

TSCM50

Procurement I, Part 2 of 2

mySAP ERP Procurement and Logistics Execution

Date _____
Training Center _____
Instructors _____

Education Website _____

Instructor Handbook

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An SAP Compass course - use it to learn, reference it for work

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About This Handbook

This handbook is intended to complement the instructor-led presentation of this course, and serve as a source of reference. It is not suitable for self-study.






Typographic Conventions

American English is the standard used in this handbook. The following typographic conventions are also used.

Type Style	Description
<i>Example text</i>	Words or characters that appear on the screen. These include field names, screen titles, pushbuttons as well as menu names, paths, and options. Also used for cross-references to other documentation both internal (in this documentation) and external (in other locations, such as SAPNet).
Example text	Emphasized words or phrases in body text, titles of graphics, and tables
EXAMPLE TEXT	Names of elements in the system. These include report names, program names, transaction codes, table names, and individual key words of a programming language, when surrounded by body text, for example SELECT and INCLUDE.
Example text	Screen output. This includes file and directory names and their paths, messages, names of variables and parameters, and passages of the source text of a program.
Example text	Exact user entry. These are words and characters that you enter in the system exactly as they appear in the documentation.
< Example text >	Variable user entry. Pointed brackets indicate that you replace these words and characters with appropriate entries.

Icons in Body Text

The following icons are used in this handbook.

Icon	Meaning
	For more information, tips, or background
	Note or further explanation of previous point
	Exception or caution
	Procedures
	Indicates that the item is displayed in the instructor's presentation.

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Course Overview

In the first unit, you learn how to define vendor-specific material prices in the system. These data records are referred to as sources of supply. Possible sources of supply are purchasing information records and outline purchase agreements (contracts and scheduling agreements).

The second unit deals with the possible ways in which requirements of goods and materials can be matched up with suitable sources of supply. The automatic source determination process can be controlled with the aid of a source list and/or a quota arrangement.

In the third unit, you will become acquainted with the various options available for the efficient conversion of requisitions into purchase orders.

This other units introduce the functions of Logistics Invoice Verification. It covers invoice entry and document parking, as well as automatic invoice creation. You will learn how to enter taxes and terms of payment, and about invoice blocks, invoice release, and invoice reduction. The course also summarizes the relevant Customizing settings for Logistics Invoice Verification.

Target Audience

This course is intended for the following audiences:

- Solution Consultants responsible for implementing procurement using mySAP ERP or mySAP SCM

Course Prerequisites

Required Knowledge

- TSCM50 (Procurement I, Part 1 of 2) or SCM500 (Processes in Procurement) and SCM525 (Consumption-Based Planning and Forecasting) or suitable SAP experience in external procurement

Course Duration Details

Unit 1:

Sources of Supply

Purchasing Information Record	100 Minutes
Exercise 1: Purchasing Information Record	45 Minutes
Contract	100 Minutes
Exercise 2: Contract	45 Minutes
Scheduling Agreement	100 Minutes

Exercise 3: Scheduling Agreement	35 Minutes
Unit 2: Source Determination	
Source List	90 Minutes
Exercise 4: Source List	35 Minutes
Quota Arrangement	80 Minutes
Exercise 5: Quota Arrangement	45 Minutes
Further Aspects of Source Determination	80 Minutes
Exercise 6: Further Aspects of Source Determination	35 Minutes
Unit 3: Optimized Purchasing	
Processing Non-Assigned Purchase Requisitions	35 Minutes
Exercise 7: Processing Non-Assigned Purchase Requisitions.	20 Minutes
Processing Assigned Purchase Requisitions	60 Minutes
Exercise 8: Processing Assigned Purchase Requisitions	20 Minutes
Unit 4: Document Release Procedure	
Release Procedure	140 Minutes
Exercise 9: Document Release Procedure	50 Minutes
Unit 5: Basic Invoice Verification Procedure	
Introduction to Invoice Verification	40 Minutes
Basic Invoice Verification Procedure	90 Minutes
Exercise 10: Basic Invoice Verification Procedure	30 Minutes
Document Parking	45 Minutes
Exercise 11: Document Parking	15 Minutes
Taxes, Cash Discounts, and Foreign Currency	90 Minutes
Exercise 12: Taxes, Cash Discounts, and Foreign Currency	30 Minutes
Invoices for POs with Account Assignment	60 Minutes
Exercise 13: Invoices for POs with Account Assignment	20 Minutes
Unit 6: Variances and Invoice Blocks	
Variances and Blocking Reasons	105 Minutes
Exercise 14: Variances and Blocking Reasons	25 Minutes
Invoice Reduction	60 Minutes
Exercise 15: Invoice Reduction	15 Minutes
Variances Without Reference to an Item	45 Minutes
Exercise 16: Variances Without Reference to an Item	30 Minutes
Releasing Blocked Invoices	60 Minutes
Exercise 17: Releasing Blocked Invoices	20 Minutes
Unit 7: Subsequent Debits/Credits, Delivery Costs, and Credit Memos	
Subsequent Debit/Credit	45 Minutes

Exercise 18: Subsequent Debits/Credits	15 Minutes
Delivery Costs	90 Minutes
Exercise 19: Delivery Costs	30 Minutes
Invoices Without Reference to Purchase Orders	45 Minutes
Exercise 20: Invoices Without Reference to Purchase Orders	20 Minutes
Credit Memos and Reversals	45 Minutes
Exercise 21: Credit Memos and Reversals	25 Minutes

Unit 8: Automated Processes in Invoice Verification

Invoice Verification in the Background	60 Minutes
Exercise 22: Invoice Verification in the Background	30 Minutes
Automatic Settlements	45 Minutes
Exercise 23: Automatic Settlements	15 Minutes

Unit 9: GR/IR Account Maintenance and Customizing

GR/IR Account Maintenance	45 Minutes
Exercise 24: GR/IR Account Maintenance	15 Minutes
Customizing for Invoice Verification	60 Minutes
Exercise 25: Optional: Customizing for Invoice Verification	20 Minutes



Course Goals

This course will prepare you to:



- Use the various options for optimizing purchasing operations and list their prerequisites
- Describe additional functions in Purchasing
- Enter invoices with and without reference to purchase orders
- Block invoices
- Release invoices for payment



Course Objectives

After completing this course, you will be able to:

- Create and manage different types of supply sources
- Use source lists and quota arrangement for controlling automatic supply source determination
- Execute automatic supply source determination
- Convert purchase requisitions into purchase orders efficiently
- Enter invoices for inventory and non-inventory items
- Describe the updates and account postings that result from invoice entry
- Change discounts and taxes during invoice entry

- Set tolerances for prices, quantities and amounts, and release blocked invoices
- Enter planned and unplanned delivery costs in the invoice
- Post invoices in the background
- Adjust amounts by using invoice reduction
- Perform evaluated receipt settlements
- Maintain the GR/IR clearing account
- Configure the Invoice Verification functions

SAP Software Component Information

The information in this course pertains to the following SAP Software Components and releases:



- **Necessary knowledge on the part of the instructor**

Course TSCM50 Procurement I, Part 2 of 2 builds upon the contents discussed in course TSCM50 Procurement I, Part 1 of 2. The instructor for this course should know the content of the first part and be familiar with all purchasing and Logistics Invoice Verification topics. Knowledge of the relevant areas in Customizing is also necessary here.

In preparation for this course, each instructor should at least have read this manual. It is also desirable to have read the relevant online documentation. SAP also urgently recommends that you run through all exercises at least once and thoroughly prepare and test all system demonstrations in advance.

This instructor's manual does not render your own preparation for the course unnecessary - it is merely intended to support such preparation.

- **System preparation**

The course documentation is based on an SAP system, Release ECC 6.0.

The users must be created in the SAP system with transaction ZUSR. The standard format for the user IDs is **TSCM50-##**. You can use user **SCM520-99** as a template.

If a different user ID is used as a template, you should ensure that parameter EVO is assigned with the value 04 in participants' user master data.

CATTs

For this course there is a CATT **ZT_TSCM50** that must have run before the course starts. This CATT generates the master data (materials, vendors, info records) and changes Customizing settings. The CATT is run automatically for groups 00 to 30 (or 20) prior to the start of the course. (If this should not be the case, please contact the CATT group.) It takes about 30 minutes to

run the CATT. If you need the CATT to be run in a system at short notice, tell the CATT group how many groups are required, as a lower number of groups reduces the runtime.

The CATT team requires the following information in order to process your request quickly:

- System and client in which the CATT is to be run.
- Name of the CATT (ZT_TSCM50)
- Course for which this CATT is required (TSCM50). If you do not enter the course name, you cannot check whether the system is booked for this course.
- Number of groups required (maximum 00 through 30)

The ISM Homepage in the Corporate Portal contains a CATT request , “Request for CATT Execution”, that you can use to request a CATT execution.

The instructor must run program **ZSENQOFF** (transaction SA38), so that all course participants can work in Customizing simultaneously.

If you work with more than 20 groups in the exercise:

The necessary data has been completely created for group numbers 00 to 30. However, purchasing group **Z21** has the description **SCM521- Buyer**, since this group is used in course SCM521. The description of this purchasing group should therefore be changed to **SCM520–21** accordingly in this course.

- **General Notes for the Course**

The following procedure has proved successful in the past:

The instructor should first briefly discuss the most important information using the slides and then give a detailed system demonstration. Each instructor must decide for him- or herself in advance at which points it is useful to interrupt the slide show with a system demonstration. Particularly in the case of longer topics, it is not a good idea to show **all** slides of a unit before carrying out the relevant system demonstration.

The demonstration should be based on the relevant exercises in the lesson and, as far as possible, cover everything that the participants will subsequently need to do the exercises.

As a result, there is no need for an exhaustive discussion or repetition of the exercise in the system by the instructor. However, the instructor should give the participants the opportunity to have open questions clarified at the end of the exercise.

Since the training material includes both the exercises and solutions, the hints for instructors only include suggestions for **additional** system demonstrations. These serve to consolidate knowledge of topics not covered by the content of the exercises.

However, you should note that in most cases the exercises build on each other. If the instructor decides not to maintain the relevant master data during the system demonstration, he or she must ensure that the data is prepared for subsequent demonstrations.

The instructor can either use a free user group for the purpose of the demonstration or work with his or her own user.



Caution: System data is specified for trainer demos and exercises in the instructor handbook. Since these training materials have largely been created using other standard training course materials, some information, such as the users may not match the information for this course. e.g. User SCM500-## instead of the user for this course TSCM50-## . In this case, you should always use the information that is specific to the course TSCM50.

Unit 1



Sources of Supply



In this unit, all sources of supply should be discussed in detail and their different uses explained. Participants should already be familiar with the info record and the problems associated with the info update from course TSCM50.

Unit Overview

In this unit, you learn how to define vendor-specific material prices in the system. These data records are generally referred to as sources of supply. Possible sources of supply are purchasing information records and outline purchase agreements (contracts and scheduling agreements).



