule or pull call-off schedule, determines how the inspection results are communicated to the Purchase Control module.

Pull call-off schedules

If goods are inspected for a pull call-off schedule, in the Purchase Schedule - Receipts (tdpur3115m200) session, ERP LN:

1. Searches for the unique combination of **Schedule**, **Receipt Number**, **Packing Slip**, **Receipt Date**, and **ASN** number.
2. Updates the **Rejected Quantity** field and the **Approved Quantity** field with the inspection results.

In the Purchase Schedule - Lines (tdpur3111m000) session, ERP LN then:

1. Searches for the unique combination of **Schedule** and **Reference ID**.
2. Updates the **Rejected Quantity** field and the **Approved Quantity** field with the inspection results.

Push schedules

If goods are inspected for a push schedule, in the Purchase Schedule - Receipts (tdpur3115m200) session, ERP LN:

1. Searches for a combination of **Schedule**, **Receipt Number**, **Packing Slip**, **Receipt Date**, and **ASN** number. Because one receipt can be made for several purchase schedule lines, several combinations can be found in the Purchase Schedule - Receipts (tdpur3115m200) session.
2. Updates the **Rejected Quantity** field and the **Approved Quantity** field with the inspection results. If several records are found in the Purchase Schedule - Receipts (tdpur3115m200) session, ERP LN:
 - Distributes the inspection results over the purchase schedule receipt detail records in the sequence of record with the oldest requirement date to the record with the youngest requirement date.
 - First distributes the approved quantity and then the rejected quantity over the purchase schedule receipt detail records.

In the Purchase Schedule - Lines (tdpur3111m000) session, ERP LN then:

1. Searches for the purchase schedule line(s) that is/are linked to the updated record(s) in the Purchase Schedule - Receipts (tdpur3115m200) session.
-

2. Updates the **Rejected Quantity** field and the **Approved Quantity** field with the inspection results.

Example

The following table shows the records in the Purchase Schedule - Receipts (tdpur3115m200) session after receipts are confirmed in Warehouse Management and before goods are inspected for a push schedule.

- Schedule number: 1000001
- Receipt number : 1
- ASN number : BP001
- Packing Slip : PS001

Sched- ule line	Requirement date	Receipt date	Required quantity	Received quantity	Approved quantity	Rejected quantity
10	13/2/2001	11/2/ 2001	10	10	-	-
20	14/2/2001	11/2/ 2001	5	5	-	-
30	15/2/2001	11/2/ 2001	20	5	-	-

Seven pieces are now inspected in Warehouse Management, of which three pieces are rejected and four pieces are approved. The following table shows the distribution of the inspection results in the Purchase Schedule - Receipts (tdpur3115m200) session.

Sched- ule line	Require- ment date	Receipt date	Required quantity	Received quantity	Approved quantity	Rejected quantity
10	13/2/2001	11/2/ 2001	10	10	4	3
20	14/2/2001	11/2/ 2001	5	5	0	0
30	15/2/2001	11/2/ 2001	20	5	0	0

Finally, 13 pieces are inspected of which five pieces are rejected and eight pieces are approved. The following table shows the inspection results in the Purchase Schedule - Receipts (tdpur3115m200) session.

Sched- ule line	Require- ment date	Receipt date	Required quant- ity	Received quantity	Approved quantity	Rejected quantity
10	13/2/2001	11/2/ 2001	10	10	7	3
20	14/2/2001	11/2/ 2001	5	5	5	0
30	15/2/2001	11/2/ 2001	20	5	0	5

Note

If receipts are made in Warehouse Management, and the goods are not yet inspected, you can correct the delivered quantity in the Receipt Correction (whinh3121s000) session for push schedules. For more information, refer to *Receipts on push schedule lines* (p. 1-42).

Purchase schedule cumulatives

If you use purchase schedules, cumulatives (CUMs) are used to:

- Keep track of a schedule's total ordered quantity.
- Keep track of a schedule's total received quantity.

- Calculate overdeliveries and underdeliveries for push schedules.
- Inform the supplier on the received quantity.

Cumulatives

In Purchase Control, the following CUMs are supported:

- Shipped cumulatives, which can be viewed in the Shipped Cumulatives (tdpur3131m000) session.
- Received cumulatives, which can be viewed in the Received Cumulatives (tdpur3132m000) session.
- Required cumulatives, which can be viewed in the Required Cumulatives (tdpur3130m000) session.
- Invoiced cumulatives, which can be viewed in the Invoiced Cumulatives (tdpur3133m000) session.

If a purchase schedule is released, ERP LN inserts records in the previously mentioned sessions in the following order:

1. A shipped cumulative record is inserted/updated as soon as an advance shipment notice is received from the supplier. The shipped quantity communicated by the supplier is inserted.
2. A received cumulative record is inserted/updated as soon as a receipt is made in Warehouse Management. The actually received quantity is inserted.
3. A required cumulative record is inserted/updated as soon as a receipt is confirmed in Warehouse Management. The total required quantity for the schedule line(s) is inserted.
4. An invoiced cumulative record is inserted as soon as an invoice is approved in Financials.

In general, cumulatives are calculated and updated based on schedule number, CUM reset date, and transaction date, which can be the shipment date, receipt date, planned requirement date, or invoice date. The schedule number and the transaction date are determined at the moment the transaction takes place.

Note

You can reset the cumulatives in the Reset Cumulatives (tdpur3230m000) session.

Cumulative models

Two cumulative models exist based on which the communicated cumulatives are used in a logistic company.

In the **Model for CUMs** field of the Purchase Contract Parameters (tdpur0100m300) session, you can select one of the following models:

- **Receipt based CUM model**

In receipt based schedules, the supplier's position is taken into account. As a result, in case of an underdelivery, schedule lines with a planned requirement date that falls before the next schedule issue date are inserted as immediate requirements in the Purchase Release Line - Details (tdpur3522m000) session. Furthermore, the total received CUM is communicated to the supplier.

- **Order based CUM model**

Order based schedules are independent of the supplier's position. In case of an overdelivery or underdelivery, suppliers are responsible for calculating their position in relation to the demand. As a result, all ordered quantities are communicated to the supplier, after which the supplier subtracts the shipped quantity from the ordered quantity. To have more information on how the supplier handles underdeliveries and overdeliveries, refer to *Sales schedule adjustment (p. 2-32)*.

Note

For push schedules, goods are usually received against a blanket warehouse order and the purchase release usually contains clustered schedule lines. In case of a receipt of goods, the goods are distributed over the schedule lines with the oldest unfulfilled requirement of the type Immediate or Firm. For more information, refer to *To cluster purchase schedule lines (p. 1-34)*.

Example

Schedule Number 10000001

Requirement date	Position no.	Ordered Qty.	Delivered Qty.	Requirement type	Price
11/01/2001	10	5 pieces	0 pieces	firm	10
12/01/2001	20	5 pieces	0 pieces	firm	10
13/01/2001	30	5 pieces	0 pieces	firm	10

If, on 10 January 2001, a receipt is confirmed of seven pieces, receipt 0001, packing slip 001, the following steps are performed/ the following information is exchanged between the Purchase Control module and Warehouse Management:

Step 1: Select purchase schedule lines

The purchase schedule lines are selected in the sequence of oldest unfulfilled requirement of the type Firm. This means that first receipts are booked on the requirement of 11 January 2001, then on the requirement of 12 January 2001, and so on. Receipts can be booked on schedule lines for a maximum of the ordered quantity.

In our example, a receipt of seven pieces is booked as follows:

- 11 January 2001: although seven pieces are delivered, five pieces can be received on this line.
- 12 January 2001: although the ordered quantity is five pieces, only two pieces of the actually delivered quantity are assigned to this line (five pieces are assigned to the schedule line of 11 January 2001, which is older). This means that this line is only partially delivered.

Step 2: Update purchase schedule lines

The purchase schedule lines are updated in the Purchase Schedule - Lines (tdpur3111m000) session.

Requirement date	Position no.	Ordered Qty.	Delivered Qty.	Requirement type	Price
11/01/2001	10	5 pieces	5 pieces	firm	10
12/01/2001	20	5 pieces	2 pieces	firm	10
13/01/2001	30	5 pieces	0 pieces	firm	10

Step 3: Insert receipt details

The receipt details are updated in the Purchase Schedule - Receipts (tdpur3115m200) session.

Position no.	Receipt no.	Packing slip no.	Delivered Qty.	Approved Qty	Rejected Qty
--------------	-------------	------------------	----------------	--------------	--------------

10	RCP0001	PS001	5 pieces	0	0
20	RCP0001	PS001	2 pieces	0	0

Step 4: Update planned inventory transactions

Planned inventory transactions are updated in Warehouse Management.

Position no.	Delivery date	Quantity
10	11/01/2001	0 pieces
20	12/01/2001	3 pieces
30	13/01/2001	5 pieces

Step 5: Update received cumulatives

The received cumulatives are updated in the Received Cumulatives (tdpur3132m000) session.

Receipt no.	Packing slip no.	Transaction date	Received quantity	Received CUM
RCP0001	PS001	10/1/2001	7	7

Step 6: Update required cumulatives

The required cumulatives are updated in the Required Cumulatives (tdpur3130m000) session.

Planned requirement date	Required quantity	Required CUM
11/01/2001	5	5
12/01/2001	5	10

To reset purchase schedule cumulatives

Over time, the cumulatives (CUMS) can be incremented to very high values. To avoid domain constraints, you can reset the CUMs in the Reset Cumulatives (tdpur3230m000) session. Although this reset is usually performed at the end of the year, the CUMs cannot be reset exactly when the year is changing. This means that updates can be stored in the cumulative sessions after the reset date. By calculating a reset quantity, these values are also included in the reset process.

Resetting is carried out based on the following cumulative (CUM) models, which you can define in the **Model for CUMs** field of the Purchase Contract Parameters (tdpur0100m300):

- Order based CUM model.
- Receipt based CUM model.

Conditions for successfully resetting the cumulatives:

- Suppliers and customers must use the same CUM reset date when resetting the cumulatives in the Reset Cumulatives (tdpur3230m000) session and the Reset Cumulatives (tdsls3230m000) session.
- Resetting can only take place when the releases sent by the customer, are received and approved by the supplier. If not, suppliers cannot approve releases that are processed after the reset date, because the reset dates are different. Purchase release lines with the status **Preview**, or **Scheduled** are automatically reset.
- Suppliers must not update incoming releases or manually create new releases, because resetting can then result in wrong quantities.

To calculate the reset quantity

To reset the existing CUM values, the reset quantity is determined and subtracted from the existing CUMs. In the Shipped Cumulatives (tdpur3131m000), Received Cumulatives (tdpur3132m000), Required Cumulatives (tdpur3130m000), and the Invoiced Cumulatives (tdpur3133m000) sessions, a reset record is added and the CUMs are reduced by the reset quantity. Furthermore, the FAB/RAW Authorizations (tdpur3534m000) session is reset and the release lines that are

generated, but not yet sent are reset. Based on the CUM model, the reset quantity is calculated as follows:

Based on the CUM model, the reset quantity is calculated as follows:

- **Order Based CUM model**
Reset Quantity = last required quantity that is communicated on a release date that is prior to the new reset date. This quantity is retrieved from the **Required CUM** field of the FAB/RAW Authorizations (tdpur3534m000) session.
- **Receipt Based CUM model**
Reset Quantity = last received quantity that is communicated on a release date that is prior to the new reset date. This quantity is retrieved from the **Received CUM** field of the FAB/RAW Authorizations (tdpur3534m000) session.

Example 1 - Order Based CUM model

- Reset date = start week 3
- The schedule lines are generated before the reset takes place
- Schedule line 2 is released in week 3
- Schedule line 3 is released in week 5

Week	Line 1	Required CUM before reset	Line 2	Required CUM before reset	Line 3	Required CUM before reset	Required CUM after reset
1	20	20	-	20	-	20	20
2	20	40	-	40	-	40	40
3	20	60	5	45	-	45	5
4	20	80	5	50	-	50	10
5	20	100	5	55	20	70	30
6	20	120	55	110	5	75	35
7	-	-	5	115	5	80	40
8	-	-	5	120	5	85	45

9	-	-	-	-	5	90	50
10	-	-	-	-	5	95	55

TOTALS	CUM line 1	CUM line 2	CUM line 3	CUMs after reset
--------	------------	------------	------------	------------------

Start CUM	0	40	50	10
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The reset date starts in week 3. Because of the **Order Based CUM** model, resetting is carried out based on the required cumulatives. At the end of week 2, the reset quantity is 40. As a result, all CUMs are updated by -40 from the CUM reset date (week 3) on.

Example 2 - Receipt Based CUM model

Take the same data from the previous example, but also take into consideration the following data:

Week	Received qty.	Received CUM before reset	Received CUM after reset
1	10	10	10
2	25	35	35
3	20	55	20
4	-	55	20
5	5	60	25

The reset date starts in week 3. Because of the **Receipt Based CUM** model, resetting is done based on the received cumulatives. At the end of week 2, the reset quantity is 35. As a result, all CUMs are updated by -35 from the CUM reset date (week 3) on.

The totals from example 1 would then arrive at:

TOTALS	CUM line 1	CUM line 2	CUM line 3	CUMs after reset
--------	---------------	---------------	---------------	---------------------

Start CUM 0	40	50	15	
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To reset authorizations

Over time, the [FAB authorizations](#) and [RAW authorizations](#) can be incremented to very high values. To avoid domain constraints, while resetting the CUMs in the Reset Cumulatives (tdpur3230m000) session, the FAB/RAW authorizations are also reset. Like the cumulatives, authorizations cannot be reset exactly when the year is changing. As a result, updates can be stored in the FAB/RAW Authorizations (tdpur3534m000) session after the reset date. By calculating a reset quantity, these values are also included in the reset process.

Resetting is carried out based on the following cumulative (CUM) models, which you can define in the **Model for CUMs** field of the Purchase Contract Parameters (tdpur0100m300):

- Order based CUM model.
- Receipt based CUM model.

Conditions for successfully resetting the FAB/RAW authorizations

- Suppliers and customers must use the same [CUM reset date](#) when resetting the FAB/RAW authorizations in the Reset Cumulatives (tdpur3230m000) session and the Reset Cumulatives (tdsls3230m000) session.
- Resetting can only take place when the releases sent by the customer, are received and approved by the supplier. If not, suppliers cannot approve releases that are processed after the reset date, because the reset dates are different. Purchase release lines with the status **Preview**, or **Scheduled** are automatically reset.
- Suppliers must not update incoming releases or manually create new releases, because resetting can then result in wrong quantities.

To calculate the reset quantity

To reset the existing FAB/RAW authorization values, the reset quantity is determined and subtracted from the existing FAB/RAW authorization values.

Based on the CUM model, the reset quantity is calculated as follows:

- **Order Based CUM model**
Reset Quantity = last required quantity that is communicated on a release date that is prior to the new reset date. This quantity is retrieved from the

Required CUM field of the FAB/RAW Authorizations (tdpur3534m000) session.

- **Receipt Based CUM model**

Reset Quantity = last received quantity that is communicated on a release date that is prior to the new reset date. This quantity is retrieved from the **Received CUM** field of the FAB/RAW Authorizations (tdpur3534m000) session.