Unit Objectives

After completing this unit, you will be able to:

- Distinguish between and create purchasing info records with and without material master records
- Distinguish between and create cross-plant and plant-specific purchasing info records
- Create conditions in purchasing info records
- Distinguish between different forms of contract
- Differentiate between and use item categories M and W in contracts
- Create centrally agreed contracts with plant conditions
- Create contract release orders for different types of contract item
- Enumerate the advantages of using scheduling agreements
- Differentiate between the various types of scheduling agreement
- Create scheduling agreements, SA delivery schedules and SA releases and generate these automatically
- Describe the functions of the release creation profile
- Distinguish between forecast and JIT delivery schedules

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Lesson: Contract.....	25
Exercise 2: Contract	37
Lesson: Scheduling Agreement.....	47
Exercise 3: Scheduling Agreement	63

Lesson: Purchasing Information Record



Lesson Duration: 100 Minutes

Lesson Overview

In this lesson, you will learn about using purchasing information records as non-binding sources of materials with and without material master records.



Lesson Objectives

After completing this lesson, you will be able to:

- Distinguish between and create purchasing info records with and without material master records
- Distinguish between and create cross-plant and plant-specific purchasing info records
- Create conditions in purchasing info records



Course participants should be familiar with the creation and administration of info records from course SCM500. However, again and again we discover that participants lack sufficient knowledge of this topic. The instructor should bear this in mind when deciding how thoroughly to deal with it in this course. The degree of detail in which the initial slides on this subject are discussed is up to the instructor.

As a rule, the subject of info records for material groups and their use in purchase orders is new to course participants.

Additional system demonstration:

Since the use and maintenance of conditions is also discussed in this lesson, it may be useful for the instructor to show the most important Customizing settings for condition types and calculation schemas.

The instructor should point out that price determination is dealt with in detail in course SCM521.

Time needed for exercise: approx. 45 min.

Business Example

You would like to create purchasing information records as sources in the system as you are repeatedly procuring certain materials from the same vendors at the same conditions. You would also like to use this as the basis for source determination. As you often procure consumable materials at the same conditions and want to use source determination for this too, you also create purchasing information records without a material reference.

Possible Sources of Supply

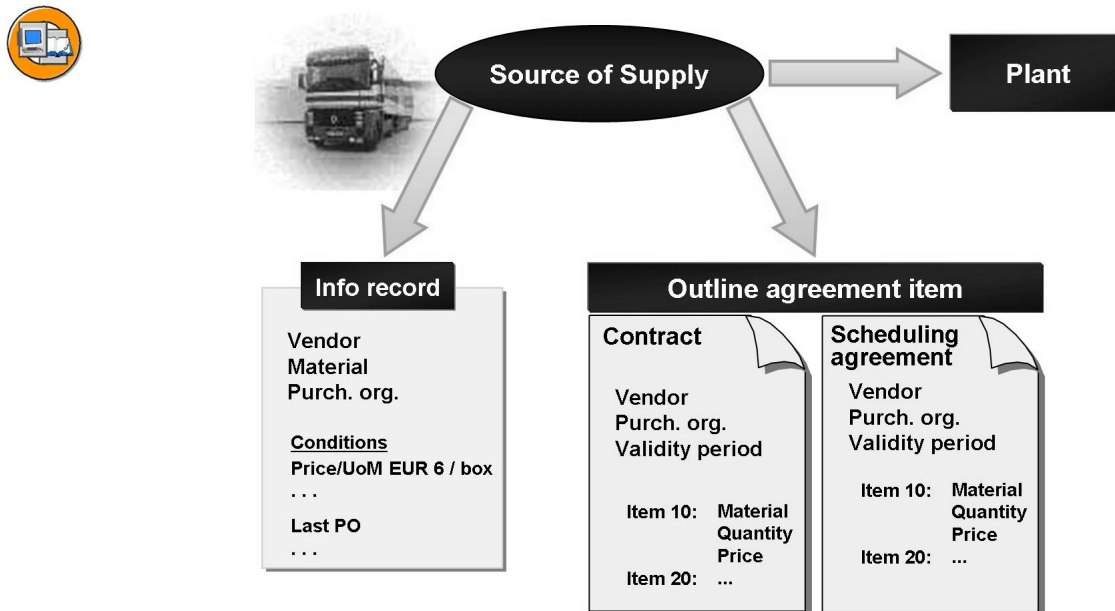


Figure 1: Sources of Supply: Overview

Purchasing Information Record

The purchasing information record (or info record for short) is a source of information for the purchasing department. It contains data on a certain material and the supplier of this material. It can contain data such as the vendor's current price for the material. The prices and other data stored in the info record are used as default values in documents such as purchase orders.

Outline agreement items

An outline purchase agreement is a longer-term arrangement between a purchasing organization and a vendor covering the supply of materials or the provision of services subject to predetermined conditions. These apply for a predefined period and a predefined total purchase quantity or certain total purchase value. The two types of outline agreement are contracts and scheduling agreements.

Plant

If external procurement is to be made by stock transfer from another plant, you do not need to maintain any special data in Purchasing, as an internal settlement will normally take place. It is also possible to create plants as vendors however. To do this, a plant assignment must be entered when maintaining the vendor master record.

Data in the Purchasing Information Record

The purchasing info record contains data on a certain material and the supplier of this material.

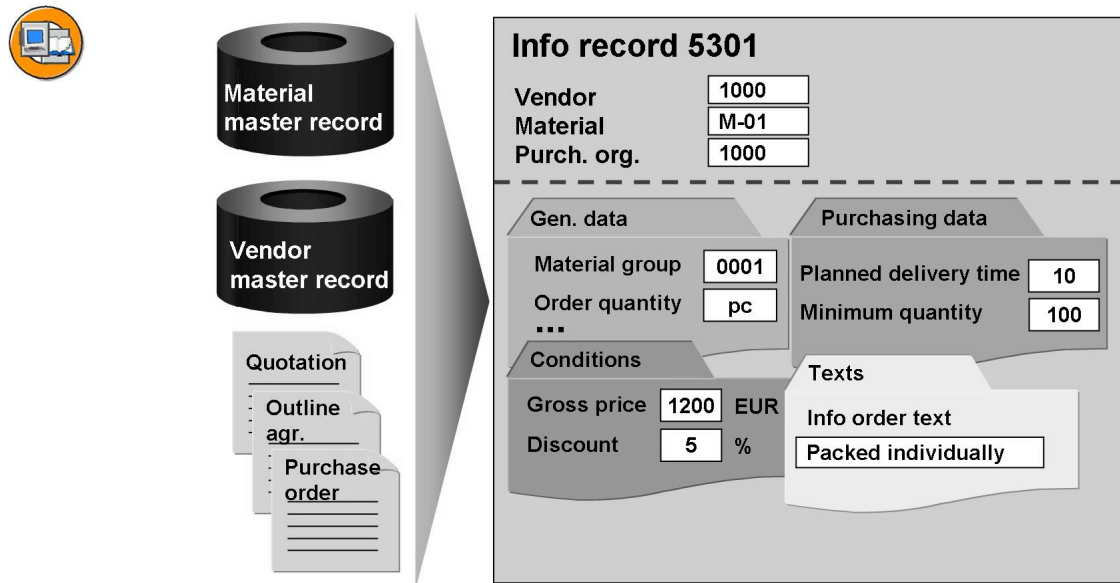


Figure 2: Purchasing Info Record

When you create an info record, data is pulled from the material and vendor master records and inserted in the info record as default values. If the info record is to be generated automatically using the info update indicator, additional data

from the relevant document is transferred to the info record as default values - for example, conditions from the quotation or the purchase order document number is transferred to the info record. An info record contains information such as:

- The current prices and delivery costs for the responsible purchasing organization or plant
- Material number of vendor
- Delivery options (from date or to date)
- Source data
- The number of the last purchase order
- The number of the quotation, if the info record has been generated automatically
- Price control indicator
- Tolerance limits for over- or underdeliveries
- The vendor's planned delivery time for the material

List display functions for info records enable the buyer to find out which materials a certain vendor has quoted for or supplied to date, and which vendors can quote for or supply a certain material. An info record can apply to either all plants or just a single plant of a purchasing organization. Info records can be generated manually or automatically when a quotation, a PO, or an outline agreement is created.

Create/change/display info record:

*SAP Menu → Logistics → Materials Management → Purchasing → Master Data
→ Info Record → Create / Change / Display*

Conditions

Conditions represent stipulations agreed with vendors with respect to prices, discounts and surcharges, freight costs, and so on. Such conditions can be created in quotations, info records, outline agreements, and purchase orders.

You also have the option of maintaining general conditions at vendor level, for instance. The system then applies the conditions in addition to determine price determination in purchasing documents. You can enter further conditions manually in the purchasing document itself.

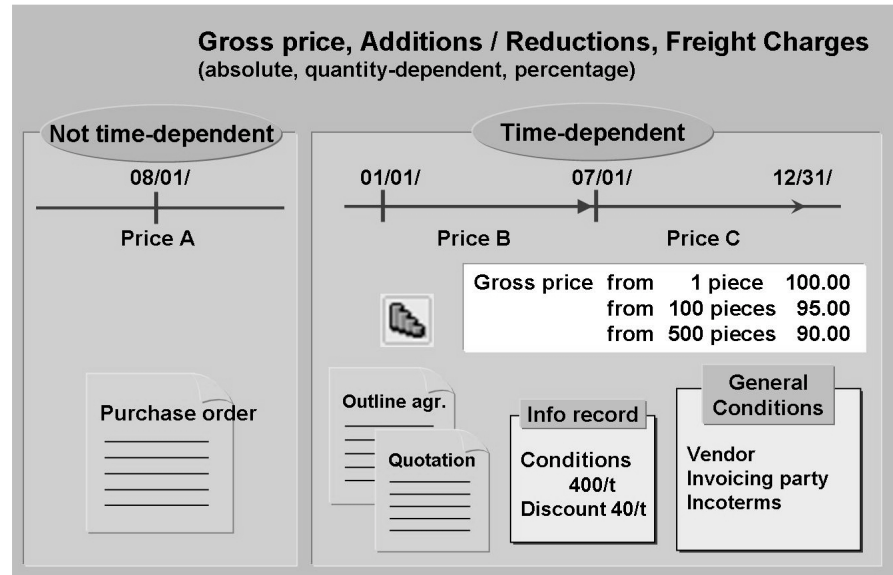


Figure 3: Conditions

Create general conditions:

SAP Menu → Logistics → Materials Management → Purchasing → Master Data → Conditions → Discounts/Surcharges → By Vendor / By Invoicing Party etc.

There are conditions that are valid for a certain period, and conditions for which no definite validity period can be specified. In the latter case, the validity of the conditions corresponds to that of the purchasing document in question.

The conditions in POs are always time-independent. Those in info records and contracts are always time-dependent (as are general conditions).

In the case of scheduling agreements and quotations, the document type determines whether time-dependent or time-independent conditions can be created. You can set the *Time-Dependent Conditions* indicator in Customizing for the document type to enable time-dependent conditions to be maintained in scheduling agreements and quotations.

Define time-dependency in scheduling agreements and quotations:

SAP Customizing Implementation Guide → Materials Management → Purchasing → RFQ/Quotation or Scheduling Agreement → Define Document Types

For time-dependent conditions, you can define validity periods and scales. You can also specify a price range (upper/lower limit). If the system adopts these conditions in a purchase order and the condition is then changed in the PO, causing the price range to be exceeded or undercut, the system issues an error message.

Conditions can be specified in the document header or in the item details. Item conditions apply exclusively to the relevant item, whereas header conditions are valid for all items of the document.

Calculation Schema



Level	Counter	Cond. type	Description	Of	...
1	1	PB00	Gross price		
10	1	RB00	Absolute discount		
...			
10	9	ZA01	% allowance of gross	1	
...			
20	0		Net value inc. discount		
...			
31	1	FRA1	Freight %	20	
...			
35	1	SKTO	Cash discount	20	
40	0		Effective price		

Figure 4: Calculation Schema

The calculation schema constitutes a set of rules for determining the purchase price. In the standard calculation schema, the elements of the purchase price (gross price, net price, and effective price) are defined as follows:

Gross price

Price without taking any other conditions (such as discounts/surcharges or delivery costs) into account (vendor's net price)

Net price

Price taking into account discounts and surcharges with reference to the gross price but excluding delivery costs

Effective price

Net price less cash discount and including miscellaneous provisions, delivery costs, and non-deductible tax

The calculation schema groups together all **condition types** that exert an influence in determining the price. It defines the sequence in which the condition types are applied in the price calculation.

Condition types are keys defined in Customizing to control how the conditions are used. For example, in the standard system, condition type PB00 represents a quantity-dependent gross price.

Other important control settings for the condition type are:

- **Group condition:** This indicator is used to control whether, for example, a scale is not to be calculated for each item but for all items of a purchasing document.
- **Header condition / item condition:** Header conditions can be entered in the document header and apply to every document item, item conditions are entered in the document item and only apply to that item. A condition type can be both a header condition or an item condition.
- **Condition class:** The condition type can be defined as a price, markup or discount, for example.
- **Calculation rule:** This is used to determine whether the condition type is a fixed amount or whether it is to depend on the purchase order quantity or the purchase order value.
- **Plus/minus sign:** The plus/minus sign determines if the condition type is calculated as a markup or discount.

The condition type is also used to define the reference magnitude for **scales**. The scale can relate to the quantity, the item value, or the delivery costs, for example.

Furthermore, the calculation schema defines the following:

- Which subtotals are formed with which condition types
- Which condition types are allowed in the document or info record
- The sequence in which the condition types are applied in calculating the net price
- Which condition types are specified in the message to the vendor



Hint: You can define various calculation schemas (for individual purchasing organizations and/or vendors, for example). In the standard system, schema RM0000 is provided for the purpose of price determination in purchasing documents.

Define condition types:

SAP Customizing Implementation Guide → Materials Management → Purchasing → Conditions → Define Price Determination Process → Define Condition Types

Define calculation schema:

SAP Customizing Implementation Guide → Materials Management → Purchasing → Conditions → Define Price Determination Process → Define Calculation Schema

Default Price in Purchase Order

An info record can contain quotation and purchase order data in addition to material- and vendor-specific data. The data in the info record (for example, price, or planned delivery time) is used as default data for purchase orders.

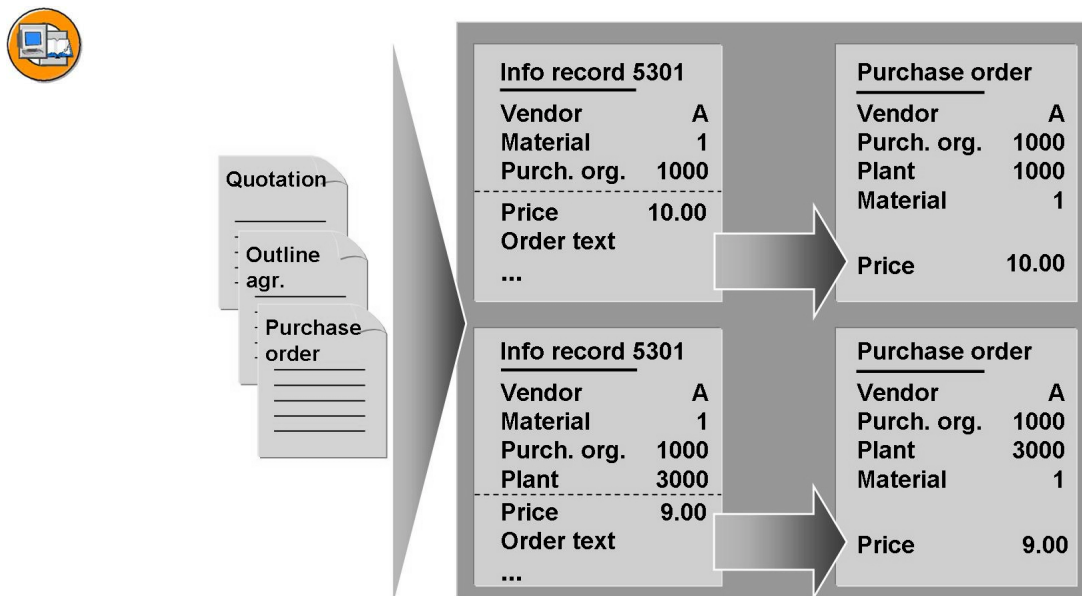


Figure 5: Default Price from Info Record

You can store data such as current and future quotation conditions (discounts/surcharges, fixed costs, and so on) in the info record so you can adopt them in subsequently created POs. You can also store the vendor's conditions directly in the info record.

A purchasing info record can apply to either all plants or a single plant in a purchasing organization.

With default data for purchasing documents, whether an info record contains data on purchasing organization level and/or plant level is critical. If data exists only on purchasing organization level, then this data is suggested in the purchasing documents for every plant of this purchasing organization. If plant-specific data exists in the info record however, this is only proposed when a purchase order is created for the corresponding plant.

The current conditions from the info record are always suggested. You can use the pricing date category to find different conditions, for example, those dependent on the delivery date. If you wish to use the pricing date category **GR Date**, you must also select GR-based invoice verification.

Info records can be created manually or automatically when a quotation, a PO, or an outline agreement is created. Purchase order data is automatically updated in the info record if the *Info Update* indicator has been set in the PO.



Hint: Conditions are **never** created or updated on the basis of the info update indicator in a purchase order.

Texts

For an info record referencing a material master record, you can specify the following per purchasing organization or plant:

- Whether only the info record purchase order text is to be displayed and printed in purchasing documents. To do this, set the *No Mat. Text* indicator in the purchasing organization data of the info record.
- The info record PO text **and** the purchase order text from the material master record will be displayed and printed in purchasing documents. Both texts are displayed and printed if the *No Mat. Text* indicator is not set.

Special Types of Info Records

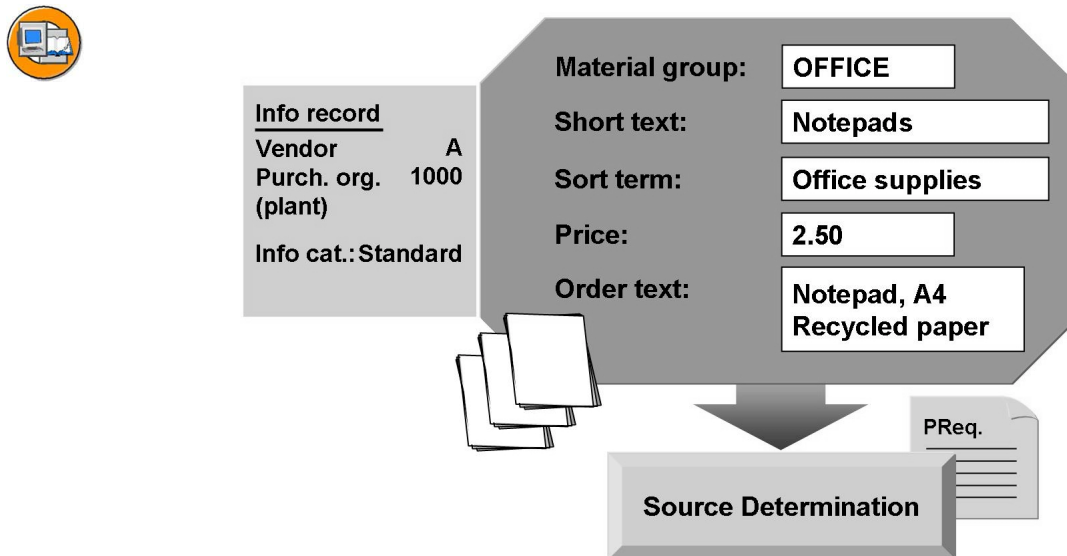


Figure 6: Info Record for Material Group

There are two types of info record:

- **Info records with material master record (for example, stock material)**
These reflect the relationship between a material or service with a material master record and a vendor.
- **Info records without material master record (for example, consumable material)**
These reflect the relationship between a material or service without a material master record and a vendor.

Info records can be suggested by the system as a source for material groups as sources when you manually create a requisition item without a material master record.

The system does not automatically take info records for material groups into account when you create a purchase order. However, you can choose and assign them in the item overview using the search help *Info Records for Material Group* on the relevant field. The order unit and the material group are taken into account as checking criteria.

Info records can also be created for external processing without a material reference. These frequently have the subcontracting info type and are used in work plans. If a production order is created with an external processing operation for which an info record has been entered, a requisition is generated automatically for external processing.



Hint: As of R/3 Enterprise a program has been available with which you can compare the actual delivery times with the planned delivery time from the info record and the material master record. The result enables you to automatically update the corresponding times. You can find this program under *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Planned Delivery Time Calculation*



Exercise 1: Purchasing Information Record

Exercise Duration: 45 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create and manage material-specific and material group-specific info records

Business Example

In your enterprise, you use material-specific and material-group-specific info records.

You have been requested to create plant- and purchasing-organization-wide info records for vendor T-K520A##.

Task 1:

Create purchasing-group-wide info record.

1. Create an info record for material **T-M520C##** and vendor **T-K520A##** at the level of purchasing organization 1000 with the following data:

Planned delivery time	7
Purchasing group	Z##
Standard quantity	20
Price	8 EUR per box



Hint: The standard quantity is used as a basis for the calculation of the effective price in the vendor evaluation and for price determination when pricing scales are applicable.

Task 2:

Create info record for material group.

1. Your enterprise buys a variety of **retractable pencils** from the same vendor. No material master records are to be created for the pencils. Descriptive information on these office supplies is stored in a purchasing-organization-specific info record for the material group **ZT##** with the following data:

Continued on next page

Vendor	T-K520A##
Purchasing organization	1000
Short text	Retractable pencils 0.5 – 1 mm
Material group	ZT##
Order unit	Cardboard box (BOX)
Sort term (string)	Pencils##
Planned delivery time	5
Purchasing group	Z##
Standard quantity	5
Price	10 EUR per box
Price from 10 boxes upwards	9 EUR per box

Adopt the proposed validity period for the conditions.

Task 3:

Create purchase order.

1. Create a purchase order with the following header data:

Vendor	T-K520A##
Purchasing organization	1000 (IDES Deutschland)
Purchasing group	Z## (SCM520-##)
Company code	1000 (IDES AG)



Hint: Check whether the above values for the purchasing organization, purchasing group, and company code are included as default values in the *Personal Settings* for transaction ME21N. If not, enter the relevant default values.

Item 1:

20 boxes of material **T-M520C##** are needed in plant **1000**. Choose account assignment category **K** for cost center and assign the purchase to G/L account **400000** and cost center **1000**.