To reset high FAB authorizations/high RAW authorizations

How the high FAB authorizations and high RAW authorizations are reset is based on the setting of the **Authorizations to be** parameter in the Purchase Contract Line Logistic Data (tdpur3102m000) session and/or the Items - Purchase Business Partner (tdipu0110m000) session:

- **Carried Forward**

The high FAB authorizations and high RAW authorizations are reduced by the reset quantity.

- **Reset**

The high FAB authorizations and high RAW authorizations are equalized to the FAB authorization and RAW authorization values.

Example

- FAB period = 4 weeks.
- Cumulative model = **Order Based**.
- Reset date = start week 3.
- The schedule lines are generated before the reset takes place.
- Schedule line 2 is released in week 3.
- Schedule line 3 is released in week 5.

Week	Line 1	-	Line 2	-	Line 3	-	CUMs after reset
-	Qty.	CUM	Qty.	CUM	Qty.	CUM	-
1	20	20	-	20	-	20	20
2	20	40	-	40	-	40	40
3	20	60	5	45	-	45	5
4	20	80	5	50	-	50	10
5	20	100	5	55	20	70	30

6	20	120	55	110	5	75	35
7	-	-	5	115	5	80	40
8	-	-	5	120	5	85	45
9	-	-	-	-	5	90	50
10	-	-	-	-	5	95	55

Authorizations to be **Carried Forward**

TOTALS	CUM Line 1	CUM line 2	CUM line 3	CUMs after reset
Start CUM	0	40	50	10
FAB	80	110	85	45
High FAB	80	110	110	70

The reset date starts in week 3. Because of the **Order Based CUM** model, resetting is performed based on the required cumulatives. At the end of week 2, the reset quantity is 40. When Authorizations must be **Carried Forward**, the authorization cumulatives are updated by -40 from the reset date on (week 3).

If you take the same example, however, with the authorizations reset rather than carried forward, the high FAB is not updated but equalized to the FAB quantity. The calculation then arrives at:

TOTALS	CUM Line 1	CUM line 2	CUM line 3	CUMs after reset
Start CUM	0	40	50	10
FAB	80	110	85	45
High FAB	80	110	110	45

Note

- (High) FAB and (high) RAW are only recalculated for records that belong to material releases, not shipping schedules.
- In the Purchase Release - Lines (tdpur3121m000) session, FAB and RAW related fields of purchase release lines with the status **Preview** or **Scheduled**, are also reset.

Overview of sales schedule handling

Overview of sales schedule handling

Sales schedules are used to support long-term sales projects with frequent deliveries. They represent schedules for specific goods that are used between trade partners. Sales schedules are used instead of standard sales orders in cases where full visibility and time phasing of material requirement information is required, for example, in a JIT environment. Sales schedules provide a more detailed way to specify the delivery dates/times for an item. In the Sales Control (SLS) module, you can create and maintain schedules.

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

Sales master data

Before you can carry out the sales schedule procedure, you must define the sales master data.

For details, refer to:

- Sales item data
- Sales organizational data

You must also define:

- The parameters on the **Schedules** tab of the Sales Contract Parameters (tdsls0100s300) session.
 - A number group for sales schedules in the **Number Group Sales Orders / Sales Schedules** field of the Sales Order Parameters (tdsls0100s400) session.
 - Sales schedule related parameters that apply for an item and business partner combination in the Items - Sales Business Partner (tdisa0510m000) session.
-

These parameters appear on the following tabs:

- **Warehousing Info**
- **Schedules**
- **Releases**

Sales schedule procedure

The sales schedule procedure consists of the following processes:

- To create and update sales releases and sales schedules.
- To determine and use sales schedule authorizations.
- To determine and use sales schedule cumulatives.
- To approve sales schedules.
- To release sales schedules to Warehouse Management.
- To release sales schedules to Central Invoicing.
- To process sales schedules.

For more information, refer to *Sales schedule procedure (p. 2-2)* .

Sales schedule procedure

Sales schedule procedure

The main sales schedule process consists of the following parts:

1. To create and update sales releases and sales schedules.
2. To determine and use sales schedule authorizations.
3. To determine and use sales schedule cumulatives.
4. To approve sales schedules.
5. To release sales schedules to Warehouse Management.
6. To release sales schedules to Central Invoicing.
7. To process sales schedules.

Step 1: To create and update sales releases and sales schedules

In the sales schedule procedure, sold-to business partners usually inform you about their long term and short term schedule requirements by means of electronic data interchange (EDI).

If you use EDI, the following information is automatically entered in ERP LN:

- A sales release in the Sales Releases (tdsls3512m000) session.
 - Sales release lines in the Sales Release - Lines (tdsls3508m000) session.
-

- Sales release position details, provided the schedule is referenced and of the **Shipping Schedule** type in the Sales Release Position Details (tdsls3515m000) session.
- A sales schedule header in the Sales Schedules (tdsls3111m000) session.
- Sales schedule lines in the Sales Schedule - Lines (tdsls3107m000) session.
- Sequence shipping information, provided the schedule is referenced and of the **Sequence Shipping Schedule** type in the Sequence Shipping Information (tdsls3517m000) session.

If business partners do not use EDI, but instead use other ways such as post or fax to inform you about their requirements, you cannot use EDI and sales releases. In this case, you can:

- Manually create sales schedules and sales schedule lines for these requirements. This does not apply to referenced schedules of the **Sequence Shipping Schedule** type.
- Create non-referenced sales schedules from contract deliveries. This is a simplified sales schedule solution to generate sales orders in time.

For more information on:

- EDI related to sales schedules, refer to *EDI and sales schedules (p. 2-5)*.
- Sales releases, refer to *Sales releases (p. 2-6)*.
- Sales schedules, refer to *Sales schedules (p. 2-8)* and *Referenced sales schedules (p. 2-12)*.
- Contract deliveries, refer to Scheduled requirements for a sales contract.

Step 2: To determine and use sales schedule authorizations

In the sales schedule procedure, you ship the goods based on the requirement type. The **Firm** requirement type, however, can deviate from the earlier received **Planned** requirement type. When authorizations are used, before the **Firm** requirement type is communicated, your sold-to business partners give you permission to fabricate goods or to buy raw materials up to a certain quantity level before they really need the goods. The essence of an authorization is that your sold-to business partners bear the risk if they do not need the goods. In other words, they must pay for the fabrication and/or raw materials, whether or not the goods are actually called-off.

Authorization quantities can only be calculated for non-referenced schedules that are received in a material release.

For more information on authorizations, refer to *Sales schedule authorizations (p. 2-19)*.

Step 3: To determine and use sales schedule cumulatives

In the sales schedule procedure, cumulatives (CUMs) are used to monitor total cumulated quantities of sales schedules.

The following types of sales schedule cumulatives are available:

- **Shipped CUM**
The total cumulated quantity that you shipped for a specific sales schedule.
- **Received CUM**
The total cumulated quantity that your ship-to business partner received for a specific sales schedule.
- **Invoiced CUM**
The total cumulated quantity that you invoiced for a specific sales schedule.

For non-referenced sales schedules, cumulatives enable you to:

- Check and adjust the sales schedules for underdelivery and overdelivery.
- Monitor whether your business partner's received CUM matches with your shipped CUM. If not, the disputes can be solved.

ERP LN:

- Does not check or adjust *material releases* for underdelivery or overdelivery.
- Only matches received CUMs with shipped CUMs for *material releases* and *shipping schedules*.

For more information on cumulatives, refer to *Sales schedule cumulatives* (p. 2-24) .

Step 4: To approve sales schedules

To be able to actually process sales schedules, the sales schedules with the **Created** status must be approved. If a sales schedule is approved, it receives the **Approved** status.

For non-referenced sales schedules, during the approval process:

- You can check and adjust the sales schedules for underdelivery and overdelivery.
- ERP LN reconciles the sales schedule. Reconciling means checking whether your business partner's **Received CUM** matches with your **Shipped CUM**. If the CUMs do not match, disputes are generated that must be solved.

For more information, refer to *To approve sales schedules* (p. 2-29) .

Step 5: To release sales schedules to Warehouse Management

Approved sales schedules must be released to Warehouse Management.

If the sales schedule is:

- Non-referenced, you must use the Release Sales Schedules to Order (tdsls3207m000) session to release the sales schedule to Warehouse Management.
- Referenced, it is automatically released to Warehouse Management when it is approved.

For more information, refer to *Sales schedules and Warehouse Management* (p. 2-46) .

Step 6: To release sales schedules to Central Invoicing

If the items that are ordered with the sales schedule line are (partially) shipped, you can invoice the delivered goods. To be able to send the invoice, you must release the sales schedule to Central Invoicing in the Release Sales Orders/Schedules to Invoicing (tdsls4247m000) session.

You can also release shipment correction records to Central Invoicing. For example, if shipped items are lost during shipment and you do not want your business partner to pay for these lost items.

For more information, refer to *Sales schedules and Central Invoicing* (p. 2-47) .

Step 7: To process sales schedules

If the invoice for a sales schedule line is sent, the sales schedule line has the **Invoiced** status. You can process sales schedules whose lines have the **Invoiced** status. Use the Process Delivered Sales Schedules (tdsls3223m000) session to process sales schedules.

For more information, refer to *To process/delete sales schedules* (p. 2-50) .

Note

If the relation with a business partner for an item has come to an end or if you want to change the sold-to business partner specific item data in the Items - Sales Business Partner (tdisa0510m000) session, you can terminate the sales schedule. For more information, refer to *To terminate sales schedules* (p. 2-52) .

EDI and sales schedules

Incoming EDI messages, sent by a sold-to business partner or ship-to business partner, can provide the information based on which you can process sales schedules to deliver the requirements of the sold-to business partner.

The following EDI messages are used to import data from your sold-to business partner or ship-to business partner into sales schedules:

Material Release

Examples of material release messages are: BEM MRL001 (BEMIS). The data imported with this message consists of long-term planning information from your business partner (for instance, from MRP).

Shipping Schedule

Examples of a shipping schedule messages are: BEM SHP001 (BEMIS). The data imported with this message consists of short term ordering information (for instance, the requirements for the next two weeks).

Sequence Shipping Schedule

Examples of sequence shipping schedule messages are: BEM SEQ001 (BEMIS). This message contains the same data as the BEM SHP001 message, but also includes a specific sequence in which the material must be unloaded at the delivery dock.

Note

Received EDI messages can be processed automatically or interactively. When the previously-mentioned EDI messages are processed, ERP LN puts through the received data to the sales release and sales schedule sessions.

Sales releases

A sales release consists of grouped sales schedule requirements that are received by EDI. Each sales release line indicates a sales schedule or sales schedule line that is received with the sales release.

Sales schedule requirements are grouped in sales releases based on the following common characteristics:

- **Sold-to Business Partner**
- **Ship-to Business Partner**
- **Ship-to Address**
- **Release Type**
- **Shipment or Delivery Based**

The first sales release that is created for the previously mentioned characteristics receives revision number one. If a new EDI message is received for these characteristics, a sales release revision is created with revision number two, and so on.

You can view:

- Sales releases in the Sales Releases (tdsls3512m000) session.
 - Sales release lines in the Sales Release - Lines (tdsls3508m000) session.
-

- Sales release position details in the Sales Release Position Details (tdsls3515m000) session.

Note

You cannot manually enter or adjust sales releases.

Sales release types and sales schedule types

Sales releases and sales schedules are always of a specific type. Sales releases can only contain sales schedules of the same type.

The following types are available:

- **Material Release**
Over the long term and mid term (in general periods of some months), planning information is supplied from the business partner. This sales schedule type is only used if the sales schedule is non-referenced.
- **Shipping Schedule**
On a shorter time basis, shipping releases that contain more detailed and fixed information are sent. This information is gathered on the basis of shop floor requirements, miscellaneous orders, and so on. Shipping schedules contain ordering information and inform you about actual deliveries. This sales schedule type can be used for non-referenced sales schedules as well as referenced sales schedules.
- **Sequence Shipping Schedule**
Over the short term (in general a period of twenty days of which five days are fixed), sequence shipping information is communicated. Sequence shipping schedules contain ordering information with precise information about the production or deliveries of the requirements. This schedule can include the production or delivery sequence, and the order, the place, and the time of unloading after shipment. This sales schedule type is only used if the sales schedule is referenced.

The type of sales schedule that you can receive for a specific item and business partner combination is determined by the **EDI message** field in the Items - Sales Business Partner (tdisa0510m000) session.

If the value of the **EDI message** field is:

- **Material Release**, the sales schedule only consists of a **Material Release**.
- **Shipping Schedule**, the sales schedule consists of a **Material Release** followed by a **Shipping Schedule**.
- **Sequence Shipping Schedule**, the sales schedule consists of a **Material Release** followed by a **Sequence Shipping Schedule**.
- **Shipping Schedule only**, the sales schedule only consists of a **Shipping Schedule**.

Sales release lines

Whether a sales release line refers to a sales schedule or to a sales schedule line, depends on the release type. If the release type is:

- **Material Release** or **Shipping Schedule**, a sales release line refers to a sales schedule.
- **Sequence Shipping Schedule**, a sales release line refers to a sales schedule line.

Note

If the sales release line refers to a sales schedule line, the **Schedule Position** field is filled in the Sales Release - Lines (tdsls3508m000) session. If the sales release line refers to a sales schedule, the **Schedule Position** field is empty.

Sales release position details

The sales release position details are only filed in ERP LN if the received sales schedule is a referenced schedule of the **Shipping Schedule** type. You can view the sales release position details in the Sales Release Position Details (tdsls3515m000) session.

A sales release position detail refers to a sales schedule line. If a reference exists from a sales release line/sales release position detail to a sales schedule line, the referenced sales schedule line contains a unique reference ID, which is displayed in the **Reference** field of the Sales Schedule - Lines (tdsls3107m000) session.

If you receive an update of a referenced shipping schedule, ERP LN does not create a sales schedule revision number. Instead, the sales schedule is updated. If an update arrives for a sales schedule line, also the sales schedule line is updated. To keep track of the updates, ERP LN files the sales schedule line updates as revisions in the Sales Release Position Details (tdsls3515m000) session. From the **Specific** menu of the Sales Release Position Details (tdsls3515m000) session, you can start the Sales Schedule - Lines (tdsls3107m000) session to view the sales schedule line to which the sales release position detail record refers.

For more information on referenced sales schedules, refer to *Referenced sales schedules* (p. 2-12) .

Sales schedules

Sales schedules are used to support long-term sales projects with frequent deliveries. They represent schedules for specific goods that are used between trade partners

A sales schedule can be referenced or non-referenced. In case of a referenced schedule, business partners use references to call-off goods at the assembly

line. The schedule requirements are communicated based on references. A reference is used to identify specific requirements that your business partner needs in a specific sequence at a specific line station of the assembly line.

If you receive a sales schedule through EDI, ERP LN automatically creates the sales schedule and sales schedule lines. You can however manually modify a sales schedule and sales schedule lines that you receive through EDI. If a business partner does not use EDI, but instead uses another way to inform you about the schedule requirements, you must manually create a sales schedule and sales schedule lines for the requirements.

You can view, enter, and maintain:

- Sales schedules in the Sales Schedules (tdsls3111m000) session.
- Sales schedule lines in the Sales Schedule - Lines (tdsls3107m000) session.
- Sequence shipping information in the Sequence Shipping Information (tdsls3517m000) session.

Referenced sales schedules

To use referenced sales schedules between you and your business partner, the **Referenced Schedule** check box must be selected for an item in the Items - Sales Business Partner (tdisa0510m000) session. If this check box is selected, you can only receive referenced sales schedules from your business partner for that specific item.