Must you enter an order price?

Continued on next page

Where does the default value for the delivery date come from?

Item 2:

Order **10 boxes of retractable pencils, 0.5 mm** for plant **1000**. Use account assignment category **K** and assign the purchase to G/L account **400000** and cost center **1000**. Since you know that an info record exists for the retractable pencils, use the search help *Info Record for Material Group* to search for a suitable info record for the sort term **pencils##** or for material group **ZT##** in the *Info Record* field of the item overview.

What order price does the system suggest?

Task 4:

Settings for purchase order text.

- Vendor **T-K520A##** also supplies material **T-M520A##**. Create an info record for purchasing organization **1000** with the following data:

Planned delivery time	7
Purchasing group	Z##
Standard quantity	100
Price	2 EUR per pc
Freight absolute (FRB1)	10 EUR

- Material **T-M520A##** is delivered by **T-K520A##** freight prepaid (carriage paid) if it is ordered for plant **1000**. Create a corresponding plant-specific info record with the following data:

Planned delivery time	3
Purchasing group	Z##
Standard quantity	100
Price	2 EUR per pc
Purchase order text	Collapsible box, corrugated cardboard CB 2.2 freight prepaid delivery

Continued on next page

Ensure that the info record PO text - not the material master PO text - is adopted in purchase orders and other purchasing documents.

3. Create the following purchase order to be issued to vendor **T-K520A##**:

Item 1:

You need **100 pc** of material **T-M520A##** for plant **1000**.

Item 2:

You need another **100 pc** of material **T-M520A##** for plant **1100**.

Which conditions were determined?

Check the PO texts for the two items. Which texts have been adopted in the purchase order?

Solution 1: Purchasing Information Record

Task 1:

Create purchasing-group-wide info record.

1. Create an info record for material **T-M520C##** and vendor **T-K520A##** at the level of purchasing organization 1000 with the following data:

Planned delivery time	7
Purchasing group	Z##
Standard quantity	20
Price	8 EUR per box



Hint: The standard quantity is used as a basis for the calculation of the effective price in the vendor evaluation and for price determination when pricing scales are applicable.

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Info Record* → *Create*

You must not enter a plant on the initial screen, or the info record will be created on a plant-specific basis. Confirm the input on the initial screen with *Enter*.

Choose *Goto* → *Purch. Org. Data 1* and enter the data listed in the table.

Task 2:

Create info record for material group.

1. Your enterprise buys a variety of **retractable pencils** from the same vendor. No material master records are to be created for the pencils. Descriptive information on these office supplies is stored in a purchasing-organization-specific info record for the material group **ZT##** with the following data:

Vendor	T-K520A##
Purchasing organization	1000
Short text	Retractable pencils 0.5 – 1 mm
Material group	ZT##

Continued on next page

Order unit	Cardboard box (BOX)
Sort term (string)	Pencils##
Planned delivery time	5
Purchasing group	Z##
Standard quantity	5
Price	10 EUR per box
Price from 10 boxes upwards	9 EUR per box

Adopt the proposed validity period for the conditions.

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Info Record* → *Create*

No material and plant may be specified on the initial screen. Confirm the input on the initial screen with *Enter*.

On the *General Data* screen, enter the short text, the material group, the purchase order unit of measure, and the sort term (sort string).

Choose *Goto* → *Purch. Org. Data 1* and define the planned delivery time and the purchasing group. First enter **10 EUR** in the *Net Price* field.

Then choose *Conditions*.

Select the line with the condition type **PB00** and choose *Goto* → *Scales*. Enter the price for 1 or more boxes in the first line and the price for 10 or more in the second line.

Task 3:

Create purchase order.

1. Create a purchase order with the following header data:

Vendor	T-K520A##
Purchasing organization	1000 (IDES Deutschland)
Purchasing group	Z## (SCM520-##)
Company code	1000 (IDES AG)



Hint: Check whether the above values for the purchasing organization, purchasing group, and company code are included as default values in the *Personal Settings* for transaction ME21N. If not, enter the relevant default values.

Continued on next page

Item 1:

20 boxes of material **T-M520C##** are needed in plant **1000**. Choose account assignment category **K** for cost center and assign the purchase to G/L account **400000** and cost center **1000**.

Must you enter an order price?

Where does the default value for the delivery date come from?

Item 2:

Order **10 boxes of retractable pencils, 0.5 mm** for plant **1000**. Use account assignment category **K** and assign the purchase to G/L account **400000** and cost center **1000**. Since you know that an info record exists for the retractable pencils, use the search help *Info Record for Material Group* to search for a suitable info record for the sort term **pencils##** or for material group **ZT##** in the *Info Record* field of the item overview.

What order price does the system suggest?

- a) *SAP Menu → Logistics → Materials Management → Purchasing → Purchase Order → Create → Vendor/Supplying Plant Known*
- b) **Item 1:** The data from the info record created in Task 1 is adopted in the PO item as default data. The suggested delivery date was calculated from the planned delivery time stored in the info record.
- c) **Item 2:** In the standard system, info records for a material group are not automatically taken into account in a PO item. Only when the number of the relevant info record has been entered in the *Info Record* field and confirmed with *Enter* are the default values adopted in the PO item.

A purchase order price of 9 EUR per box is defaulted from the info record.

Task 4:

Settings for purchase order text.

1. Vendor **T-K520A##** also supplies material **T-M520A##**. Create an info record for purchasing organization **1000** with the following data:

Continued on next page

Planned delivery time	7
Purchasing group	Z##
Standard quantity	100
Price	2 EUR per pc
Freight absolute (FRB1)	10 EUR

- a) *SAP Menu → Logistics → Materials Management → Purchasing → Master Data → Info Record → Create*
2. Material **T-M520A##** is delivered by **T-K520A##** freight prepaid (carriage paid) if it is ordered for plant **1000**. Create a corresponding plant-specific info record with the following data:

Planned delivery time	3
Purchasing group	Z##
Standard quantity	100
Price	2 EUR per pc
Purchase order text	Collapsible box, corrugated cardboard CB 2.2 freight prepaid delivery

Ensure that the info record PO text - not the material master PO text - is adopted in purchase orders and other purchasing documents.

- a) *SAP Menu → Logistics → Materials Management → Purchasing → Master Data → Info Record → Create*

Since the vendor for plant 1000 delivers freight prepaid, purchasing-organization-wide conditions cannot be adopted. Choose *Conditions* and enter the agreed price.

To ensure that the PO text is not taken from the material master record, set the *No Mat. Text* indicator on the *Purchasing Organization Data 1* screen.

3. Create the following purchase order to be issued to vendor **T-K520A##**:

Item 1:

You need **100 pc** of material **T-M520A##** for plant **1000**.

Item 2:

You need another **100 pc** of material **T-M520A##** for plant **1100**.

Which conditions were determined?

Continued on next page

Check the PO texts for the two items. Which texts have been adopted in the purchase order?

a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known*

b) **Condition types:**

The individual conditions from which the effective price of the PO item is derived are displayed on the *Conditions* tab page. An effective price of 1.94 EUR per piece is suggested for the first item (plant 1000). This price is calculated from the gross price amounting to 2 EUR (condition type PB00) and the cash discount of 3% (condition type SKTO).

An effective price of 2.04 EUR per pc is suggested for the second item (plant 1100). In the case of plant 1100, the flat-rate freight condition amounting to 10 EUR (condition type FRB1) has to be additionally taken into account. This means that a freight surcharge of 0.10 EUR is added.

c) **Texts:**

The PO texts are displayed on the *Texts* tab page.

The info record purchase order text is displayed for the first item (plant 1000)

The material master purchase order text is displayed for the second item (plant 1100)



Lesson Summary

You should now be able to:

- Distinguish between and create purchasing info records with and without material master records
- Distinguish between and create cross-plant and plant-specific purchasing info records
- Create conditions in purchasing info records

Lesson: Contract



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Lesson Duration: 100 Minutes

Lesson Overview

In this lesson, the contract is presented as a further possible source of supply. In addition to different types of contract, you will be introduced to the contract-specific item categories M and W. Furthermore, you will learn to differentiate between plant-specific and cross-plant contract items. In the case of the cross-plant contracts (centrally agreed contracts), you have the additional option of defining plant-specific prices and partner roles.



Lesson Objectives

After completing this lesson, you will be able to:

- Distinguish between different forms of contract
- Differentiate between and use item categories M and W in contracts
- Create centrally agreed contracts with plant conditions
- Create contract release orders for different types of contract item



This lesson deals with both maintenance of various types of contract items and the creation of purchase orders with reference to contracts. The creation of POs referencing contracts is to be principally carried out via the document overview. This provides the opportunity of discussing in detail the necessary settings for the document overview.

With regard to the creation of release orders against a centrally agreed contract, you can also discuss the consequence of partner roles that have already been defined in the vendor master record.

Additional system demonstration:

- Show the necessary settings for the document overview (create selection variant; change, save and manage drilldown and layout).
- For the centrally-agreed contract, you could use a vendor for whom, in the master record, a different invoicing party has been defined at purchasing organization and plant levels, for example. In the first example, the issue of a release order against the contract could be carried out for two different plants. In the second example, a contract release order could be issued only for the relevant plant with the different invoicing party. In the process, care should be taken that the *End* indicator has been set for the partner role used in the partner schema for purchase orders.
- Show list displays for contracts with the selection parameter *Expiry* and the relevant settings for the selection parameter in Customizing.
- Show the Customizing settings for system messages in Purchasing. Change the attribute of message no. 06 078 (target model overrun) to error message, for example.

Time needed for exercise: approx. 45 min.

Business Example

In Purchasing, you would like to make a long-term delivery contract with your vendor. For this reason, you enter contracts as sources. Contracts are a way of defining and storing conditions agreed with vendors in the system.

Prices negotiated centrally (that is, for an entire corporate group) are represented in the form of centrally-agreed contracts. These can later be used as a basis for creating plant-specific contract calls or scheduling agreements.

Outline Agreement

An outline purchase agreement is a longer-term arrangement with a vendor covering the supply of materials or the provision of services, subject to predetermined conditions. These apply for a predefined period and a predefined total purchase quantity or certain total purchase value.

For long-term outline agreements, you can also store several condition records for each item if, for instance, the outline agreement is to last five years and prices within this validity period are to decrease annually by three percent.

An outline agreement does not contain data on specific delivery dates or quantities to be delivered. This data is transmitted to the vendor in one of two ways, depending on the type of outline agreement. You notify the vendor of quantities and delivery dates either in a specialized form of purchase order called a contract release order, or in a delivery schedule.

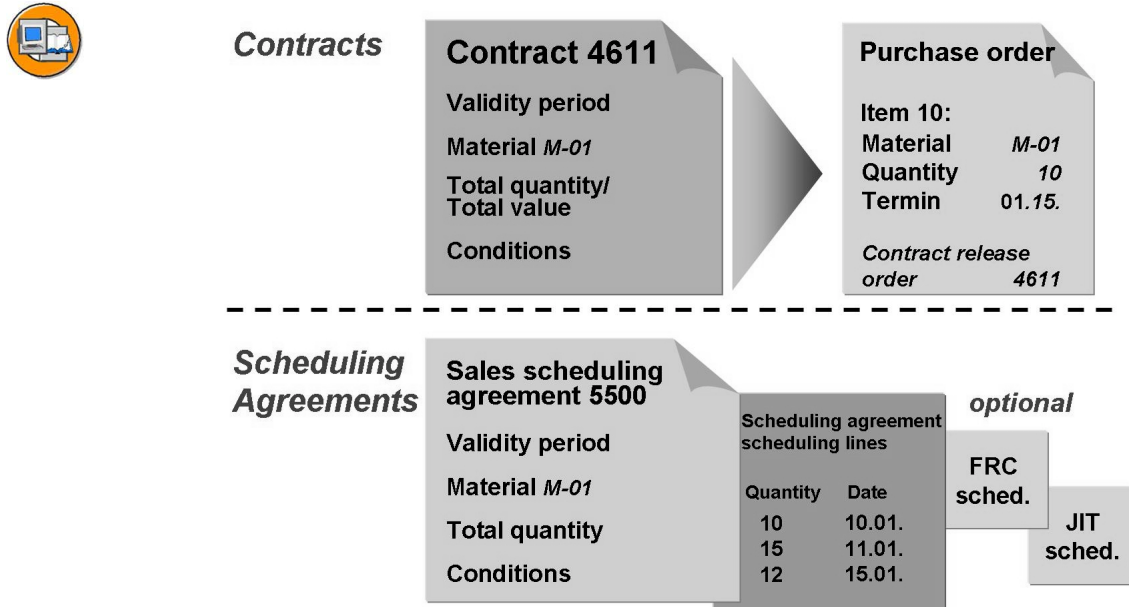


Figure 7: Outline Purchase Agreements: Overview

An outline agreement can be a contract or a scheduling agreement. There are two key differences in the use of these two agreement types:

- The volume of documents
In the case of the contract, as a rule, you create a new purchase order in the system each time you release goods or services against the contract. With the scheduling agreement, on the other hand, there is only one further document apart from the agreement document; this is the delivery schedule, which is continually extended as new requirement quantities and delivery dates are added.
- Use in automatic materials planning
Requirements planning can be set up in such a way that the contract item is automatically assigned to a requisition item as the source of supply. However, this requisition must subsequently be converted into a purchase order (contract release order). In the case of the scheduling agreement, it is possible to directly generate scheduling agreement delivery schedules from the planning run, thus removing the need for any further processing time in the purchasing department.

Create/change/display outline agreement:

SAP Menu → Logistics → Materials Management → Purchasing → Outline Agreement → Contract / Scheduling Agreement → Create / Change / Display

Use of Contracts

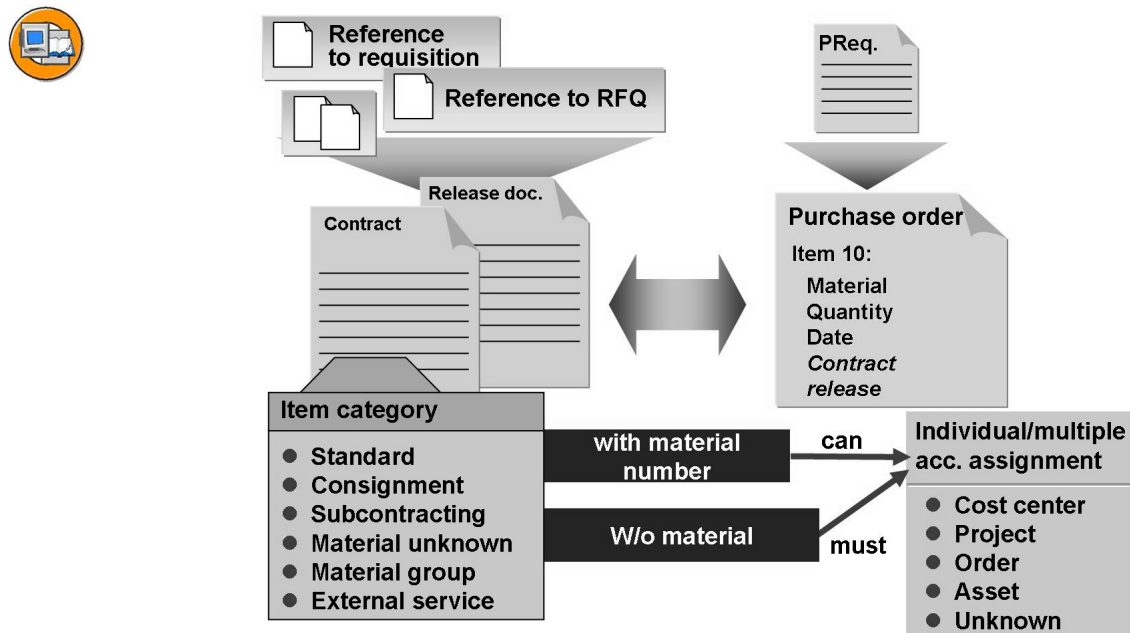


Figure 8: Working with Contracts: Overview

Contracts can be created without reference to a purchase requisition, an outline agreement requisition an RFQ or another contract.

Various item categories can be used. The item category influences document field control.

If the contract item is a stock material item, at the very least purchasing and accounting data must have been created in the relevant material master record. If the item is for a consumable material, the account assignment data may already be stored in the contract. Alternatively, you can use account assignment category U. The use of account assignment category U means that the account assignment data is specified for the first time in the contract release order.

The release documentation for the contract item is updated for each PO item created with reference to a contract. The system provides the following data for each release order:



- The number of the PO and the relevant item
- The order date
- The order quantity
- The order value

The release documentation also includes the quantity or value already released and the target quantity in comparison with the still open quantity, or the target value in comparison with the still open value.

Whether the release documentation is updated with reference to the target value of the contract, or the target quantity of each individual contract item, depends on the agreement type used.



Quantity contract

Contract 4611	
 Validity period:	01/01/05 – 31/12/09
 Material:	M-01
Total quantity:	10,000
Price:	1,200.00
...	

Value contract



Contract 4612	
 Validity period:	01/01/05 – 31/12/09
Total value:	120,000.00
 10 material:	M-01
20 material:	M-02
...	

Figure 9: Contract Types

There are three types of contract:

- **Quantity contract**
The contract is fulfilled when a stipulated target quantity per contract item is reached as a result of the issue of release orders.
- **Value contract**
The contract is fulfilled when a stipulated overall target value (total value of all items) is reached as a result of the issue of release orders.
- **Distributed contracts**
These are centrally-agreed contracts that are made available to other SAP systems for the issue of release orders against the contract. You can create contracts in one SAP system then make them available to other independent SAP systems (that is, distribute them to other systems). The central system in which the contract is created and the local systems that also procure using this contract are all separate, independent SAP systems. The data must therefore be kept identical in each individual system. In order for changes to be continually compared and reconciled, thus ensuring that all the systems involved always have the correct data, data is exchanged via Application Link Enabling (ALE).

You choose the contract type **quantity contract** (MK) if the total quantity of each item to be ordered over the duration of the contract is known. After specifying the validity period of the contract in the header data, you must enter the target quantity at item level. Specification of the total value in the header data is optional.

You choose the contract type **value contract** (WK) if the total value of all release orders issued against this contract is not to exceed a certain amount. The target value must therefore be specified in the header data of the value contract in addition to the validity period. Materials that are to be called with reference to the value contract have to be entered at item level. You can also enter the target quantities for the material in question, though this is not mandatory.



Hint: You can list all contracts that are due to expire in the near future. The analysis, which is based on a suitable selection parameter, is run over the fields *Target Value* and *Total Release Value* for value contracts and *Target Quantity* and *Quantity Released To Date* for quantity contracts.

Contracts for Material Group

The contract-specific item categories M (material unknown) and W (material group) are available to represent contractual agreements for groups of materials.



Item category M = material unknown				Item category W = material group			
Contract				Contract			
<u>ICat</u>	<u>Mat.</u>	<u>Short text</u>		<u>ICat</u>	<u>Mat.</u>	<u>Short text</u>	
	<u>Material group</u>	<u>Quantity</u>	<u>Price</u>		<u>Material group</u>	<u>Quantity</u>	<u>Price</u>
M	Office	Notepads 1000 pc	2.50	W	Cable	various cables	
Contract release				Contract release			
<u>Acc. type</u>	<u>Mat.</u>	<u>Short text</u>	<u>Price</u>	<u>Acc. type</u>	<u>Mat.</u>	<u>Short text</u>	<u>Price</u>
K	B100	Block, lined Block, squared	2.50 2.50	K		NYN 4x50 NYM315I Sheathed cable	28.00 0.40

Figure 10: Item Categories M and W

The item categories M and W are intended for the entry of contract items without specification of the material number.

Item category M

Recommended for similar materials of the same price. These can be materials with different material numbers or materials without material master records.

Example of use of item category M:

You have set up a contract with your vendor covering various types of writing paper (lined, squared, blank, two-/four-hole prepunched, etc.). The different types of paper have the same weight, the same quality, and the same price.

When entering this contract item of category M, you enter the short description, material group, target quantity, unit of measure, and price, but no material number. The short description must then be entered in the contract release order (for example, lined, two-hole prepunched).

You also have the option of releasing materials with a material master record against this contract item in the release order, provided that the material group and purchase order unit of measure agree.

Item category W

Recommended for materials belonging to the same material group but with different prices. Item category W can only be used in value contracts.

Example of use of item category W:

You have set up a contract with your vendor for various types of cable. The contract is to cover all types of cable included in the vendor's price list. However, the exact type is only determined when a purchase order is created for a certain cable. Instead of creating one contract item for each type of cable in the vendor's assortment, you could enter item category W and the appropriate material group (for example, cable). From the short text, it would then be clear that the contract item covers all types of cable supplied by the vendor in question. Each release order issued against this contract would then contain the exact specification of cable type and quantity (for example, double-shielded coax, 1 meter), and price.

When entering the contract item, you enter only the short text and the material group. You do not enter the target quantity or price. It is possible to enter additional conditions. For example, you can enter a discount in the header conditions if the vendor grants a discount on all POs referencing the contract. The discount is calculated automatically when a contract release order is created.

The price, the target quantity, and the material number are not specified until you create a release order. The item (with or without material number) must be assigned to the same material group as the contract item referenced. Items without material numbers must have a valid account assignment (such as a cost center).

Centrally Agreed Contracts

An enterprise that operates with a central purchasing organization covering several plants can often negotiate better conditions at a central level. It has the option of creating contracts that relate not to just one particular plant, but to the purchasing organization.