ERP LN only accepts sales schedules if the following conditions apply:

- The business partner status is **Active**, which you can view or maintain in the Business Partners (tccom4100s000) session.
- The sold-to business partner specific item data is valid. The sales schedule's generation date must be between the sold-to business partner specific item data's effective date and expiration date, and the **Blocked** check box must be cleared. You can view or maintain this data in the Items - Sales Business Partner (tdisa0510m000) session.

If a sales schedule is referenced:

- And of the **Sequence Shipping Schedule** type, you cannot maintain the sales schedule manually. You can only receive and maintain these schedules through EDI.
- Only one sales schedule line can exist for each reference.
- No sales contract is linked to the sales schedule. A contract can however be linked to the sales schedule line.

For more information on referenced sales schedules, refer to *Referenced sales schedules* (p. 2-12) .

Revision numbers on sales schedules

A sales schedule revision number is a number that uniquely identifies the revision of the sales schedule. The sales schedule revision number indicates the sales schedule updates that are sent by your business partner.

The first sales schedule that is created for a specific combination of the following characteristics receives the sales schedule revision number one:

- **Item**
- **Sold-to Business Partner**
- **Ship-to Business Partner**
- **Shipment/Delivery Based**
- **Sales Office**
- **Contract line**
- **Sales Schedule Type**

If a new sales schedule is received for these characteristics, a sales schedule revision is created with revision number two, and so on. The previous sales schedule revision and its requirements are no longer valid if the new sales schedule revision is approved. As a result, ERP LN processes the old sales schedule revision.

Note

Sales schedule revision numbers are not applicable to referenced schedules of the **Shipping Schedule** type.

For more information on sales schedule revisions, refer to *Sales schedule revisions* (p. 2-14) .

Requirement types on sales schedule lines

A requirement type represents a requirement in time, used for scheduling.

On a sales schedule line, the following requirement types can be communicated:

- **Immediate**
These schedule requirements have a start date in the past at the time of creation. As a result, an underdelivery is applicable. These requirements must be shipped as soon as possible.
 - **Firm**
These schedule requirements are handled as actual orders that can be shipped.
 - **Planned**
These schedule requirement are sent to you for planning purposes only.
-

Note

The requirement type, which is displayed in the **Our Requirement Type** field of the Sales Schedule - Lines (tdsls3107m000) session, determines the actions ERP LN carries out if you approve a sales schedule line.

For more information on

- Requirement types, refer to *Sales schedule line requirement type (p. 2-16)*
- Approving sales schedules, refer to *To approve sales schedules (p. 2-29)*

Sales prices in sales schedules

During the creation, or approval of a sales schedule line, the sales price can be determined for the schedule line.

The **Price** and **Sales Price Unit** in the Sales Schedule - Lines (tdsls3107m000) session are determined as follows:

1. ■ The price is transferred to the Sales Schedule - Lines (tdsls3107m000) session through EDI. At this moment, the sales schedule line is in its **Created** status.
 - You inserted the price manually. At this moment, the sales schedule line is in its **Created** status.
2. If no price is entered on a sales schedule line with the status **Created**, either manually, or by EDI, ERP LN searches for a sales contract to be linked to the sales schedule line when you try to approve the sales schedule. If an **Active normal contract** is available for the item, sold-to BP, ship-to BP, and sales office combination, ERP LN links this sales contract to the sales schedule line and uses the sales contract prices and discounts for the sales schedule.
3. If no sales contract can be linked, ERP LN uses the prices and discounts as specified in the Pricing Control module. To retrieve the correct price at the right moment, ERP LN uses the **Start Date** from the Sales Schedule - Lines (tdsls3107m000) session.
4. If no price is specified in Pricing Control, ERP LN retrieves the price from the Items - Sales (tdisa0501m000) session.

When the sales schedule line has the status **Approved**, ERP LN freezes the prices on the sales schedule. As a result, after approval, the prices can no longer be changed. This means that if you change, for instance, the **Quantity**, **Start Date**, and **Time Unit** fields in the Sales Schedule - Lines (tdsls3107m000) session, ERP LN does not automatically recalculate the prices. If you want ERP LN to retrieve the latest pricing data, you must select a record and click **Reprice** in the Sales Schedules (tdsls3111m000) session.

As a result, ERP LN:

- Recalculates the price for all linked sales schedule lines with the **Approved**, or **Order Generated** status.
- Determines the price for all linked sales schedule lines with the **Created**, or **Adjusted** status.

The **Reprice** option is disabled in the Sales Schedules (tdsls3111m000) session, if:

- The sales schedule header is put on hold.
- No sales schedule lines exist.

Note

If you receive a sales schedule line with a required quantity of zero, ERP LN directly cancels the sales schedule line. For more information on sales schedule lines with a required quantity of zero, refer to *Zero required quantity for sales schedule lines* (p. 2-18) .

Referenced sales schedules

If your business partner uses references to call-off goods at the assembly line, the requirements are communicated based on references. A reference is used to identify specific requirements that your business partner needs in a specific sequence at a specific line station of the assembly line.

To use referenced sales schedules between you and your business partner, the **Referenced Schedule** check box in the Items - Sales Business Partner (tdisa0510m000) session must be selected for an item. If this check box is selected, you can only receive referenced sales schedules from your business partner for that specific item.

If the **EDI message**, as specified in the Items - Sales Business Partner (tdisa0510m000) session, is:

- **Material Release**, you cannot use referenced sales schedules.
- **Shipping Schedule** or **Shipping Schedule only**, you can use referenced sales schedules.
- **Sequence Shipping Schedule**, you must use referenced sales schedules.

To create referenced sales schedules

If you receive a referenced sales schedule, the **Referenced Schedule** check box is selected in the Sales Schedules (tdsls3111m000) session.

Note

For each reference, only one sales schedule line can exist.

If a sales schedule is referenced, no sales contract is linked to the sales schedule. A contract can however be linked to the sales schedule line.

Sales release position details

If the sales schedule is referenced and of the **Shipping Schedule** type, and you receive an update of the sales schedule, ERP LN does not create a sales schedule revision. Instead, the sales schedule is updated. If an update arrives for a sales schedule line, also the sales schedule line is updated. To be able to keep track of the updates, ERP LN files the sales schedule line updates as revisions in the Sales Release Position Details (tdsls3515m000) session.

From the **Specific** menu of the Sales Release Position Details (tdsls3515m000) session, you can start the Sales Schedule - Lines (tdsls3107m000) session to view the sales schedule line to which the sales release position detail record refers.

Sequence shipping information

If a referenced sales schedule line of the **Sequence Shipping Schedule** type is created, ERP LN enters:

- Sequence shipping information in the Sequence Shipping Information (tdsls3517m000) session. The sequence shipping information informs you about the sequence in which your ship-to business partner needs the items on the assembly line. In this session, you can also view the sequence shipping detail revisions.
- Shipping sequence details in the Shipping Sequence (whinh4520m000) session of Warehouse Management. In this session, you can view the shipping sequence data for each shipment reference. You must ship the goods in the sequence that is specified in this session. Only the latest revision of the shipping sequence information is displayed.

Each sales schedule line results in one shipping sequence detail line. For more information on shipping sequence details, refer to *Sales Schedules and Warehouse Management (p. 2-46)*.

To approve referenced sales schedules

If the **Automatic approval** check box in the Items - Sales Business Partner (tdisa0510m000) session is selected, ERP LN directly approves each referenced sales schedule line separately when it is created.

If the **Automatic approval** check box is cleared, you can approve referenced sales schedules by:

- Sales schedule header, in the Adjust / Approve Sales Schedules (tdsls3211m000) session, or from the **Specific** menu of the Sales Schedules (tdsls3111m000) session.
-

- Sales schedule line, from the **Specific** menu of the Sales Schedule - Lines (tdsls3107m000) session. In this case, you can approve a referenced schedule, reference for reference.

If a referenced sales schedule is approved, ERP LN:

- Automatically releases the sales schedule to Warehouse Management.
- Also approves the related shipping sequence details if applicable. For more information on approving sales schedules, refer to *To approve sales schedules (p. 2-29)*.

Note

For referenced sales schedules, no adjustments take place.

Sales schedule revisions

A sales schedule revision number is a number that uniquely identifies the revision of the sales schedule. The sales schedule revision number indicates the sales schedule updates that are sent by your business partner.

Note

You cannot receive sales schedule revisions for referenced sales schedules of the **Shipping Schedule** type.

The first non-referenced sales schedule that is created for a specific combination of the following characteristics receives the sales schedule revision number one:

- **Item**
- **Sold-to Business Partner**
- **Ship-to Business Partner**
- **Shipment/Delivery Based**
- **Sales Office**
- **Contract line**
- **Sales Schedule Type**

If a new sales schedule is received for these characteristics, a sales schedule revision is created with revision number two, and so on. The previous sales schedule revision and its requirements are no longer valid and ERP LN processes this sales schedule revision.

The results of processing the old sales schedule revision depend on the status of the sales schedule lines of the processed sales schedule:

- If not all sales schedule lines have the **Processed** or **Canceled** status, the sales schedule receives the **Processing in Progress** status.
 - If all sales schedules lines have the **Processed** or **Canceled** status, the sales schedule receives the **Processed** status.
-

Whether a sales schedule line that is linked to the old sales schedule revision can receive the **Processed** or **Canceled** status, depends on the schedule line's current status.

Created, Adjusted, or Approved status

If a sales schedule revision is processed and a related sales schedule line has the **Created**, **Adjusted**, or **Approved** status, the sales schedule line's status is changed to **Canceled**.

As a result, ERP LN:

- Deletes the related planned inventory transaction from the Planned Inventory Transactions (whinp1500m000) session, if the sales schedule line's requirement type is **Firm**.
- Updates the available-to-promise in the Item Master Plan (cprmp2101m000) session, if the sales schedule line's requirement type is **Planned**.
- Updates the sales contract data if a sales contract is linked to the sales schedule line.
- Creates history for the sales schedule lines, which you can view in the Sales Order/Schedule History (tdsls5505m000) session.
- Updates Quality Management with the quantity that is to be ignored for inspection.
- Updates the business partner's open balance.

Note

If a sales schedule line is already approved in the approval process, the results of the approval process are undone if the schedule line:

- Has the **Approved** status.
- Has the **Order Generated** status and the outbound process is not yet started for the schedule line.

Order Generated

If a sales schedule revision is processed and a linked sales schedule line has the **Order Generated** status, the related outbound order line determines whether the sales schedule line can be canceled.

- If the outbound process is not yet started, the outbound order line is deleted and the sales schedule line receives the **Canceled** status.
- If the outbound process is started, the outbound order line is set to **Canceled** and the sales schedule line receives the **Canceling in Process** status.
- If the outbound order line that is set to **Canceled** gets the **Shipped** status, the sales schedule line receives the **Canceled** status.

Partially Shipped

If a sales schedule revision is processed and a linked sales schedule line has the **Partially Shipped** status, the related outbound order line determines whether the sales schedule line can be canceled.

- If the outbound process is not yet started, the outbound order line for the remaining quantity is deleted and the sales schedule line receives the **Goods Delivered** status.
- If the outbound process is started, the outbound order line for the remaining quantity is set to **Canceled** and the sales schedule line keeps the **Partially Shipped** status.
- If the outbound order line that is set to **Canceled**, receives the **Canceled** status, the sales schedule line receives the **Goods Delivered** status.

Goods Delivered, Released to Invoicing, Invoiced

If a sales schedule revision is processed and a linked sales schedule line has the **Goods Delivered**, **Released to Invoicing**, or **Invoiced** status, you must finish the sales schedule procedure for these sales schedule lines until they have the **Processed** status.

In other words, although the revision as a whole is inactive, these schedule lines must still be processed on the previous revision because they are too far in the process.

Tip

- You can delete old sales schedule revisions in the Delete Sales Schedule Revisions (tdsls3212m000) session.
- You can print the differences between revisions of a sales schedule in the Print Sales Schedule Variances (tdsls3415m000) session.

Sales schedule line requirement type

A requirement type represents a requirement in time, used for scheduling.

On a sales schedule line, the following requirement types can be communicated:

- **Immediate**
These schedule requirements have a start date in the past at the time of creation. As a result, an underdelivery is applicable. These requirements must be shipped as soon as possible.
 - **Firm**
These schedule requirements are handled as actual orders that can be shipped.
 - **Planned**
These schedule requirement are sent to you for planning purposes only.
-

Note

The value of the **Our Requirement Type** field in the Sales Schedule - Lines (tdsls3107m000) session determines the actions ERP LN carries out when you approve a sales schedule line. For more information on approving a sale schedule, refer to *To approve sales schedules (p. 2-29)*.

ERP LN determines the **Our Requirement Type** as follows:

- If the **Sales Schedule Type** is **Shipping Schedule** and the **EDI message** is **Shipping Schedule only**, the **Our Requirement Type** is always **Firm**.
- If the **Sales Schedule Type** is **Material Release**, and the **EDI message** is **Shipping Schedule** or **Sequence Shipping Schedule**, the **Our Requirement Type** is always **Planned**.
- If the **Sales Schedule Type** is **Material Release** and the **EDI message** is **Material Release**, ERP LN determines the **Our Requirement Type** as follows:
 - If the **Transaction Time Fence** is **All Lines**, the **Our Requirement Type** is **Firm**.
 - If the **Transaction Time Fence** is **Lines in the FAB Period** and the sales schedule line's **Start Date** is before the FAB period's end date, the **Our Requirement Type** is **Firm**.
 - If the **Transaction Time Fence** is **Lines in the FAB Period** and the sales schedule line's **Start Date** is later than the FAB period's end date, the **Our Requirement Type** is **Planned**.
 - If the **Transaction Time Fence** is **Lines in the Firm Period**, the **Our Requirement Type** is equal to the **Customer Requirement Type**.
- If the **Our Requirement Type** is **Firm** but the **Start Date** of the sales schedule line is before the system date, ERP LN sets the **Our Requirement Type** to **Immediate**.

Legend

- The **Transaction Time Fence** is specified in the Items - Sales Business Partner (tdisa0510m000) session.
- The **EDI message** is specified in the Items - Sales Business Partner (tdisa0510m000) session.
- The **Sales Schedule Type** is specified in the Sales Schedules (tdsls3111m000) session.
- The **Customer Requirement Type** is specified in the Sales Schedule - Lines (tdsls3107m000) session.
- The FAB period is the sales schedule's **Generation Date** as specified in the Sales Schedules (tdsls3111m000) session plus the number of days as specified in the **FAB Period** field of the Items - Sales Business Partner (tdisa0510m000) session.

Zero required quantity for sales schedule lines

You can receive sales schedule lines with a required quantity of zero. It can also occur that the required quantity of a sales schedule line becomes zero when the sales schedule process is carried out.

If you receive a sales schedule line with a required quantity of zero, ERP LN directly cancels the sales schedule line, which, as a result, receives the **Canceled** status.

A sales schedule line can get a required quantity of zero during the sales schedule process due to the following reasons:

- The sales schedule is adjusted. For more information on sales schedule adjustments, refer to *Sales schedule adjustment* (p. 2-32).
- You manually reduce the required quantity to zero in the Sales Schedule - Lines (tdsls3107m000) session.

If a sales schedule gets a required quantity of zero during the sales schedule process, ERP LN will try to cancel the sales schedule line. The result of this cancellation depends on the sales schedule line's current status.

Created, Adjusted, or Approved

If ERP LN cancels a sales schedule line with the **Created, Adjusted, or Approved** status, the sales schedule line's status is changed to **Canceled**.

If such a sales schedule line is canceled, ERP LN:

- Deletes the related planned inventory transaction from the Planned Inventory Transactions (whinp1500m000) session.
- Updates the available-to-promise in the Item Master Plan (cprmp2101m000) session.
- And a sales contract is linked to the sales schedule line, the sales contract data is updated.
- Creates history for the sales schedule lines, which you can view in the Sales Order/Schedule History (tdsls5505m000) session.
- Updates Quality Management with the quantity that is to be ignored for inspection.

Note

If a sales schedule line is already approved in the approval process, the results of the approval process are undone if the schedule line:

- Has the **Approved** status.
 - Has the **Order Generated** status and the outbound process is not yet started for the schedule line.
-

Order Generated

If ERP LN cancels a sales schedule line with the **Order Generated** status, the resulting sales schedule line status depends on what happens to the related outbound order line:

- If the outbound process is not yet started, the outbound order line is deleted and the sales schedule line gets the **Canceled** status.
- If the outbound process is started, the outbound order line is set to **Canceled** and the sales schedule line gets the **Canceling in Process** status.
- If the outbound order line that is set to **Canceled**, gets the **Shipped** status, the sales schedule line receives the **Canceled** status.

Partially Shipped

If ERP LN cancels a sales schedule line with the **Partially Shipped** status, the resulting sales schedule line's status depends on what happens to the related outbound order line for the remaining quantity.

- If the outbound process is not yet started, the outbound order line for the remaining quantity is deleted and the sales schedule line gets the **Goods Delivered** status.
- If the outbound process is started, the outbound order line for the remaining quantity is set to **Canceled**, the sales schedule line keeps the **Partially Shipped** status.
- If the outbound order line that is set to **Canceled** gets the **Shipped** status, the sales schedule line receives the **Goods Delivered** status.

Goods Delivered, Released to Invoicing, or Invoiced

If ERP LN cancels a sales schedule line with the **Goods Delivered**, **Released to Invoicing**, or **Invoiced** status, you must finish the sales schedule process for these sales schedule lines till they have the **Processed** status.

Note

The status of a sales schedule that only contains sales schedule lines with the **Canceled** status, is not changed.

Sales schedule authorizations

When sales schedules are used, you ship the goods based on the requirement type. The **Firm** requirement type, however, can deviate from the earlier received **Planned** requirement type.

When authorizations are used, before the **Firm** requirement type is communicated, your sold-to business partner gives you permission to fabricate goods or to buy raw materials up to a certain quantity level. The essence of an

authorization is that your sold-to business partners bear the risk if they do not need the goods. In other words, they must pay for the fabrication and/or raw materials, whether or not the goods are actually called-off.

Several types of authorizations are available:

- **FAB authorization**
The valid authorization to start the production for a quantity of items required on a sales schedule.
- **High FAB authorization**
The highest FAB authorization that you received from your business partner for a specific sales schedule, counted from the latest CUM reset date on. Your business partner must pay for this quantity of produced but not yet shipped items.
- **RAW authorization**
The valid authorization to buy raw material that is needed to produce a quantity of items that is required on a sales schedule.
- **High RAW authorization**
The highest RAW authorization that you received from your business partner for a specific sales schedule, counted from the latest CUM reset date on. Your business partner must pay for the raw materials that you bought for this quantity of items.

Note

- Authorizations are only used in case of non-referenced schedules that are received by you in a **Material Release**.
- In Sales Control, ERP LN does not calculate any FAB or RAW authorization values, because you receive the authorizations from your business partner. The high FAB authorizations and high RAW authorizations are based on the highest FAB/RAW authorizations that you received for the sales schedule.

To receive authorizations

You receive the FAB/RAW authorizations for a sales schedule from your sold-to business partner. So, the FAB/RAW authorizations that you receive in the Sales Schedules (tdsls3111m000) session, reflect the FAB/RAW authorizations that are linked to your business partner's purchase release lines. You can only receive FAB/RAW authorizations for nonreferenced sales schedules. If the sales schedule is approved, ERP LN files the received FAB/RAW authorizations in the FAB/RAW Authorizations (tdsls3134m000) session.

For more information on how your business partner determines the FAB/RAW authorizations, if your business partner uses ERP LN, refer to *Authorizations* (p. 1-38) .

Note

- FAB and RAW are only calculated for material releases.
- The High FAB authorization and High RAW authorization are not communicated by your sold-to business partner. ERP LN calculates these values by searching for the highest sent FAB/RAW authorizations.

To reset authorizations

Over time, the FAB authorizations and RAW authorizations can be incremented to very high values. To avoid domain constraints, you can reset the FAB/RAW authorizations in the Reset Cumulatives (tdsls3230m000) session. Authorizations cannot be reset exactly when the year is changing. As a result, updates can be stored in the FAB/RAW Authorizations (tdsls3134m000) session after the reset date. By calculating a reset quantity, these values are also included in the reset process.

To reset the FAB/RAW authorizations successfully, the following conditions must be fulfilled:

- Suppliers and customers must use the same CUM reset date when resetting the FAB/RAW authorizations in the Reset Cumulatives (tdsls3230m000) session and the Reset Cumulatives (tdpur3230m000) session.
- Resetting can only take place when the releases sent by the customer, are received and approved by the supplier. If not, suppliers cannot approve releases that are processed after the reset date, because the reset dates are different.
- Suppliers must not update incoming releases or manually create new releases, because resetting can then result in wrong quantities.

Note

- You cannot reset FAB/RAW authorizations for the sales schedule if a reconciliation record exists with the **Dispute** status and the **Transaction Date** is before the CUM reset date. You can view sales schedule reconciliation records in the Sales Schedule Reconciliation (tdsls3131m000) session.
- The FAB/RAW information, as stored in the Sales Schedules (tdsls3111m000) session for a specific sales schedule revision, is never updated during the reset process. It is kept as history information.

To reset FAB and RAW authorizations**Step 1: To determine a reset quantity**

If you reset FAB/RAW authorizations, ERP LN first determines the reset quantity. ERP LN retrieves the reset quantity from the last FAB/RAW

authorizations record prior to the **CUM Reset Date** that you specified in the Reset Cumulatives (tdsls3230m000) session. Which quantity is the reset quantity depends on the **CUM Model used**, as specified in the Items - Sales Business Partner (tdisa0510m000) session.

If the **CUM Model used** is:

- **Order Based**, the **Prior Required CUM** is the reset quantity.
- **Receipt Based**, the **Received CUM** is the reset quantity.

Step 2: To create a new FAB/RAW authorization record

ERP LN creates a new FAB/RAW authorization record in the FAB/RAW Authorizations (tdsls3134m000) session:

- With a **Reset Date** equal to the **CUM Reset Date** as specified in the Reset Cumulatives (tdsls3230m000) session.
- For which the **Prior Required CUM** or the **Received CUM** is reset.
If the **CUM Model used** is:
 - **Order Based**, ERP LN decreases the **Prior Required CUM** with the reset quantity.
 - **Receipt Based**, ERP LN decreases the **Received CUM** with the reset quantity.

To reset high FAB and high RAW authorizations

How the high FAB authorizations and high RAW authorizations are reset, is based on the setting of the **Authorizations to be** parameter in the Items - Sales Business Partner (tdisa0510m000) session :

- **Carried Forward**
The high FAB authorizations and high RAW authorizations are reduced by the reset quantity.
- **Reset**
The high FAB authorizations and high RAW authorizations are equalized to the FAB authorization and RAW authorization values.

Carried Forward

If already FAB/RAW authorization records exist with release dates that are later than the **CUM Reset Date**, ERP LN copies these records with the following adjustments:

- The **FAB Authorization**, **RAW Authorization**, **High FAB Authorization**, and **High RAW Authorization** are decreased with the reset quantity.
 - The old **Reset Date** is replaced with the new **Reset Date**.
-

Reset

If already FAB/RAW authorization records exist with release dates that are later than the **CUM Reset Date**, ERP LN:

- Decreases the **FAB Authorization** and **High FAB Authorization** of these records with the FAB reset quantity.
- Decreases the **RAW Authorization** and **High RAW Authorization** of these records with the RAW reset quantity.
- Replaces the old **Reset Date** with the new **Reset Date**.

Example

- FAB period = 4 weeks.
- Cumulative model = **Order Based**.
- Reset date = start week 3.
- The schedule lines are generated before the reset takes place.
- Schedule line 2 is received in week 3.
- Schedule line 3 is received in week 5.

Week	Line 1	-	Line 2	-	Line 3	-	CUMs after reset
-	Qty.	CUM	Qty.	CUM	Qty.	CUM	-
1	20	20	-	20	-	20	20
2	20	40	-	40	-	40	40
3	20	60	5	45	-	45	5
4	20	80	5	50	-	50	10
5	20	100	5	55	20	70	30
6	20	120	55	110	5	75	35
7	-	-	5	115	5	80	40
8	-	-	5	120	5	85	45
9	-	-	-	-	5	90	50
10	-	-	-	-	5	95	55

Authorizations to be Carried Forward

TOTALS	CUM Line 1	CUM line 2	CUM line 3	CUMs after reset
Start CUM	0	40	50	10
FAB	80	110	85	45
High FAB	80	110	110	70

The reset date starts in week 3. Because of the **Order Based** CUM model, resetting is performed based on the prior required CUM. At the end of week 2, the reset quantity is 40. When Authorizations must be **Carried Forward**, the authorization cumulatives are updated by -40 from the reset date on (week 3).

If you take the same example, however, with the authorizations reset rather than carried forward, the high FAB is not updated but equalized to the FAB quantity. The calculation then arrives at:

TOTALS	CUM Line 1	CUM line 2	CUM line 3	CUMs after reset
Start CUM	0	40	50	10
FAB	80	110	85	45
High FAB	80	110	110	45

Sales schedule cumulatives

Cumulatives (CUMs) are the year-to-date totals for quantities shipped, received, and invoiced. Cumulatives are used as schedule statistics to track if its status is ahead or behind schedule compared to the demand.

The following types of sales schedule cumulatives are available:

- Shipped cumulatives**
 The total cumulated quantity that you shipped for a specific sales schedule. You can view the shipped CUMs in the Shipped CUM (tdsls3532m000) session and in the Sales Schedules (tdsls3111m000) session.

- **Received cumulatives**

The total cumulated quantity that your ship-to business partner received for a specific sales schedule. You can view the received CUMs in the Shipped CUM (tdsls3532m000) session, the Sales Schedules (tdsls3111m000) session, and in the FAB/RAW Authorizations (tdsls3134m000) session.

- **Invoiced cumulatives**

The total cumulated quantity that you invoiced for a specific sales schedule. You can view the invoiced CUMs in the Invoiced CUM (tdsls3533m000) session and in the Sales Schedules (tdsls3111m000) session.

In the sales schedule procedure, cumulatives are used:

- To keep track of total cumulated quantities.
- To check and adjust the sales schedules for underdelivery and overdelivery.
- For reconciliation. This is the process to monitor whether your business partner's received CUM matches with your shipped CUM. If not, disputes are generated that must be solved.

Note

- Referenced sales schedules, material releases, and delivery contracts are not checked or adjusted for underdelivery or overdelivery.
- Received CUMs are matched with shipped CUMs for material releases and shipping schedules only.

Cumulative models

Two cumulative models exist based on which the communicated cumulatives are used in a logistic company. In the **CUM Model used** field of the Items - Sales Business Partner (tdisa0510m000) session, you can select one of the following models:

- **Order Based**
- **Receipt Based**

For more information on how to use these models, refer to *Sales schedule adjustment* (p. 2-32) .

To reset cumulatives

Over time, the cumulatives can be incremented to very high values. To avoid domain constraints, you can reset the cumulatives in the Reset Cumulatives (tdsls3230m000) session. Although this reset is usually performed at the end of the year, the CUMs cannot be reset exactly when the year is changing. As a result, updates can be stored in the cumulative sessions after the reset date. By calculating a reset quantity, these values are also included in the reset process.

To reset the cumulatives successfully, the following conditions must be fulfilled:

- Suppliers and customers must use the same **CUM reset date** when resetting the cumulatives in the Reset Cumulatives (tdsls3230m000) session and the Reset Cumulatives (tdpur3230m000) session.
- Resetting can only take place when the releases sent by the customer, are received and approved by the supplier. If not, suppliers cannot approve releases that are processed after the reset date, because the reset dates are different.
- Suppliers must not update incoming releases or manually create new releases, because resetting can then result in wrong quantities.

Note

- You cannot reset the sales schedule cumulatives for the sales schedule if a reconciliation record exists with the **Dispute** status and a **Transaction Date** before the CUM reset date. You can view sales schedule reconciliation records in the Sales Schedule Reconciliation (tdsls3131m000) session.
- The cumulatives as stored in the Sales Schedules (tdsls3111m000) session for a specific sales schedule revision, are never updated during the reset process. They are kept as history information.

To calculate the reset quantity

Step 1: To determine a reset quantity

If you reset cumulatives in the Reset Cumulatives (tdsls3230m000) session, ERP LN first determines the reset quantity. ERP LN retrieves the reset quantity from the last CUM record prior to the **CUM Reset Date** that you specified in the Reset Cumulatives (tdsls3230m000) session. Which quantity is the reset quantity depends on the **CUM Model used**, as specified in the Items - Sales Business Partner (tdisa0510m000) session.

If the **CUM Model used** is:

- **Order Based**, the **Prior Required CUM** is the reset quantity.
- **Receipt Based**, the **Received CUM** is the reset quantity.

Step 2: To create new cumulative records

ERP LN creates a new:

- Shipped CUM record in the Shipped CUM (tdsls3532m000) session.
- Invoiced CUM record in the Invoiced CUM (tdsls3533m000) session.

For the new CUM records, the following applies:

- The **Cumulative Reset Date** is equal to the **CUM Reset Date** that you specified in the Reset Cumulatives (tdsls3230m000) session.
-

- The **Status** is **Reset**.

To reset the shipped CUM

For a new **Shipped CUM** record, ERP LN decreases the following quantities with the reset quantity:

- **Shipped CUM.**
- **Received CUM.**

If already **Shipped CUM** records exist with transaction dates that are later than the **Cumulative Reset Date**, ERP LN copies these records with the following adjustments:

- The **Shipped CUM** and **Received CUM** are also decreased with the reset quantity.
- The old **Cumulative Reset Date** is replaced with the new **Cumulative Reset Date**.

To reset the invoiced CUM

In case of a new **Cumulative Invoiced Quantity** record, ERP LN decreases the **Cumulative Invoiced Quantity** with the reset quantity.

If already **Cumulative Invoiced Quantity** records exist with invoice dates that are later than the **Cumulative Reset Date**, ERP LN copies these records with the following adjustments:

- The **Cumulative Invoiced Quantity** is also decreased with the reset quantity.
- The old **Cumulative Reset Date** is replaced with the new **Cumulative Reset Date**.