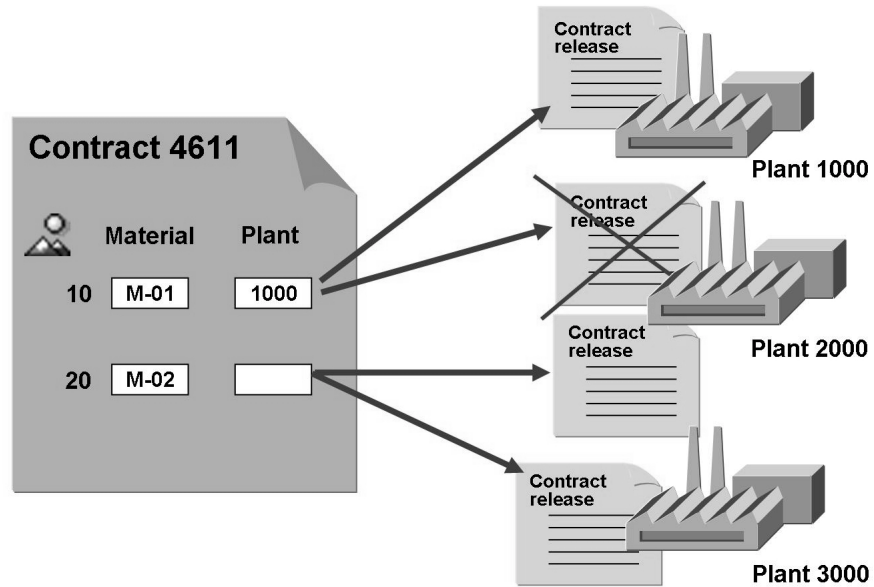


Figure 11: Items of Centrally Agreed and Plant Contracts

The plant is not specified until the contract release order is created. All plants assigned to the purchasing organization can release against a centrally-agreed contract.

In the case of plant-specific contracts, a release order can only be created for the relevant plant. In a centrally-agreed contract, you can create different conditions or partners (for example) for individual plants however.



Hint: If certain plants are not to be allowed to release against the contract, you should block the centrally agreed contract as a source in the source list for these plants.

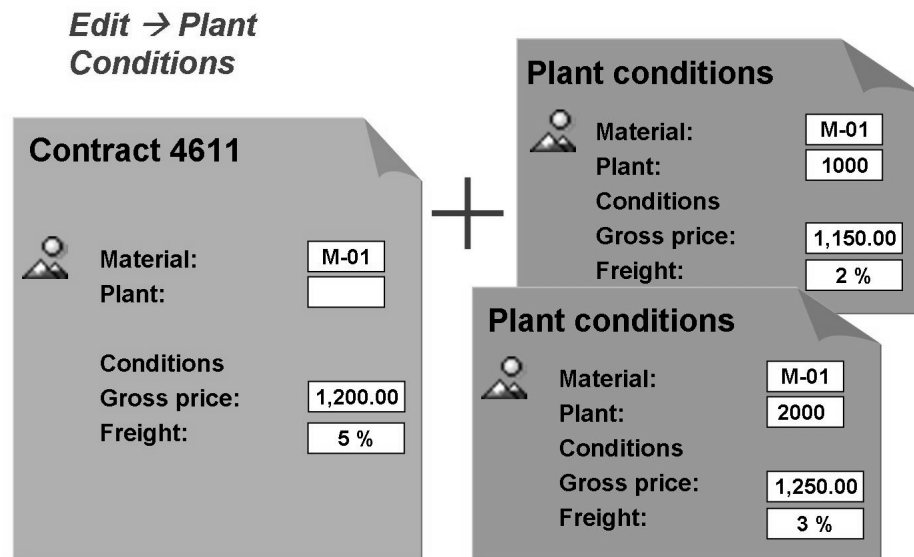


Figure 12: Plant Conditions in Centrally Agreed Contract

Centrally agreed contracts enable you to specify separate conditions for each receiving plant. This makes it possible, for example, to make due allowance for different transportation costs for different routes and distances. Plant conditions are not an supplementary conditions for the central conditions, but independent conditions for a specific plant.



Caution: Maintenance of plant conditions in centrally-agreed contracts is only possible via *Edit → Plant Conditions*.

Vendors may assume a variety of roles in the procurement process, such as ordering address, invoicing party, or forwarder/carrier. These are referred to in purchasing as **partner roles**.

You can maintain different partner roles either in the vendor master record or in each individual contract. The partners that you can define in the vendor master record are valid for a certain purchasing organization. In addition to the partners that are valid for a purchasing organization, you can create different partners for individual plants or vendor subranges in the vendor master record.

If the partners have already been defined in the vendor master record, these appear in the contract as default values. You can only maintain partner roles for the first time in the contract however.

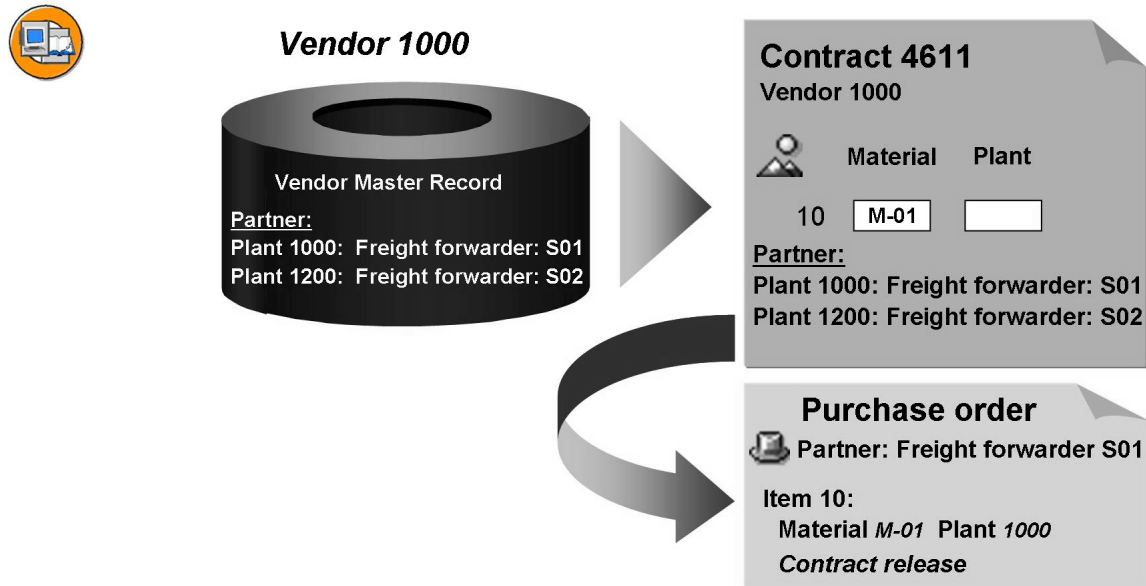


Figure 13: Partner Roles in Centrally Agreed Contract

Example of use of partner roles:

Goods supplied by vendor 1000 are delivered by different carriers. Different forwarders/carriers are defined in the vendor master record as follows: Forwarder S01 delivers only to plant 1000, forwarder S02 delivers only to plant 1200.

The partners are usually adopted as default values when creating a contract.

If a buyer wishes to issue a release order for material M-01 with reference to a centrally agreed contract with vendor 1000, he or she enters the key of the plant for which the material is to be procured. If this is plant 1000, the system determines creditor S01 as the forwarder.

If plant 1200 is entered, the system determines creditor S02 as the carrier.

Create plant specific partner in vendor master record:

SAP Menu → Logistics → Materials Management → Purchasing → Master Data → Vendor → Purchasing / Central → Create / Change:

On the *Partner Roles* screen in the vendor master record, choose *Extras → Alternative Data*. Then enter the plant on the *Create Alternative Data* screen, and select *Partner Roles*. Choose *Continue*. The *Change Vendor: Partner Roles* screen appears.

Create partner in contract:

SAP Menu → Logistics → Materials Management → Purchasing → Outline Agreement → Contract → Create / Change

In the contract, choose *Header → Partner*. The *Data Retention Level Partners* screen appears.

To create cross-purchasing-organization partners, select the first line and choose *Display Level*. You can create new partners via *New Entries*.

To create plant-specific partners, enter the relevant plant on the *Data Retention Level Partners* screen and choose *Enter*. The next screen to appear is *Maintain Partners*. Enter the desired partners and return to the item overview for the contract.



Exercise 2: Contract

Exercise Duration: 45 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create and manage contracts

Business Example

In your enterprise, you use material-specific and material-group-specific contracts.

You have been requested to create plant- and purchasing-organization-wide contracts for vendor T-K520B##.

Task 1:

Create centrally agreed contract and issue release orders.

1. You have entered into a contractual agreement with vendor **T-K520B##** regarding the purchase of **10,000 pc** of material **T-M520B##**.



Hint: To avoid having to enter purchasing group **Z##** on every initial screen, define the purchasing group with the parameter ID **EKG** and the value **Z##** in your own user data.

The validity period of the contract starts today and ends in two years. The agreement applies to all plants of purchasing organization **1000**. For two plants, the prices differ from those of the central conditions. The individual prices are set out in the following table:

Central price	5.50 EUR
Price for plant 1000	5.20 EUR
Price for plant 1100	5.30 EUR plus 2 % freight (FRA1)

The agreed planned delivery time is **10 days**. Enter the agreed planned delivery time in the additional data for the item.

Which agreement type do you use?

Continued on next page

Check whether the invoicing party defined in the vendor master record for plant 1000 has been adopted in the contract.

2. **100 pc** of material **T-M520B##** are needed in each of the plants **1000, 1100, and 1300**. Create a purchase order referencing the contract and check the default prices for the relevant plants.

Use the document overview to create the link to the contract. Define a suitable selection variant and an appropriate layout.

After saving the PO, check the partners. Has the 'different invoicing party' **T-K520A##** been adopted in the purchase order? Why or why not?

3. **Optional:** A further **20 pc** of material **T-M520B##** are needed in plant **1000**. Create a PO as a contract release order for plant 1000. After saving the PO, check the partners.

Has the 'different invoicing party' **T-K520A##** been adopted in the purchase order?

Task 2:

Create material group contract and issue release orders.

1. You have entered into a further contractual agreement with vendor **T-K520B##**.

The subject of the agreement is the purchase of a total of **5000** packing boxes. The contract, which applies only to plant **1000**, is valid for one year as of today's date. The packing boxes, which are to be delivered in **5 days**, belong to material group **008 (Packaging)**. The price is **1 EUR per pc**.

Which agreement type do you use?

Which item category do you use? Why?

Continued on next page

- Plant **1000** needs various packing boxes. Order **50 pc** of the material with the number **PK-080** and **80 packing boxes**, size **5**, with reference to the contract with vendor **T-K520B##**. There is no material master record for the size 5 packing boxes. Use account assignment category **K** and assign the packing boxes to G/L account **400000** and cost center **1000**.

After saving the PO, check the contract release order documentation.

Has the data been updated correctly?

Task 3:

Create value contract and issue release orders.

- A further contractual agreement has been set up with vendor **T-K520B##** covering various MRO items. The agreement, which applies only to plant **1000**, is valid for two years. The target value of the contract amounts to **10,000 EUR**. The agreed planned delivery time is **6 days**. The MRO items are not specified in detail in the contract. The MRO items that may be released against the contract are **sundry supplies** belonging to material group **010**.

Which agreement type do you use?

Which item category do you use?

- Plant **1000** needs lubricating oil. Referencing the value contract set up with vendor **T-K520B##**, order **500 liters** of **lubricating oil** at a price of **4 EUR per liter**. There is no master record for this material. Use account assignment category **K** and assign the purchase to G/L account **400000** and cost center **1000**.

Solution 2: Contract

Task 1:

Create centrally agreed contract and issue release orders.

1. You have entered into a contractual agreement with vendor **T-K520B##** regarding the purchase of **10,000 pc** of material **T-M520B##**.