Example 1 - To reset the cumulatives for an Order Based CUM model

- Reset date = start week 3
- The schedule lines are generated before the reset takes place
- Schedule line 2 is received in week 3
- Schedule line 3 is received in week 5

Week	Line 1	Prior required CUM before reset	Line 2	Prior required CUM before reset	Line 3	Prior required CUM before reset	Prior required CUM after reset
1	20	20	-	20	-	20	20
2	20	40	-	40	-	40	40

3	20	60	5	45	-	45	5
4	20	80	5	50	-	50	10
5	20	100	5	55	20	70	30
6	20	120	55	110	5	75	35
7	-	-	5	115	5	80	40
8	-	-	5	120	5	85	45
9	-	-	-	-	5	90	50
10	-	-	-	-	5	95	55

TOTALS	CUM line 1	CUM line 2	CUM line 3	CUMs after reset
Start CUM	0	40	50	10

The reset date starts in week 3. Because of the **Order Based CUM** model, resetting is carried out based on the prior required cumulatives. At the end of week 2, the reset quantity is 40. As a result, all CUMs are updated by -40 from the CUM reset date (week 3) on.

Example 2 - To reset the cumulatives for a Receipt Based CUM model

Take the same data from the previous example, but also take into consideration the following data:

Week	Received qty.	Received CUM before reset	Received CUM after reset
1	10	10	10
2	25	35	35
3	20	55	20
4	-	55	20
5	5	60	25

The reset date starts in week 3. Because of the **Receipt Based CUM** model, resetting is done based on the received cumulatives. At the end of week 2, the reset quantity is 35. As a result, all CUMs are updated by -35 from the CUM reset date (week 3) on.

The totals from example 1 would then arrive at:

TOTALS CUM line 1 CUM line 2 CUM line 3 CUMs after reset

Start CUM	0	40	50	15
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To approve sales schedules

To be able to actually process sales schedules, the sales schedules with the **Created** status must be approved. If a sales schedule is approved, it receives the **Approved** status.

To approve sales schedules

It depends on the type of schedule how you can approve sales schedules.

Referenced schedules

If the sales schedule is a referenced schedule, the sales schedule line can be approved automatically. For this purpose, select the **Automatic approval** check box in the Items - Sales Business Partner (tdisa0510m000) session. As a

result, ERP LN directly approves each referenced sales schedule line separately when it is created.

If the **Automatic approval** check box is cleared, you can approve a referenced sales schedule:

- By sales schedule header, in the Adjust / Approve Sales Schedules (tdsls3211m000) session, or from the **Specific** menu of the Sales Schedules (tdsls3111m000) session.
- By sales schedule line, from the **Specific** menu of the Sales Schedule - Lines (tdsls3107m000) session. In this case, you can approve a referenced schedule, reference for reference.

For more information on referenced sales schedules, refer to *Referenced sales schedules* (p. 2-12) .

Non-referenced schedules

If the sales schedule is a non-referenced schedule, you can approve the schedule:

- By sales schedule header, in the Adjust / Approve Sales Schedules (tdsls3211m000) session.
- From the **Specific** menu of the Sales Schedules (tdsls3111m000) session.

For non-referenced sales schedules, during the approval process:

- You can check and adjust the sales schedules for underdelivery and overdelivery.
- ERP LN reconciles the sales schedule. Reconciling means checking whether your business partner's **Received CUM** matches with your **Shipped CUM**. If the CUMs do not match, disputes are generated that must be solved.

For more information on:

- Adjusting sales schedules, refer to *Sales schedule adjustment* (p. 2-32) .
- Reconciling sales schedules, refer to *To reconcile sales schedules* (p. 2-36)

Approval process

The requirement on the sales schedule line determines the actions ERP LN takes when you approve a sales schedule.

Immediate or Firm

If you approve a sales schedule line and the **Our Requirement Type** is **Immediate** or **Firm**:

- ERP LN creates planned inventory transactions in the Planned Inventory Transactions (whinp1500m000) session.
-

- ERP LN updates the available-to-promise in the Item Master Plan (cprmp2101m000) session. For more information on updating the ATP, refer to *Sales schedules and Enterprise Planning (p. 2-40)* .
- And no price is entered in the Sales Schedule - Lines (tdsls3107m000) session, neither by EDI, nor manually, ERP LN searches for a sales contract to be linked to the sales schedule line. If an **Active normal contract** is available for the item, sold-to BP, ship-to BP, and sales office combination, ERP LN links this sales contract to the sales schedule line and uses the sales contract prices and discounts for the sales schedule. If no sales contract can be linked, ERP LN uses the prices and discounts as specified in the Pricing Control module. If no price is specified in Pricing Control, ERP LN retrieves the price from the Items - Sales (tdisa0501m000) session.
- ERP LN updates the sales contract line's **Called Quantity** if a sales contract is linked to the sales schedule line.
- ERP LN creates history for the sales schedule and sales schedule lines, which you can view in the Sales Order/Schedule History (tdsls5505m000) session.
- ERP LN updates Quality Management on what is expected to be inspected.
- And the sales schedule is referenced, ERP LN releases the sales schedule (line) automatically to Warehouse Management.
- And a sales schedule reconciliation record with the **Dispute** status exists for that sales schedule in the Sales Schedule Reconciliation (tdsls3131m000) session, ERP LN prints a warning message on the approval report. For more information on handling shipped CUM records with the **Dispute** status, refer to *To reconcile sales schedules (p. 2-36)* .
- And the sales schedule is of the **Sequence Shipping Schedule** type, ERP LN approves the shipping sequence data in the Shipping Sequence (whinh4520m000) session in Warehouse Management.
- ERP LN updates the business partner's open balance, which you can view in the Sales Schedule - Lines (tdsls3107m000) session.

Planned

If you approve a sales schedule line and the **Our Requirement Type** is **Planned**:

- ERP LN updates the available-to-promise in the Item Master Plan (cprmp2101m000) session. For more information on updating the ATP, refer to *Sales schedules and Enterprise Planning (p. 2-40)* .
- ERP LN updates the **Unconfirmed Customer Orders** quantity in the Item Master Plan (cprmp2101m000) session.
- And the sales schedule is non-referenced, ERP LN creates FAB/RAW authorizations in the FAB/RAW Authorizations (tdsls3134m000) session.
- And a sales schedule reconciliation record with the **Dispute** status exists for that sales schedule in the Sales Schedule Reconciliation

(tdsls3131m000) session, ERP LN prints a warning message on the approval report.

Note

- You can undo the approval of the sales schedule. If you do so, the results of the approval process, for example, the created planned inventory transactions and the link to the sales contract, are deleted, and the sales schedule's status is set to **Created**. To undo the last approval of the last sales schedule revision, click **Restore & Schedule** on the **Specific** menu of the Sales Schedules (tdsls3111m000) session.
- If the **Use Confirmation** check box is selected in the Sold-to Business Partners (tccom4110s000) session, you cannot approve sales schedules before the **Confirmed Quantity** and **Confirmation Date** fields are filled on the sales schedule line(s).

Sales schedule adjustment

Before ERP LN starts the approval process for a non-referenced sales schedule, the sales schedule can be checked on underdelivery and overdelivery.

Note

Referenced sales schedules, material releases, and delivery contracts are not checked or adjusted for underdelivery or overdelivery.

You can use the Adjust / Approve Sales Schedules (tdsls3211m000) session to only adjust the incoming sales schedule requirements. To do so, in the Adjust / Approve Sales Schedules (tdsls3211m000) session, clear the **Approve** check box.

The calculation that takes place to identify an underdelivery or an overdelivery depends on the CUM model that you use. This CUM model is specified in the **CUM Model used** field of the Items - Sales Business Partner (tdisa0510m000) session.

The following CUM models are available:

- **Order Based**
- **Receipt Based**

Note

ERP LN can only calculate an overdelivery or underdelivery if the **Cumulative Reset Date** is equal for all the sales schedule's cumulatives.

Order Based

If you agreed with your business partner to use an **Order Based** CUM model, your business partner provides the **Prior Required CUM** when sending an EDI

message for a new requirement on the sales schedule. Each time your business partner sends requirements, a new sales schedule revision number is created.

To be able to determine an overdelivery or underdelivery for an **Order Based** CUM model, ERP LN carries out the following calculation:

Total Adjustment Quantity = **Cumulative Shipped Quantity** - prior required CUM.

Note

You can view the **Cumulative Shipped Quantity** and the **Prior Required CUM** in the Sales Schedules (tdsls3111m000) session.

If the result of this calculation is negative, you have shipped less than your business partner required. As a result, ERP LN creates a new sales schedule line for the total adjustment quantity. The **Our Requirement Type** of this sales schedule line is **Immediate**.

If the result of this calculation is positive, you have shipped more than your business partner required. As a result, ERP LN decreases the required quantity of the next sales schedule line with the total adjustment quantity. If the sales schedule line's required quantity is decreased, the sales schedule line receives the **Adjusted** status. If the total adjustment quantity is equal to or higher than the required quantity of the next sales schedule line, ERP LN cancels this sales schedule line, which therefore gets the **Canceled** status. ERP LN keeps on canceling sales schedule lines and adjusting sales schedule line requirements until the total adjustment quantity is balanced. For more information on what happens with sales schedule lines that get a zero required quantity, refer to *Zero required quantity for sales schedule lines (p. 2-18)*.

Note

If the result of the calculation is positive, the result is first subtracted from overdelivered lines (if present) and then from not yet delivered lines.

Example

Next schedule issue date in Purchase Control: 18-09

Date	17-09	18-09	19-09	20-09	21-09
Line Number 1		-	-	2	3
Ordered	10	-	-	10	10
Received	10	-	-	10	0
Still needed	-	-	-	-	10

Because line number two is already received before the next schedule issue date, the quantity of 10 is put into inventory. Suppose the demand of 10 on 20-09 changes into a demand of 20 on 19-09, Enterprise Planning uses the 10 from inventory and adds another line with another 10:

Date	17-09	18-09	19-09	20-09	21-09
Line Number 1		-	4	2	3
Ordered	10	-	10	10	10
Received	10	-	0	10	0
Still needed	-	-	10	-	10

When Purchase Control communicates the quantities to Sales Control, the schedule line quantities that are delivered on or after the next issue date, and are therefore considered an overdelivery, are communicated in one line on the schedule issue date:

Date	17-09	18-09	19-09	20-09	21-09
Ordered	-	10	10	-	10

If in Sales Control, the total shipped quantity is 20, ERP LN carries out the following calculation:

$$\text{Total shipped CUM (20)} - \text{Prior required CUM (10)} = 10.$$

As a result, Sales Control adjusts the overdelivery as follows:

Date	17-09	18-09	19-09	20-09	21-09
Ordered	-	-	10	-	10

The required quantity of the first sales schedule line is adjusted, which was the delivered line from Purchase Control.

Receipt Based

If you have agreed with your business partner to use a **Receipt Based CUM** model, your business partner provides the **Received CUM** when sending an EDI message for a new requirement on the sales schedule. The **Received CUM** contains the sum of all quantities that your business partner previously received on the sales schedule. Each time your business partner sends requirements, a new sales schedule revision number is created.

To be able to determine an overdelivery or underdelivery for a **Receipt Based CUM** model, ERP LN carries out the following calculation:

Total Adjustment Quantity = **Cumulative Shipped Quantity** - **Received CUM**.

Note

You can view the **Cumulative Shipped Quantity** and the **Received CUM** in the Sales Schedules (tdsls3111m000) session.

If the result of this calculation is positive, you have shipped more than your business partner received. As a result, ERP LN assumes that the difference between the **Cumulative Shipped Quantity** and the **Received CUM** is in transit. Therefore, ERP LN decreases the required quantity of the next sales schedule line with the total adjustment quantity. If the sales schedule line's required quantity is decreased, the sales schedule line gets the **Adjusted** status. If the total adjustment quantity is equal to or higher than the required quantity of the next sales schedule line, ERP LN cancels this sales schedule line, which therefore gets the **Canceled** status. ERP LN keeps on canceling sales schedule lines and adjusting sales schedule line requirements until the total adjustment quantity is balanced. For more information on what happens with sales schedule lines that get a zero required quantity, refer to *Zero required quantity for sales schedule lines (p. 2-18)*.

If the result of this calculation is negative, you have shipped less than your business partner received. In this case, ERP LN does not adjust sales schedule lines, but adds a warning message on the report. The reason for this is that in a **Receipt Based CUM** model, your business partner is responsible for solving

the difference (see also: *Purchase schedule cumulatives (p. 1-48)*). In this case, you can decide to create a **Shipment Correction** record in the Schedule Shipment Details/Corrections (tdsls3140m000) session, but you can still approve the sales schedule. For more information on shipment corrections, refer to *Sales schedules and Central Invoicing (p. 2-47)* .

After ERP LN has carried out the adjustment process, all adjusted and newly created sales schedule lines are approved and get the **Approved** status. However, if you started the adjustment process with the Adjust / Approve Sales Schedules (tdsls3211m000) session and the **Approve** check box is cleared, the adjusted and newly created sales schedule lines are not approved. To approve these adjusted and new lines, you must run the Adjust / Approve Sales Schedules (tdsls3211m000) session again with the **Approve** check box selected.

To reconcile sales schedules

Sales schedule reconciliation is the process to monitor if your business partner's **Received CUM** matches with your **Shipped CUM**. Matching is only performed for material releases and shipping schedules that contain non-referenced items. If the CUMs do not match, disputes are generated that must be solved.

Important!

It depends on the setting of the **Consider Planned/Actual Delivery Date during Reconciliation** check box in the Items - Sales Business Partner (tdisa0510m000) session how the **Shipped CUM** is calculated in the Sales Schedule Reconciliation (tdsls3131m000) and Shipped CUM (tdsls3532m000) sessions.

To insert reconciliation records

When you confirm a shipment for a sales schedule, ERP LN creates a sales schedule reconciliation record in the Sales Schedule Reconciliation (tdsls3131m000) session with the following information:

- The date on which the items are shipped.
- The number of the shipment with which the goods are shipped.
- The quantity that you shipped with that specific shipment.
- The last quantity that is received for the sales schedule.
- The total cumulated quantity that you already shipped for the sales schedule.

For each shipment, one reconciliation record is created with the **Created** status.

When you approve a sales schedule, ERP LN:

1. Inserts the number of the last shipment that your business partner received for the sales schedule in the Sales Schedule Reconciliation (tdsls3131m000) session.
-

2. Inserts the last quantity that your business partner received for the sales schedule in the Sales Schedule Reconciliation (tdsls3131m000) session.
3. Calculates the new **Received CUM** by adding the **Last Receipt Quantity** to the **Received CUM** of the concerned and next reconciliation records.
4. Compares the business partner's **Received CUM** with your **Shipped CUM**. If these CUMs are equal, the reconciliation record receives the **Matched** status. If these CUMs are unequal, the reconciliation record receives the **Dispute** status.

Note

If you approve a sales schedule for which a reconciliation record with the **Dispute** status exists, a warning message is printed on the approval report. For more information on approving sales schedules, refer to *To approve sales schedules* (p. 2-29) .

Reconciliation statuses

A reconciliation record can have the following statuses:

- **Created**
The sales schedule reconciliation record is created and you have not yet received your business partner's received CUM and last receipt quantity for the concerned shipment.
- **Matched**
You received your business partner's received CUM and last receipt quantity for the concerned shipment and these quantities are equal to your shipped CUM and shipped quantity.
- **Dispute**
You received your business partner's received CUM and last receipt quantity for the concerned shipment and these quantities are unequal to your shipped CUM and shipped quantity.
- **Reconciled**
You discussed the difference between your business partner's received CUM and your shipped CUM, and as a result you have adjusted the received CUM to equal the shipped CUM.
- **Adjusted**
You discussed the difference between your business partner's received CUM and your shipped CUM, and as a result you have adjusted the shipped CUM to equal the received CUM.
- **Adjusted and Reconciled**
You discussed the difference between your business partner's received CUM and your shipped CUM, and as a result you have adjusted the shipped CUM and the received CUM.

- **Matched (forced)**
The received CUM and last receipt quantity that you received from your business partner for the concerned shipment are unequal to your shipped CUM and shipped quantity, but a later entry has already received the status **Matched**.
- If a sales schedule reconciliation record has the **Dispute** status, and its shipped CUM is updated as a result of adjusting previous records with the **Dispute** status, the current record is set to **Matched (forced)** if, after correction, quantities match.
- **Matched (no feedback)**
You have not yet received your business partner's received CUM and last receipt quantity for the concerned shipment, but a later entry has already received the **Matched** or **Reconciled** status. The received CUM and last receipt quantity remain zero for the sales schedule reconciliation record.
- **Reset**
The sales schedule cumulative record or the sales schedule authorization record are reset in the Reset Cumulatives (tdsls3230m000) session.

To solve disputes

You can use the Sales Schedule Reconciliation (tdsls3131m000) session to solve disputes between your shipped cumulatives and your sold-to business partner's received cumulatives for a specific sales schedule. Only if a reconciliation record has the **Dispute** status, you can adjust the record.

To handle sales schedule reconciliation records with the **Dispute** status, select one of the following on the Specific menu of the Sales Schedule Reconciliation (tdsls3131m000) session:

- **Reconcile Received CUMs**
ERP LN adjusts the **Received CUM** to equal the **Shipped CUM**. The reconciliation record gets the **Reconciled** status.
- **Adjust Shipped CUMs**
ERP LN adjusts the **Shipped CUM** to equal the **Received CUM**. The sales schedule reconciliation record gets the **Adjusted** status.
- **Adjust and Reconcile**
The Enter new CUMs (tdsls3131s000) session starts in which you can specify the quantity that must replace the current **Received CUM** and **Shipped CUM**. The sales schedule reconciliation record gets the **Adjusted and Reconciled** status.

Note

If a record obtains the **Dispute** status because the quantity shipped is more than the quantity that you reported shipped, you must record an extra quantity shipped in Warehouse Management instead of choosing **Adjust Shipped CUMs**, or **Adjust and Reconcile**. The reason for this is that if you adjust the shipped CUM, no invoice is raised for the additionally shipped goods.

When the dispute is solved:

- All previous records with the **Dispute** status receive the **Matched (forced)** status. Previous records with the **Created** status receive the **Matched (no feedback)** status.
- ERP LN adjusts the **Shipped CUM** of the following records according to the adjustment. The **Received CUM** of successive records is not updated.
- For records with the **Adjusted** or **Adjusted and Reconciled** status, ERP LN redetermines the status of the following records based on the new **Shipped CUM**. If, after adjustment, the **Shipped CUM** of a record with the **Dispute** status turns out to be correct, the sales schedule reconciliation record's status changes from **Dispute** into **Matched (forced)**.
- And you have chosen to adjust the received CUM, your sold-to business partner must also adjust the received CUM. For invoiced purchase schedule lines, the received CUM can be updated in the Update Received CUMs (tdpur3432m000) session. If the received CUM is not updated on the purchase side as well, each time the purchase schedule is sent, it will cause a dispute.
- The shipped CUM records in the Shipped CUM (tdsls3532m000) session are updated according to the adjustments you made in the Sales Schedule Reconciliation (tdsls3131m000) session.

Loss of inventory

If as a result of the discussion with your business partner on a reconciliation record with the **Dispute** status is decided to adjust the **Shipped CUM**, you can also agree with your business partner on who will pay for the loss of inventory.

The following possibilities exist:

- You pay for the loss of inventory. In this case, you must create a **Shipment Correction** record in the Schedule Shipment Details/Corrections (tdsls3140m000) session. This will result in a credit invoice to your business partner.
- Your business partner pays for the loss of inventory. In this case, you must not create a **Shipment Correction** record in the Schedule Shipment Details/Corrections (tdsls3140m000) session.

Note

You can also check whether you must create a shipment correction in the Schedule Shipment Details/Corrections (tdsls3140m000) session by comparing the **Cumulative Invoiced Quantity** from the Invoiced CUM (tdsls3533m000) session with the **Received CUM** after reconciliation. As a result, you can view whether you invoiced your customer too much or too less compared to the receipts.

For more information on shipment corrections and sales schedule invoices, refer to *Sales schedules and Central Invoicing (p. 2-47)* .

Sales schedules and Enterprise Planning

In Order Management you can use sales schedules for customers who place orders on a regular base and for a relatively long period. If a sales schedule is approved, sales requirements are stored in Enterprise Planning.

Enterprise Planning handles sales schedules as normal sales orders

To handle sales schedule requirements in Enterprise Planning

After a sales schedule is approved, it depends on the type of schedule how Enterprise Planning handles the sales requirements.

Shipping schedules (SS) and sequence shipping schedules (SSS)

If you approve a **Shipping Schedule** or **Sequence Shipping Schedule**, ERP LN stores the sales requirements in:

- The Planned Inventory Transactions (whinp1500m000) session as a planned inventory transaction of type **Sales Schedule**.
- The Item Master Plan (cprmp2101m000) session as a customer order.
- The Item Order Plan (cprrp0520m000) session as an order of type **Sales Schedule**.

Material releases (MR)

If you approve a **Material Release**, ERP LN stores the sales requirements for the related item in the following fields of the Item Master Plan (cprmp2101m000) session:

- **Customer Orders**
- **Unconfirmed Customer Orders**

Customer orders for the item represent normal sales order plus the shipping schedule part of the sales schedule. In Enterprise Planning, customer orders are added to the demand for the item, and consumed from the forecast. Sales requirements that originate from a **Material Release** end up as unconfirmed customer orders in the item master plan. These requirements do not affect the planning in Enterprise Planning and are only displayed to show which part of the customer orders is not yet confirmed.

In the Item Order Plan (cprrp0520m000) session, you can view the sales requirements of a **Material Release** as sales schedule forecast.

Master planning and order planning

When you update or simulate the master plan or the order plan, ERP LN takes into account the required quantities of sales schedules.

ERP LN retrieves:

- The planned quantities for a **Shipping Schedule** or **Sequence Shipping Schedule** from the Planned Inventory Transactions (whinp1500m000) session.
- The quantities for a **Material Release** from the Sales Schedule - Lines (tdsls3107m000) session.

Change of quantity and dates

If order quantities or (delivery) dates of a sales schedule change, and the **Online ATP Update in EP** check box is selected in the EP Parameters (cprpd0100m000) session, Enterprise Planning performs an ATP update for the item. This update is similar to the ATP update that Enterprise Planning carries out if anything changes in planned receipts or planned issues in the Planned Inventory Transactions (whinp1500m000) session.

In case of changes, Enterprise Planning also sets the following new net change dates, so changes are taken into account during a planning run:

- The net change date in the Item - Ordering (tcibd2100s000) session. Starting from this date, Enterprise Planning must take into account changes in the **Shipping Schedule** or **Sequence Shipping Schedule**.
- The net change date in the Items - Planning (cprpd1100m000) session. Starting from this date, Enterprise Planning must consider all other changes.

To update the ATP and to set new net change dates, Enterprise Planning reads goods-flow data of the item. Enterprise Planning retrieves:

- The quantities required for a specific date from the Planned Inventory Transactions (whinp1500m000) session, if the sales schedule is a **Shipping Schedule** or **Sequence Shipping Schedule**.
- The quantities required for a specific plan period from the Sales Schedule - Lines (tdsls3107m000) session if the sales schedules is a **Material Release**.

To retrieve required quantities for a plan period

If an ATP check is carried out, a **Shipping Schedule** or **Sequence Shipping Schedule** can end in the middle of a plan period. As a result, an overlap exists between the **Shipping Schedule** or **Sequence Shipping Schedule** and the **Material Release** in that specific plan period.

For this reason, ERP LN distinguishes between a **Material Release** that overlaps a **Shipping Schedule** or **Sequence Shipping Schedule**, and a **Material Release** that does not.

To determine sales quantities for a material release that overlaps a (sequence) shipping schedule

For a **Material Release** that overlaps a **Shipping Schedule** or **Sequence Shipping Schedule** in a plan period, ERP LN uses the **Linear Estimate** parameter in the Items - Sales Business Partner (tdisa0510m000) session to determine the sales quantities for the days that are not filled with sales requirements from a **Shipping Schedule** or **Sequence Shipping Schedule**.

If the **Linear Estimate** check box in the Items - Sales Business Partner (tdisa0510m000) session is:

- Cleared, ERP LN subtracts the sales quantities of the **Shipping Schedule** or **Sequence Shipping Schedule** from the **Material Release** quantity for a certain plan period, and divides the resulting quantity over the days in the period that are not covered by **Shipping Schedule** or **Sequence Shipping Schedule** quantities.
- Selected, ERP LN divides the **Material Release** quantity by the number of days in the plan period, and fills the days in the plan period that do not have **Shipping Schedule** or **Sequence Shipping Schedule** quantities with the resulting value.

To determine sales quantities for a material release that does not overlap a (sequence) shipping schedule

For a **Material Release** that does not overlap a **Shipping Schedule** or **Sequence Shipping Schedule** in a plan period, ERP LN retrieves the total required quantity for the plan period from the Sales Schedule - Lines (tdsls3107m000) session.

The **Accumulate Demand On Start Date Of The Period** parameter in the Items - Sales Business Partner (tdisa0510m000) session then determines whether or not the demand is accumulated.

If the **Accumulate Demand On Start Date Of The Period** check box in the Items - Sales Business Partner (tdisa0510m000) session is:

- Selected, Enterprise Planning fills the first day of the plan period with the total quantity of the **Material Release**.
- Cleared, Enterprise Planning spreads the total quantity of the **Material Release** over the number of days of the plan period.

Examples

The following examples explain the use of the **Linear Estimate** check box and the **Accumulate Demand On Start Date Of The Period** check box in the Items - Sales Business Partner (tdisa0510m000) session.

Example 1

The **Linear Estimate** check box and the **Accumulate Demand On Start Date Of The Period** check box are both selected.

-	Week 1					Week 2					Week 3				
Day	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
MR	-	-	50	-	-	-	-	50	-	-	-	-	50	-	-
(S)SS	10	9	8	12	10	12	9	-	-	-	-	-	-	-	-
Planning	10	9	8	12	10	12	9	10	10	10	50	-	-	-	-

- **Week 1**
A material release exists, but the entire period is filled by the shipping schedule. Enterprise Planning only takes into account the shipping schedule.
- **Week 2**
An overlap exists between the material release and the shipping schedule. Because the week is not completely filled by the shipping schedule, the remaining days are filled by the material release. Because the **Linear Estimate** check box is selected, ERP LN extrapolates the quantity of the material release to the number of days in the period ($50 : 5 = 10$). The days that are not filled by the shipping schedule, receive the extrapolated quantity (10).
- **Week 3**
Only a material release exists and Enterprise Planning takes into account the related quantity. The first day of week 3 is filled with the total quantity of the material release, because the **Accumulate Demand On Start Date Of The Period** check box is selected.

Example 2

The **Linear Estimate** check box and the **Accumulate Demand On Start Date Of The Period** check box are both cleared.

-	Week 1					Week 2					Week 3				
Day	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
MR	-	-	50	-	-	-	-	50	-	-	-	-	50	-	-
(S)SS	10	9	8	12	10	12	9	-	-	-	-	-	-	-	-
Planning	10	9	8	12	10	12	9	10	10	9	10	10	10	10	10

ERP LN now distributes the material release in week 2 without linear estimate (the **Linear Estimate** check box is cleared). This means that ERP LN subtracts the shipping schedule quantity from the total material release quantity for the period, and divides the resulting quantity over the number of days that are not filled by shipping schedule quantities.

In week 3, ERP LN equally spreads the total quantity of the material release over the number of days in the period, because the **Accumulate Demand On Start Date Of The Period** check box is cleared.

Example 3

This example shows what happens if the quantity of the material release changes from 50 to 60. In this example, the **Linear Estimate** check box is cleared.

-	Week 1					Week 2					Week 3				
Day	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
MR	-	-	50	-	-	-	50	-> 60	-	-	-	-	50	-	-
(S)SS	10	9	8	12	10	12	9	-	-	-	-	-	-	-	-
Update	-	-	-	-	-	-	-	+3	+3	+4	-	-	-	-	-
Planning	10	9	8	12	10	12	9	13	13	13	10	10	10	10	10

Because the **Linear Estimate** check box is cleared, the remaining quantity for each day that is not covered by the shipping schedule is now 13 in week 2.

This quantity is calculated as follows:

$$((60 - 12 - 9) / 3 = 13)$$

Because planned quantities are increased, Enterprise Planning decreases the ATP quantities for the item.

Example 4

This example shows what happens if the quantity of the shipping schedule changes from 9 to 15 on day 2 of week 2. In this example, the **Linear Estimate** check box is cleared.

-	Week 1					Week 2					Week 3				
Day	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
MR	-	-	50	-	-	-	-	60	-	-	-	-	50	-	-
(S)SS	10	9	8	12	10	12	15	-	-	-	-	-	-	-	-
Update	-	-	-	-	-	-	-	-2	-2	-2	-	-	-	-	-
Planning	10	9	8	12	10	12	9	11	11	11	10	10	10	10	10

This change results in a change in the Planned Inventory Transactions (whinp1500m000) session. ERP LN sends this change to Enterprise Planning for the ATP update.

Obviously, changes in the shipping schedule quantities also affect the material release for week 2. Because the **Linear Estimate** check box is cleared, the remaining quantity for each of the remaining days is 11 in week 2.

This quantity is calculated as follows:

$$((60 - 12 - 15) / 3 = 11)$$

Because planned quantities are decreased, Enterprise Planning increases the ATP quantities for the item.

Sales schedules and Warehouse Management

Approved sales schedule lines of the origins **Manual** or **EDI** and with the **Our Requirement Type** set to **Immediate** or **Firm**, must be released to Warehouse Management.

To release sales schedules to Warehouse Management

If the sales schedule is:

- Non-referenced, you must use the Release Sales Schedules to Order (tdsls3207m000) session to release the sales schedule to Warehouse Management.
- Referenced, it is automatically released to Warehouse Management when it is approved.

If a sales schedule (line) is released to Warehouse Management, ERP LN creates a warehousing order for the sales schedule and creates outbound order lines for the sales schedule lines. If an outbound order line is created for a sales schedule line, the sales schedule line receives the **Order Generated** status.

Note

ERP LN carries out the outbound procedure and shipment procedure as specified for the warehousing order type that is linked to the warehousing order.

Release sequence shipping schedules to Warehouse Management

If a sales schedule line of the **Sequence Shipping Schedule** type is created, sequence shipping information is created in the Sequence Shipping Information (tdsls3517m000) session. In this session, ERP LN keeps track of the sequence shipping information revisions. When the sales schedule line is approved, ERP LN automatically approves the sequence shipping data. For more information on approving sales schedules, refer to *To approve sales schedules (p. 2-29)*.

After the sales schedule line is approved and automatically released to Warehouse Management, ERP LN also creates sequence shipping data in the Shipping Sequence (whinh4520m000) session of Warehouse Management. In this session, only the latest revision of the shipping sequence information is filed.