Hint: To avoid having to enter purchasing group **Z##** on every initial screen, define the purchasing group with the parameter ID **EKG** and the value **Z##** in your own user data.

The validity period of the contract starts today and ends in two years. The agreement applies to all plants of purchasing organization **1000**. For two plants, the prices differ from those of the central conditions. The individual prices are set out in the following table:

Central price	5.50 EUR
Price for plant 1000	5.20 EUR
Price for plant 1100	5.30 EUR plus 2 % freight (FRA1)

The agreed planned delivery time is **10 days**. Enter the agreed planned delivery time in the additional data for the item.

Which agreement type do you use?

Continued on next page

Check whether the invoicing party defined in the vendor master record for plant 1000 has been adopted in the contract.

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Outline Agreement* → *Contract* → *Create*

Choose agreement type **MK** for quantity contracts.

On the initial screen, remove any default plant since this is an item of a centrally agreed contract.

Enter the validity period of the contract in the header data.

Choose *Enter* to invoke the *Item Overview* screen, on which you must specify the material, target quantity, and the central price.

To enter the conditions for plant 1000, choose *Edit* → *Plant Conditions* → *Overview*. Enter plant 1000, then choose *Enter*. Under *Item* → *Conditions*, enter the conditions for plant 1000.

To enter the conditions for the second plant, navigate back to the overview for plant conditions screen using the green arrow. Enter plant 1100, then choose *Enter*. Under *Item* → *Conditions*, enter the conditions for plant 1100. Then navigate back to the contract item overview screen.

Enter the planned delivery time under *Item* → *More Functions* → *Additional Data*.

- b) To check whether the partner roles defined in the vendor master record have been adopted, choose *Header* → *Partner*.

Select the desired line and choose *Goto* → *Display level*. Here the vendor **T-K520A##** should be entered as the invoicing party.


Navigate back to the item overview and save the contract.

2. **100 pc** of material **T-M520B##** are needed in each of the plants **1000**, **1100**, and **1300**. Create a purchase order referencing the contract and check the default prices for the relevant plants.

Use the document overview to create the link to the contract. Define a suitable selection variant and an appropriate layout.

After saving the PO, check the partners. Has the 'different invoicing party' **T-K520A##** been adopted in the purchase order? Why or why not?

Continued on next page

-
- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known*
- b) **Define selection variant:**
Choose *Document Overview*.
Define a selection variant for contracts, in which purchasing organization **1000** and purchasing group **Z##** are included as selection criteria. Remove any other parameters. Carry out the selection immediately after saving the variant. Use the variant name **Z##**.
- c) **Define layout:**
Define the breakdown and layout in accordance with your requirements and save the settings as a user-specific layout **L###**. Under *Manage Layout*, choose this layout as the presetting. Save this setting.
- d) **Contract release order:**
The document overview should show a contract with one item. Release the desired quantities against the contract by selecting the item and choosing *Adopt*. In the *Item Overview*, you must then enter the PO quantity and the relevant plant.
Repeat for the remaining two plants.
The corresponding conditions are displayed on the *Conditions* tab page.
-  **Hint:** After saving, display the purchase order by selecting your PO under *Purchase Order* → *Other Purchase Order*.
- e) **Partner determination:**
The partners determined are shown on the *Partners* tab page in the PO header. Since the purchase order was not created exclusively for plant 1000, and since no different invoicing party has been defined at purchasing organization level in the contract, this PO does not contain a different invoicing party.
3. **Optional:** A further **20 pc** of material **T-M520B##** are needed in plant **1000**. Create a PO as a contract release order for plant 1000. After saving the PO, check the partners.
Has the 'different invoicing party' **T-K520A##** been adopted in the purchase order?
-

Continued on next page

-
- a) *SAP Menu → Logistics → Materials Management → Purchasing → Purchase Order → Create → Vendor/Supplying Plant Known*

The different invoicing party T-K520A## has been adopted in the purchase order because the order is to be issued for plant 1000 only.

Task 2:

Create material group contract and issue release orders.

1. You have entered into a further contractual agreement with vendor **T-K520B##**.

The subject of the agreement is the purchase of a total of **5000** packing boxes. The contract, which applies only to plant **1000**, is valid for one year as of today's date. The packing boxes, which are to be delivered in **5 days**, belong to material group **008 (Packaging)**. The price is **1 EUR per pc**.

Which agreement type do you use?

Which item category do you use? Why?

- a) *SAP Menu → Logistics → Materials Management → Purchasing → Outline Agreement → Contract → Create*

Choose agreement type **MK** (quantity contract), because the agreement applies to a target quantity of 5000 pc.

The item category **M** (material unknown) is used for the contract item. At the time the contract is created, you do not know exactly which packing boxes will be ordered. The contract covers different kinds of boxes, which are all purchased from the vendor at the same price.

2. Plant **1000** needs various packing boxes. Order **50 pc** of the material with the number **PK-080** and **80 packing boxes**, size **5**, with reference to the contract with vendor **T-K520B##**. There is no material master record for the size 5 packing boxes. Use account assignment category **K** and assign the packing boxes to G/L account **400000** and cost center **1000**.

After saving the PO, check the contract release order documentation.

Continued on next page

Has the data been updated correctly?

- a) *SAP Menu → Logistics → Materials Management → Purchasing → Purchase Order → Create → Vendor/Supplying Plant Known*

If you have defined the document overview as described in Task 1, the contract you just created will appear in the overview.

- b) Select the contract item in the document overview and choose *Adopt*. Enter the relevant material number and the order quantity for the first item.

Repeat for the second item. In addition to entering the short text and the order quantity, you must specify the account assignment data for the packing boxes.

- c) *SAP Menu → Logistics → Materials Management → Purchasing → Outline Agreement → Contract → Display*

Choose Item → Statistics → Release Documentation.

Task 3:

Create value contract and issue release orders.

1. A further contractual agreement has been set up with vendor **T-K520B##** covering various MRO items. The agreement, which applies only to plant **1000**, is valid for two years. The target value of the contract amounts to **10,000 EUR**. The agreed planned delivery time is **6 days**. The MRO items are not specified in detail in the contract. The MRO items that may be released against the contract are **sundry supplies** belonging to material group **010**.

Which agreement type do you use?

Which item category do you use?

Continued on next page

-
- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Outline Agreement* → *Contract* → *Create*

Choose agreement type **WK** (value contract), since the agreement is for a target value of 10,000 EUR.

Item category **W** (material group) is used for the contract item because the item relates to products belonging to **one** particular material group where the prices of the individual products differ.

2. Plant **1000** needs lubricating oil. Referencing the value contract set up with vendor **T-K520B##**, order **500 liters of lubricating oil** at a price of **4 EUR per liter**. There is no master record for this material. Use account assignment category **K** and assign the purchase to G/L account **400000** and cost center **1000**.

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Create* → *Vendor/Supplying Plant Known*

If you have defined the document overview as described in Task 1, the contract you just created will appear in the overview.

- b) Select the contract item in the document overview and choose *Adopt*. Enter the relevant data in the item.



Lesson Summary

You should now be able to:

- Distinguish between different forms of contract
- Differentiate between and use item categories M and W in contracts
- Create centrally agreed contracts with plant conditions
- Create contract release orders for different types of contract item

Lesson: Scheduling Agreement



Lesson Duration: 100 Minutes

Lesson Overview

This lesson is intended to provide an overview of the advantages of using scheduling agreements. You will learn about the various types of scheduling agreement and their uses. You will also discuss the most important Customizing settings relevant to scheduling agreements.



Lesson Objectives

After completing this lesson, you will be able to:

- Enumerate the advantages of using scheduling agreements
- Differentiate between the various types of scheduling agreement
- Create scheduling agreements, SA delivery schedules and SA releases and generate these automatically
- Describe the functions of the release creation profile
- Distinguish between forecast and JIT delivery schedules



The instructor should acquaint participants with both simple scheduling agreements (type LP) and scheduling agreements with release documentation (type LPA) and discuss their respective advantages and disadvantages. In the exercises, participants can elect to tackle either task 1 (scheduling agreement of type LPA) or task 2 (scheduling agreement of type LP). The second task is intended as an alternative exercise for those participants who will not be working with agreement type LPA.

Additional system demonstration:

It is advisable to demonstrate automatic generation of scheduling agreement (SA) delivery schedules via material requirements planning (MRP) for one of the two agreement types.

If there is enough time, you could demonstrate the traffic light functionality of the scheduling agreement with release documentation using a simple example.

Time needed for exercise: approx. 35 min.

Business Example

You wish to use scheduling agreements to handle the procurement of certain materials that are to be delivered on a just-in-time (JIT) basis. Initially, the vendor is to receive a forecast delivery schedule giving him a rough overview of the quantities you need over the next 100 days. In another notification, the JIT schedule, your vendor receives the same data on a just-in-time basis.

Use of Scheduling Agreements

A scheduling agreement is a longer-term arrangement with a vendor covering the supply of materials subject to predetermined conditions. The conditions are valid for a predefined period and a predefined total purchase quantity.

Scheduling agreements have several advantages:

- Using scheduling agreements enables you to reduce processing times and the amount of paperwork within your enterprise. Scheduling agreements can replace a large number of standard POs or contract release orders.

SA delivery schedule lines do not constitute an independent document but are part of the scheduling agreement. Procurement via scheduling agreements thus enables you to reduce the volume of documents used.
- You only have to maintain low warehouse stocks as most of the stock holding is done by the vendor.
- Your vendors have long-term service commitments which enable them to negotiate more favorable conditions with respect to their vendors and this benefits you in turn. In addition you can produce continuously and automate your process.

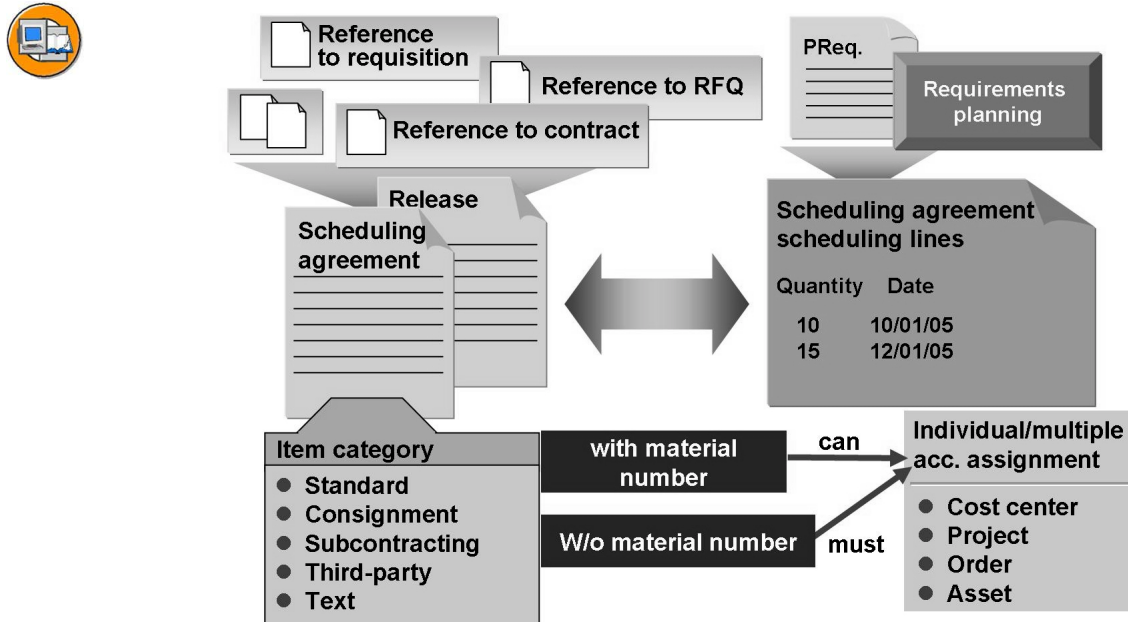


Figure 14: Working with Scheduling Agreements: Overview

Scheduling agreements can be created either with or without reference to a purchase requisition, an outline agreement requisition, an RFQ, or another scheduling agreement. Scheduling agreements can also be created with reference to a centrally-agreed contract, thus facilitating the use of centrally-negotiated prices.