The shipping sequence information informs you about the sequence in which your ship-to business partner needs the items on the assembly line. Therefore, you must ship the goods in the sequence that is specified in the Shipping Sequence (whinh4520m000) session. The shipping sequence data is used to create shipments and shipment lines. ERP LN creates a shipment for each shipment reference. Each shipping sequence results in a shipment line.

To ship for sales schedules

If in Warehouse Management items are shipped for a sales schedule line, ERP LN assigns one of the following statuses to the sales schedule line:

- **Partially Shipped**
A part of the ordered quantity is shipped.
- **Goods Delivered**
The entire ordered quantity is shipped.

If items are shipped for a sales schedule line, ERP LN:

- Updates the total quantity shipped for the sales schedule in the Shipped CUM (tdsls3532m000) session and the Sales Schedules (tdsls3111m000) session.
- Creates a shipment detail record with the **Goods Delivered** status in the Schedule Shipment Details/Corrections (tdsls3140m000) and Schedule Shipment Details/Corrections (tdsls3140m100) sessions.
- Updates the **Last Shipment**, **Last Delivery Date**, and the **Delivered Quantity** in the Sales Schedule - Lines (tdsls3107m000) session.

Note

If not the entire ordered quantity is shipped and the sales schedule is terminated, the sales schedule line receives the **Goods Delivered** status. As a result, the remaining ordered quantity that is not shipped can no longer be shipped. For more information on terminating sales schedules, refer to *To terminate sales schedules* (p. 2-52) .

Sales schedules and Central Invoicing

If the items that are ordered with the sales schedule line are (partially) shipped, you can invoice the delivered goods. To be able to send the invoice, you must release the sales schedule to Central Invoicing in the Release Sales Orders/Schedules to Invoicing (tdsls4247m000) session.

Shipment details and shipment corrections

To be able to invoice (partial) shipments, ERP LN files shipment details in the Schedule Shipment Details/Corrections (tdsls3140m000) and Schedule Shipment Details/Corrections (tdsls3140m100) sessions. You can also enter and release shipment corrections in these sessions.

Shipment detail

In the Schedule Shipment Details/Corrections (tdsls3140m000) and Schedule Shipment Details/Corrections (tdsls3140m100) sessions, ERP LN files all shipments that take place for a sales schedule line. If a sales schedule line's ordered quantity is (partially) shipped, ERP LN creates a **Shipment Detail** record with the **Goods Delivered** status for the shipped quantity. Invoicing of shipped

items takes place based on the shipment details that are specified in these sessions. This setup enables you to invoice partial shipments as well.

A shipment detail record goes through the following statuses:

1. **Goods Delivered**
2. **Released to Invoicing**
3. **Invoiced**
4. **Processed**

Shipment correction

You can also use the Schedule Shipment Details/Corrections (tdsls3140m000) and Schedule Shipment Details/Corrections (tdsls3140m100) sessions to correct shipped quantities. These corrections take place for financial, not logistic reasons. If, for example, shipped items are lost during shipment and you do not want to invoice your business partner for these lost items, you can reduce the shipped quantity. To do so, select a **Shipment Detail** record and, from the **Specific** menu, choose **Enter Shipment Correction**. As a result, you can specify the **Correction Quantity** in the details session.

You can only create a **Shipment Correction** for a **Shipment Detail** record with one of the following statuses:

- **Goods Delivered**
- **Released to Invoicing**
- **Invoiced**

A shipment correction record goes through the following statuses:

1. **Created**
2. **Released to Invoicing**
3. **Invoiced**
4. **Processed**

Note

You must confirm a shipment correction record with the **Created** status before it can be released to Central Invoicing.

To confirm the **Shipment Correction** record, in the Schedule Shipment Details/Corrections (tdsls3140m000) and Schedule Shipment Details/Corrections (tdsls3140m100):

- Overview session, from the **Specific** menu, choose **Confirm**.
 - Details session, click **Confirm**.
-

Note

You can only confirm a **Shipment Correction** record if the sales schedule line status is **Goods Delivered**, **Released to Invoicing**, or **Invoiced**. You cannot enter and confirm **Shipment Correction** records if the sales schedule line's status is **Processed**.

If you confirm a **Shipment Correction** record, ERP LN:

- Creates a financial transaction of the **Shipment Variance** type in the Integration Transactions (tfgld4582m000) session.
- Decreases the business partner's open balance with the correction amount.
- Updates the sales contract data, if a sales contract is linked.
- Inserts a record in the sales schedule history.
- Does not update the shipped CUMs, because the shipment correction is only executed for financial reasons and not logistic.

To release shipment details and shipment corrections to Central Invoicing

To release sales schedule shipment details and shipment corrections to Central Invoicing, from the **Specific** menu of the Schedule Shipment Details/Corrections (tdsls3140m000) and Schedule Shipment Details/Corrections (tdsls3140m100) overview sessions, choose **Release Sales Orders/Schedules to Invoicing**. As a result, the Release Sales Orders/Schedules to Invoicing (tdsls4247m000) session is started.

The following data in the following order is released to Central Invoicing:

1. A sales schedule line's **Shipment Detail** records with the **Goods Delivered** status.
2. Confirmed sales schedule line's **Shipment Correction** records with the **Created** status.

Note

- Releasing of **Shipment Detail** records and then **Shipment Correction** records is performed in sequence of sequence number (sequence of creation).
- If you release a sales schedule to Central Invoicing, the status of the **Shipment Detail** records and **Shipment Correction** records is changed to **Released to Invoicing**.

If a sales schedule is released to Central Invoicing, ERP LN determines the **Shipment Detail** 's **Receipt Amount** as follows:

Delivered Quantity / Quantity * Schedule Line Amount

Note

ERP LN retrieves the **Quantity** and **Schedule Line Amount** from the Sales Schedule - Lines (tdsls3107m000) session.

ERP LN determines the **Shipment Correction** 's **Receipt Amount** as follows:

Correction Quantity / **Delivered Quantity** of the Shipment Detail *

Receipt Amount of the Shipment Detail.

If all **Shipment Detail** records and **Shipment Correction** records for a sales schedule line have the **Released to Invoicing** status, the sales schedule line's status also becomes **Released to Invoicing**.

To create and post invoices in Central Invoicing

The creation and posting of the invoices for sales schedules takes place in the Sales and Warehouse Invoice Data (cisli2540m000) session in Central Invoicing.

Note

ERP LN creates a credit invoice (line) for **Shipment Correction** records.

If an invoice is sent for the sales schedule line's **Shipment Detail** or **Shipment Correction**:

- The **Shipment Detail** or **Shipment Correction** records receive the **Invoiced** status and the **Invoice** and **Invoice Date** fields are filled in the Schedule Shipment Details/Corrections (tdsls3140m000) session.
- ERP LN updates the total invoiced quantity for the sales schedule in the Invoiced CUM (tdsls3533m000) session and the Sales Schedules (tdsls3111m000) session.
- ERP LN updates the Sales Schedule - Lines (tdsls3107m000) session with the invoice data.

If all **Shipment Detail** records and **Shipment Correction** records for a sales schedule line have the **Invoiced** status, the sales schedule line's status also becomes **Invoiced**.

To process/delete sales schedules

If the invoice for a sales schedule line is sent, the sales schedule line has the **Invoiced** status. You can process and delete sales schedules whose lines have the **Invoiced** status. Use the Process Delivered Sales Schedules (tdsls3223m000) session to process sales schedules and the Delete Sales Schedules (tdsls3224m000) session to delete processed, or canceled sales schedules.

Process

If you process sales schedules in the Process Delivered Sales Schedules (tdsls3223m000) session, ERP LN:

- Creates sales schedule turnover history for the processed sales schedules. You can view the turnover history in the sales order/schedule history sessions, starting from the Sales Order/Schedule History (tdsls5505m000) session.
- Updates the sales contract line's **Invoiced Quantity** if a sales contract is linked to the sales schedule line.
- Changes the sales schedule status, the sales schedule line status, and the sales schedule line's shipping detail status from **Invoiced** to **Processed**.

Note

You cannot process sales schedules for which uninvoiced shipment corrections exist.

If you process a sales schedule for which not all sales schedule lines, sales schedule shipment details, or shipment corrections have the **Invoiced** status, ERP LN:

1. Changes the status of the sales schedule lines and shipment details/corrections with the **Invoiced** status to **Processed**.
2. Does not change the status of the sales schedule lines and shipment details/corrections that do not have the **Invoiced** status.
3. Changes the sales schedule status to **Processing in Progress**.

If for a sales schedule with the **Processing in Progress** status the not yet processed sales schedule lines and shipment details/corrections receive the **Invoiced** status, ERP LN automatically processes these sales schedule lines and shipment details/corrections and changes the sales schedule's status to **Processed**.

Delete

In the Delete Sales Schedules (tdsls3224m000) session, you can delete:

- **Canceled** sales schedule lines.
- **Processed** sales schedule lines.

If you delete a processed sales schedule, ERP LN deletes all data related to the sales schedule, such as:

- The sales schedule from the Sales Schedules (tdsls3111m000) session.
- The related sales schedule lines from the Sales Schedule - Lines (tdsls3107m000) session.
- The related sales release position details from the Sales Release Position Details (tdsls3515m000) session.

- The related sales release lines from the Sales Release - Lines (tdsls3508m000) session.
- The related sales releases from the Sales Releases (tdsls3512m000) session, if the sales releases only contains release lines for the specific sales schedule.
- The sequence shipping information from the Sequence Shipping Information (tdsls3517m000) session.
- The sales schedule line's shipping details from the Schedule Shipment Details/Corrections (tdsls3140m000) session.
- The sales schedule's shipped CUM in the Shipped CUM (tdsls3532m000) session.
- The sales schedule's invoiced CUM in the Invoiced CUM (tdsls3533m000) session.
- The sales schedule's FAB and RAW authorizations in the FAB/RAW Authorizations (tdsls3134m000) session.

Note

When all lines of a schedule are deleted, ERP LN also deletes the schedule header.

To terminate sales schedules

If the relation with a business partner for an item has come to an end or if you want to change the sold-to business partner specific item data in the Items - Sales Business Partner (tdisa0510m000) session, you must terminate the sales schedule. You can terminate a sales schedule in the Terminate Sales Schedules (tdsls3211m100) session. The results of the termination process depend on the status of the sales schedule lines of the terminated sales schedule.

Created, Adjusted, Approved

If you terminate a sales schedule and a related sales schedule line has the **Created**, **Adjusted**, or **Approved** status, the sales schedule line's status is changed to **Canceled**.

Note

If one of the following sales schedule lines is canceled, the results of the approval process are undone:

- A sales schedule line with the **Approved** status.
 - A sales schedule line with the **Order Generated** status for which the outbound process is not yet started.
-

If such a sales schedule line is canceled, ERP LN:

- Deletes the related planned inventory transaction from the Planned Inventory Transactions (whinp1500m000) session.
- Updates the available-to-promise in the Item Master Plan (cprmp2101m000) session.
- Updates the sales contract data if a sales contract is linked to the sales schedule line.
- Creates history for the sales schedule lines.
- Updates Quality Management with the quantity that can be ignored for inspection.

Order Generated

If you terminate a sales schedule and a linked sales schedule line has the **Order Generated** status, the related outbound order line determines whether the sales schedule line can be canceled:

- If the outbound process is not yet started, the outbound order line is deleted and the sales schedule line receives the **Canceled** status.
- If the outbound process is started, the outbound order line is set to **Canceled** and the sales schedule line receives the **Canceling in Process** status.
- If the outbound order line that is set to **Canceled** gets the **Shipped** status, the sales schedule line receives the **Canceled** status.

Partially Shipped

If you terminate a sales schedule and a linked sales schedule line has the **Partially Shipped** status, the related outbound order line determines whether the sales schedule line can be canceled.

- If the outbound process is not yet started, the outbound order line for the remaining quantity is deleted and the sales schedule line receives the **Goods Delivered** status.
- If the outbound process is started, the outbound order line for the remaining quantity is set to **Canceled** and the sales schedule line keeps the **Partially Shipped** status.
- If the outbound order line that is set to **Canceled** gets the **Shipped** status, the sales schedule line receives the **Goods Delivered** status.

Goods Delivered, Released to Invoicing, Invoiced

If you terminate a sales schedule and a linked sales schedule line has the **Goods Delivered**, **Released to Invoicing**, or **Invoiced** status, you must finish the sales schedule procedure for these sales schedule lines until they have the **Processed** status.

Sales schedule status

The status of a sales schedule that is terminated depends on the statuses of its sales schedule lines:

- If not all sales schedule lines have the **Processed** or **Canceled** status, the sales schedule has the **Termination in Process** status.
- If all sales schedules lines have the **Processed** or **Canceled** status, the sales schedule receives the **Terminated** status.

If a sales schedule has the **Termination in Process** or **Terminated** status, no new revisions can be added to the sales schedule.

Appendix A

Glossary

A

address

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

advance shipment notice

A notification that a shipment has been sent. Advanced shipment notices are sent and received by means of EDI. You can receive advance shipment notices from your supplier informing you that goods are to arrive at your warehouse, and/or you can send advance shipment notices to your customers that the goods they ordered are about to be delivered.

Synonym: shipment notice

Abbreviation: ASN

ASN

See: *advance shipment notice (p. A-1)*

assembly order

An order to assemble a product on one or more assembly lines.

available-to-promise

The item quantity that is still available to be promised to a customer.

In ERP LN, available-to-promise (ATP) is part of a more extended framework of order promising techniques called capable-to-promise (CTP). If an item's ATP is insufficient, CTP goes beyond ATP in that it also considers the possibility of producing more than was initially planned.

In addition to the standard ATP functionality, ERP LN also uses channel ATP. This term refers to the availability of an item for a certain sales channel, taking into account the sales limits for that channel.

For all other types of order promising functionality used in ERP LN, the term CTP is used.

Acronym: ATP

blanket warehousing order

A warehousing order that is generated during the creation of a push schedule and that contains:

- A position number and sequence number of zero.
- An item as defined on the purchase schedule.
- An order quantity equal to the quantity as defined on the purchase contract line.
- An empty planned delivery date and planned receipt date, but a contract date similar to the purchase contract date.
- A lot selection defined as Any.

business partner

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

The business partner definition includes:

- The organization's name and main address.
- The language and currency used.
- Taxation and legal identification data.

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

business partner status

Indicates the actions that can be carried out for the business partner. The status can be: **Active**, **Inactive**, or **Potential**.

For example, you cannot enter a sales order for a business partner with status **Potential**, or ship goods to a business partner with status **Inactive**.

buyer

The employee of your company who is the contact to the concerned buy-from business partner. The buyer is also known as the purchasing agent.

clustering

Grouping several schedules lines to send the lines in one purchase release.

For clustering, first the next schedule issue date, according to the issue pattern, is determined. Next, the schedule lines are clustered based on the segment time unit, and the segment length, derived from the segment set.

Note

Clustering only applies to non-referenced schedules.

CUM reset date

The date and time at which a schedule's cumulatives/ authorizations are reset.

cumulatives (CUMs)

The year-to-date totals for quantities shipped, received, required, and invoiced.

Cumulatives are used as schedule statistics to track if its status is ahead or behind schedule compared to the demand.

electronic data interchange (EDI)

The computer-to-computer transmission of a standard business document in a standard format. Internal EDI refers to the transmission of data between companies on the same internal company network (also referred to as multisite or multicompany). External EDI refers to the transmission of data between your company and external business partners.

fab authorization

The valid authorization for the business partner to start the production for a quantity of items required on a purchase schedule. The fab authorization is expressed as a cumulative quantity and is calculated using the fab period.

fab period

The time period during which the supplier is authorized to manufacture the goods required on a schedule, calculated from the schedule issue date on for push schedules, and from the current date on for pull forecast schedules.

The fab period is expressed in a number of days.

Example

- CUM start quantity: 10000
- Schedule issue date/current date: 05.07.99
- Fab period: 20 days

Issue/current date	Quantity
05.07.99	100
12.07.99	100
19.07.99	100
26.07.99	100

Fab time fence : 05.07.99 (+ 20 days) = 25.07.99.
Fab authorization: 10000 + 100 + 100 + 100 = 10300.

firm requirement

A requirement that is handled as an actual order and that can be shipped.

frozen period

The overlap period of the frozen zone+ and the frozen zone-. No changes to the purchase schedule line are permitted in this period.

high fab authorization

The highest fab authorization ever calculated on a purchase schedule, counted from the latest CUM reset date on.

high raw authorization

The highest raw authorization ever calculated on a purchase schedule, counted from the latest CUM reset date on.

immediate requirement

All schedule lines scheduled until the next schedule issue date that must be shipped as soon as possible.

invoice

A document stating a list of prices of delivered goods and services that must be paid under certain conditions.

invoiced cumulative

A schedule's total invoiced cumulative quantity, calculated from the CUM reset date on up to the last transaction date, which is the invoice date. Invoiced CUMs are updated as soon as a an invoice is approved by Financials.

item master plan

An item-specific, overall logistic plan that contains planning data and logistic targets for sales, internal and external supply, and inventory. All planning data in the item master plan is specified by plan period. Enterprise Planning uses this data to carry out master-planning simulations.

Within the item master plan, you can distinguish the following subplans:

- Demand plan
- Supply plan
- Inventory plan

In addition, an item's master plan contains information about actual demand, actual supply, planned supply in the form of planned orders, and expected inventory.

If an item has a master plan and channels have been defined for this item, each channel usually has its own channel master plan. A channel master plan contains channel-specific information only, that is, demand data and information about sales restrictions.

Item master plans and channel master plans are defined within the context of a scenario. These scenarios can be used for what-if analyses. One of the scenarios is the actual plan.

Kanban

A demand-pull system of just-in-time production that regulates the supply of items to shop floor warehouses.

Kanban uses standard containers or lot sizes (also called bins) to deliver items to shop floor warehouses. In the shop floor warehouse, two or more bins are available with the same items. Items are only taken from one bin. If a bin is empty, a new bin is ordered and the items are taken from the (second) full bin. To each bin a label is attached. The line stations use the label to order a full bin with the required items. As a result, no inventory administration is done in the shop floor warehouse for the floor stock items that are used.

lower bound

Time period during which the schedule line quantity can increase, but not decrease, and during which the deletion of schedule lines is not allowed.

Lower bound applies when the end of the frozen zone+ lies before the end of the frozen zone-.

master-based planning

A planning concept in which all planning data is accumulated into time buckets with predefined lengths.

In master planning, all demand, supply, and inventory data is handled in terms of these time buckets, and is stored in master plans.

In master planning, supply is planned in the form of a supply plan. This supply plan is calculated on the basis of demand forecasts, actual orders, and other information. For production planning, this planning method only considers critical requirements, as recorded in an item's bill of critical materials and bill of critical capacities.

Note

In Enterprise Planning, you can maintain a master plan for an item, even if you plan all supply with order planning.

material release

A schedule on which forecasted information is provided about shipping times, delivery times, and quantities.

In general, a material release can be considered as a planning release. For push schedules, however, the material release can also contain the actual order.

MPN set

A set of manufacturer part numbers (MPNs) that belongs to a purchase order line or a purchase schedule line.

non-referenced schedule

A schedule that contains lines without a reference number. Because no specific requirement exists for the schedule line, non-referenced schedule lines can first be clustered and then ordered, shipped, and received together.

Push schedules and pull forecast schedules are non-referenced schedules.

normal contract

A customer-oriented contract, agreed upon by suppliers and customers, that is used to record specific agreements. A normal contract is usually valid for approximately one year.

A normal contract cannot be activated if another active contract exists for the same business partner in a specific period.

offsetting

The process of planning backwards to look for a valid delivery moment on which requirements can be delivered in time. Based on the generated delivery moments, requirements are clustered in Enterprise Planning.

Example

Days	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Requirements	-	-	-	-	-	-	-	1	1	1	1	1	-	-	-	-	1	1	-	-
Delivery pattern	-	-	X	-	-	-	-	-	-	X	-	-	-	-	-	-	X	-	-	-
Clustered demand	-	-	3	-	-	-	-	-	-	3	-	-	-	-	-	-	1	-	-	-

open balance

The balance of all unpaid invoices relating to one particular business partner.

order-based planning

A planning concept in which planning data is handled in the form of orders.

In order planning, supply is planned in the form of planned orders. ERP LN takes into account the start and finish dates of individual planned orders. For production planning, this method considers all material and capacity requirements, as recorded in an item's BOM and routing.

Note

In Enterprise Planning, you can maintain a master plan for an item, even if you plan all supply with order planning.

order controlled/SILS

A demand-pull system that regulates the supply of items to shop floor warehouses in the sequence in which they are needed.

In this supply system, items that are required for a specific assembly order, and at a particular line station of the assembly line, are called off at an earlier line station, called the trigger-from station. The number of items that is called off depends on what is needed for specific assembly orders in a specified time fence, called the maximum time interval.

In general, the items that are supplied to the shop floor warehouse by SILS, are fast movers and are processed in high volumes. There is a direct link between these items and the assembly orders they are used for. In addition, one warehouse order set can only supply the goods needed by one assembly order.

outbound-order line

A warehouse-order line that is used to issue goods from a warehouse.

An outbound-order line gives detailed information about planned issues and actual issues, for example:

- Item data.
- Ordered quantity.
- Warehouse from where the goods are issued.

partial delivery

The delivery of a part of the total order quantity.

pattern

A scheme on which you can define the day of the week, day of the month, or day of the year, and the time of the day you want an activity, such as a release or a delivery, to be carried out.

pattern code

The code used to identify the pattern for your activities. The pattern defines the date and time, such as the month or the day of the month, on which you want to carry out the activity.

planned inventory transactions

The expected changes in the inventory levels due to planned orders for items.

planned requirement

A requirement that you want to communicate to your business partner for information and planning purposes only.

You can enter these requirement lines (manually) during schedule generation. The line can also receive this requirement type as a result of schedule regeneration.

plan period

One of a series of time buckets into which all planning data in a master plan is accumulated.

Plan periods are defined in the context of a scenario.

Plan periods are identified by a period number, and are defined in days, weeks, or months.

prior required CUM

A schedule's total required CUM calculated from the last CUM reset date through the (next) schedule issue date.

In contrast to required CUM, prior CUM also includes the requirements of released schedule lines for which no receipts are booked yet.

pull schedule

Two types of pull schedules exist:

- **Pull forecast schedules**
A list of time-phased planned requirements, generated by Enterprise Planning, that are sent to the supplier. Pull forecast schedules are only used for forecasting purposes. To actually order the items, a pull call-off schedule must be generated.
- **Pull call-off schedules**
A list of time-phased specific requirements of purchased items, triggered from Assembly Control, Shop Floor Control, or Warehouse Management (KANBAN, Time-phased order point).

A pull schedule can use one of the following release types:

- **Shipping Schedule**
Both material releases and shipping schedules are sent.
 - Material releases are issued through the pull forecast schedule.
 - Shipping schedules are issued through the pull call-off schedule.
 - Shipping is carried out based on the **Firm** requirements in the shipping schedule. The material release only sends forecasting data.
- **Sequence Shipping Schedule**
Both material releases and sequence shipping schedules are sent.
 - Material releases are issued through the pull forecast schedule.
 - Sequence shipping schedules are issued through the pull call-off schedule.
 - Shipping is performed based on the **Firm** requirements in the sequence shipping schedule. The material release only sends forecasting data.
- **Shipping Schedule Only**
Only shipping schedules are sent.
 - Shipping schedules are issued through the pull call-off schedule.
 - Shipping is carried out based on the **Firm** requirements in the shipping schedule.
 - No forecasting data is sent to the supplier through a pull forecast schedule.

purchase contract price revision

A date-controlled agreement for price and discount elements on the purchase contract line. Price revisions enable you to have several prices over time. An active revision is valid from its effective date up to the effective date of the next revision, or the expiry date of the purchase contract line.

purchase release

A purchase release is used to send out, under one release number, those schedules that share the following common characteristics:

- Buy-from business partner.
- Ship-from business partner.
- Ship-to address.
- Release type (material release/ shipping schedule/ sequence shipping schedule).
- Shipment based schedule/ delivery based schedule.
- Communication method.
- Warehouse.

purchase schedule

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

push schedule

A list of time-phased requirements, generated by a central planning system, such as Enterprise Planning or Project, that are sent to the supplier. Push schedules contain both a forecast for the longer term and actual orders for the short term.

A push schedule can use one of the following release types:

- **Material Release:** only material releases are sent. Shipping is performed based on the **Firm** and **Immediate** requirements in the material release.
- **Shipping Schedule:** both material releases and shipping schedules are sent. Shipping is carried out based on the **Firm** and **Immediate** requirements in the shipping schedule. The material release only sends forecasting data.
- **Shipping Schedule Only:** only shipping schedules are sent. Shipping is carried out based on the **Firm** and **Immediate** requirements in the shipping schedule. No forecasting data is sent to the supplier.

raw authorizations

The valid authorization for the business partner to buy the raw materials required on a purchase schedule. The raw authorization is expressed as a cumulative quantity and is calculated using the raw period.

raw period

The time period during which the supplier is authorized to procure the raw materials required on a schedule, calculated from the schedule issue date on for push schedules, and from the current date on for pull forecast schedules.

The raw period is expressed in a number of days.

Example

- CUM start quantity: 10000
- Schedule issue date/current date: 05.07.99
- Raw period: 20 days

Issue/current date	Quantity
05.07.99	100
12.07.99	100
19.07.99	100
26.07.99	100

Raw time fence : 05.07.99 (+ 20 days) = 25.07.99.

Raw authorization: 10000 + 100 + 100 + 100 = 10300.

receipt

The physical acceptance of an item into a warehouse. A receipt registers: received quantity, receipt date, packing-slip data, inspection data, and so on.

received cumulative

A schedule's total received cumulative quantity, calculated from the CUM reset date on up to the last transaction date, which is the receipt date. Received CUMs are updated as soon as receipts are made for the schedule line(s).

reference

A number that, if determined by Assembly Control, refers to a unique combination of line station, assembly kit, and parent serial number.

A number that, if determined by Purchase Control, refers to a unique purchase schedule call-off that is generated from Warehouse Management.

referenced schedule

A schedule that contains lines with reference numbers. When goods are shipped, received, and invoiced, the reference numbers are used to communicate with suppliers and other ERP LN packages. Because a specific requirement exists for the schedule line, each single schedule line is ordered, shipped, and received separately.

Pull call-off schedules are referenced schedules.

regeneration

The process of rearranging schedule lines and moving the lines in time.

Regeneration is only carried out for non-referenced schedules.

release revision number

A number that uniquely identifies the revision of the purchase release. The release revision number indicates the updates that are sent to the business partner.

release type

A classification used to specify the type of the purchase release based on which EDI messages can be generated. These messages are indicated by the used schedule.

A release can be of the following types:

- **Material Release:** a material release can contain push schedules or pull forecast schedules.
 - **Shipping Schedule:** a shipping schedule can contain push schedules or pull call-off schedules.
 - **Sequence Shipping Schedule:** a sequence shipping schedule can only contain pull call-of schedules.
-

required cumulative

A schedule's total required cumulative quantity, calculated from the CUM reset date on up to the planned requirement date, which is the planned delivery date or planned shipment date. Required CUMs are updated as soon as receipts are confirmed for the schedule line(s).

requirement type

Three requirement types exist that represent a requirement in time, used for scheduling. The available requirement types are:

- **Immediate.**
- **Firm.**
- **Planned.**

For non-referenced schedules, requirement types are linked to segments.

For pull forecast schedules, the requirement type is always **Planned** or **Immediate**. For pull call-off schedules, the requirement type is always **Firm**.

sales release

Identifies, by one release number, those sales schedules that share the following common characteristics:

- Sold-to business partner.
- Ship-to business partner.
- Release type (material release / shipping schedule / sequence shipping schedule).
- Shipment based schedule / delivery based schedule.
- Ship-to address.

sales schedule

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

sales schedule revision number

A number that uniquely identifies the revision of the sales schedule. The sales schedule revision number indicates the sales schedule updates that are sent by your business partner.

schedule issue date

The date and time, calculated by the issue pattern, which, for non-referenced schedules, is used to define the moment at which:

- Schedule lines are clustered.
- A purchase release is sent.

segment

A part of a schedule that defines a unit of time used for scheduling. A segment contains a requirement type, a segment time unit, and a segment length.

segment length

The period that is assigned to the segment. The period is expressed in the segment time unit.

segment set

A set that is used to define the structure of a schedule. A segment set consists of a number of segments.

The segment set is used for schedule regeneration and for clustering schedule lines. No segment sets are used for pull call-off schedules.

segment time unit

The time unit in which the segment is expressed, for example days, weeks, months, and so on.

sequence shipping schedule

A supplement to the material release or the shipping schedule with precise information about the production or deliveries of the requirements. This schedule can include the production or delivery sequence, and the order, the place, and the time of unloading after shipment.

shipment notice

See: *advance shipment notice (p. A-1)*

shipped cumulative

A schedule's total shipped cumulative quantity for which an advance shipment notice is received, calculated from the CUM-reset date on up to the last transaction date, which is the shipment date. If you do not use advance shipment notices, shipped CUMs are not updated in a logistic company.

shipping schedule

A schedule on which detailed information is given about shipping times or delivery times and quantities. A shipping schedule facilitates just-in-time (JIT) management.

special contract

A customer-oriented contract, agreed upon by buy-from business partners and sold-to business partners that is used to record specific agreements for specific projects. A special contract can also be a promotional contract.

For special contracts, an overlap in effectivity periods is allowed for the same item/business partner combination.

system date

The current date that is generated by the system.

time-phased order point

A push system that regulates the time-phased supply of items to warehouses.

The quantity of items that is supplied to the warehouse depends on:

- The available inventory in the warehouse.
- The inventory that is planned to be delivered to the warehouse within the specified order horizon.
- The specified safety stock, optionally adjusted to the seasonal factor for the current period, for the item and warehouse.

If the available inventory plus the planned inventory are below the reorder point, the inventory in the warehouse is replenished.

Abbreviation: TPOP

See: safety stock

TPOP

See: *time-phased order point* (p. A-17)

upper bound

Time period during which the schedule line quantity can decrease, but not increase, and during which the creation of new schedule lines is not allowed.

Upper bound applies when the end of the frozen zone- lies before the end of the frozen zone+.

warehouse order

See: *warehousing order* (p. A-18)

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

warehousing order type

A code that identifies the type of a warehousing order. The default warehousing procedure that you link to a warehousing order type determines how the warehousing orders to which the order type is allocated are processed in the warehouse, although you can modify the default procedure for individual warehousing orders or order lines.

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