When you create a scheduling agreement, the following item categories are available:

- Standard
- Consignment
- Subcontracting
- Third-party
- Text

Scheduling agreements are always plant-specific. Item categories M and W are not allowed. For scheduling agreement items with the item category subcontracting, you can enter the material components to be provided for each delivery date separately.

Conditions may apply for the whole validity period of the scheduling agreement. If you use a document type that permits time-dependent conditions, you can also enter conditions for multiple validity periods.

If the scheduling agreement item was created with reference to a centrally agreed contract, the conditions in the scheduling agreement should not be changed, since the system always refers to the current conditions of the central contract. Price control is set so that the conditions are always calculated at the time of goods receipt.

Costs incurred can be distributed among different controlling objects through the account assignment. You are not allowed to use account assignment U (unknown) in scheduling agreements.

The total quantity of material to be supplied specified in the scheduling agreement item can be divided into a series of partial quantities with individual delivery dates in the lines of the delivery schedule for the scheduling agreement. SA delivery schedule lines can be created with or without reference to a purchase requisition. Scheduling agreement delivery schedules can also be generated automatically by requirements planning.

You can issue scheduling agreement releases (SA releases) notifying the vendor that he is to deliver the required material on the scheduled dates. You can use scheduling agreements with or without release documentation. This is determined via the document type.

Using various types of confirmation, the vendor can indicate his acceptance of delivery dates or inform you of variances from planned dates.



Hint: Goods receipts can only be posted before schedule line dates with unlimited overdelivery tolerance and afterwards only within the set tolerances. Please see Note 737495 on this subject.

Create/change/display scheduling agreement:

SAP Menu → Logistics → Materials Management → Purchasing → Outline Agreement → Scheduling Agreement → Create / Change / Display

Create SA delivery schedule lines manually:

SAP Menu → Logistics → Materials Management → Purchasing → Outline Agreement → Delivery Schedule → Maintain / Display

Automatic Scheduling Agreement Schedule Lines

In the case of large-volume transactions with a high degree of repetition (repetitive manufacturing), it is desirable to have SA delivery schedule lines generated automatically. A particular advantage in scheduling agreement processing is the automatic generation of SA delivery schedule lines via MRP.

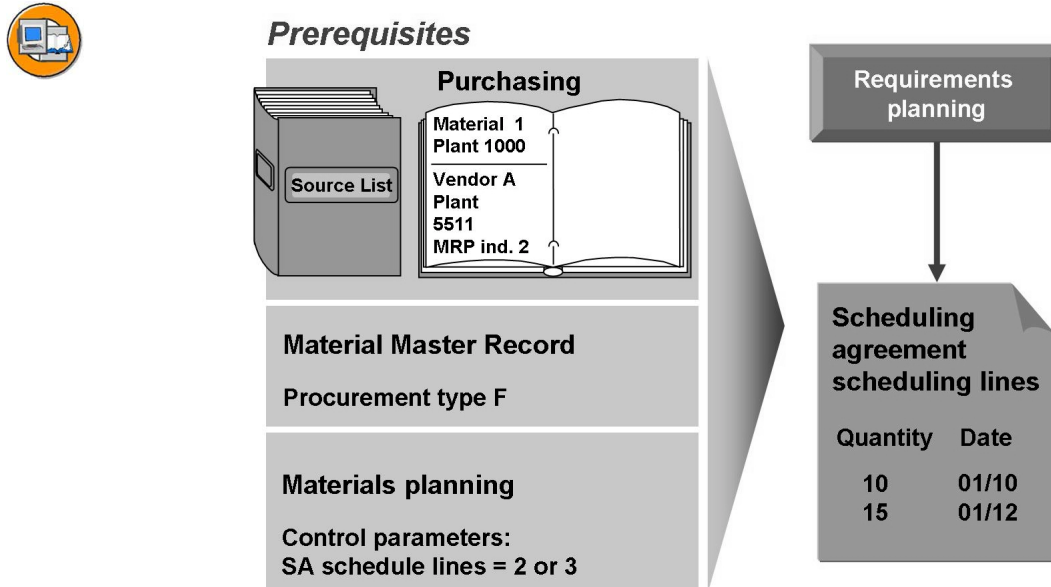


Figure 15: Automatic Scheduling Agreement Schedule Lines

SA delivery schedule lines can be generated automatically through MRP if certain prerequisites are fulfilled:

- The scheduling agreement must be clearly designated as a source of supply for MRP in the source list (MRP indicator 2).
- The procurement indicator F (external procurement) must have been set in the MRP data of the material master record (exception: you are working with quota arrangement).
- Automatic scheduling agreement delivery schedules must be permitted in the planning run. The *Automatic Schedule Lines (Scheduling Agreements)* indicator sets the timeframe for which the the scheduling agreement delivery schedule is to be generated.

The **firm zone** and **trade-off zone** define the degree to which delivery schedule lines are binding. Scheduled delivery dates in the near future can be more binding than those in the more distant future.

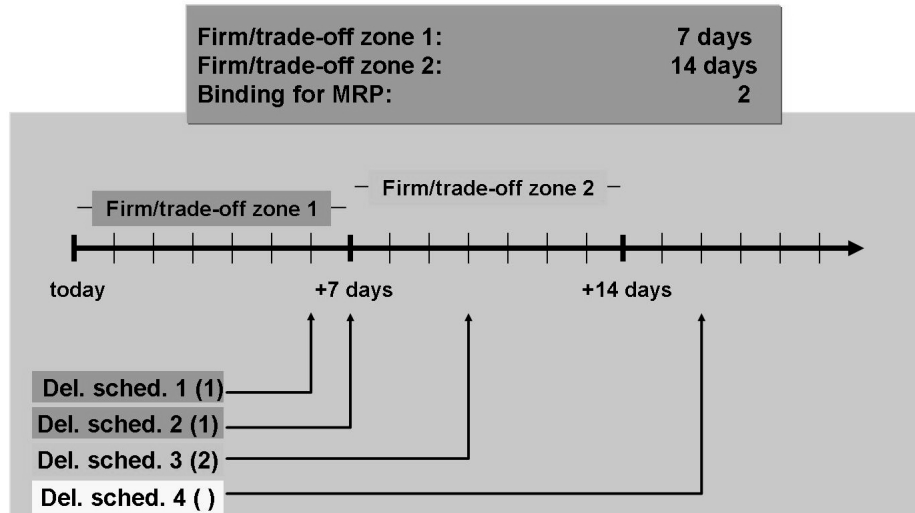


Figure 16: Firm and Trade-Off Zones

For an item of a scheduling agreement, you can define a firm zone and a trade-off zone:

- **Firm zone (production go-ahead period)**

The firm zone defines the point in time (calculated from the current date) at which the production go-ahead period ends. The production go-ahead period begins with the current date. The schedule lines falling within this zone, or period, are fixed, and can thus be regarded as equivalent to firm orders.

Normally, cancellations of and/or changes to delivery schedule lines falling within this zone on your part would entitle the vendor to charge your enterprise with any material and production costs incurred as a result. Whether you actually enter into a contractual obligation with your vendor in this respect, however, is up to you.

- **Trade-off zone (material go-ahead period)**

The trade-off zone defines the point in time (calculated from the current date) at which the material go-ahead period ends. The material go-ahead period begins with the end of the production go-ahead period. Delivery schedule lines falling within this period can be less binding in nature than those in the firm zone. MRP can be set up in such a way that either only the delivery schedule lines within the firm zone or the lines within both zones are fixed (firmed) automatically.

Fixed delivery schedule lines are no longer changed in the planning run.

All schedule lines with delivery dates lying beyond the firm and trade-off zones (that is, relatively far in the future) fall within the **planning zone**.

Both the production and material go-ahead periods are printed in the delivery schedules and releases for information purposes.

The firm and trade-off zones are both calculated in **calendar days**. You enter these zones in the additional data for the relevant scheduling agreement. You also make the settings for the automatic fixing (firming) of schedule lines in MRP there.

Scheduling Agreements With and Without Release Documentation

You can use scheduling agreements with or without release documentation. This is controlled in Customizing, via an indicator, when you define the document type for scheduling agreements.

The advantage of working with SA release documentation is that you always have a record of when you sent which delivery schedule information to your vendor, which you can display at any time.

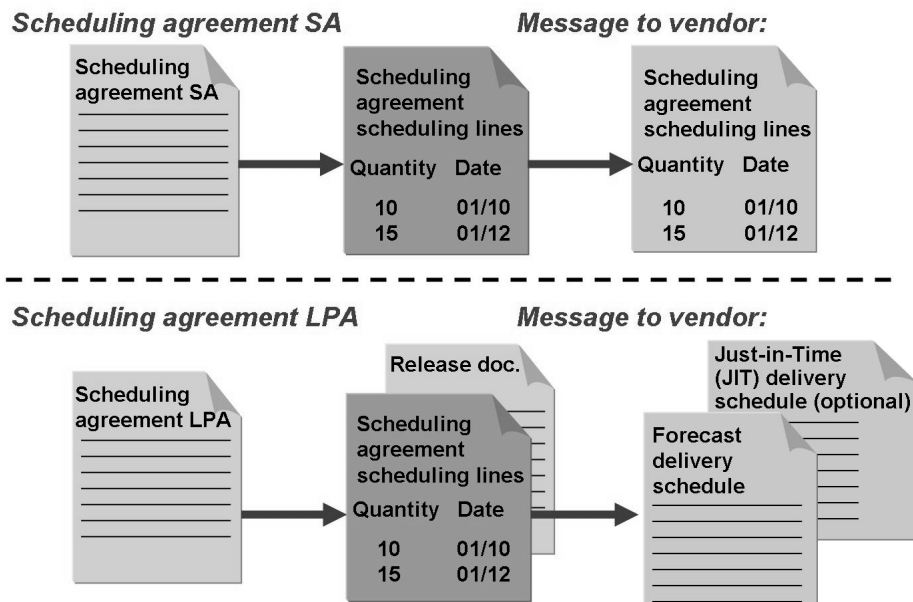


Figure 17: Types of Scheduling Agreement

- **Without release documentation (in the standard system, document type LP)**

The delivery schedule lines have official character - that is to say, they are transmitted to the vendor as they are saved in the system. The system does not document in detail releases against the scheduling agreement that have been sent to the vendor. Therefore, in the case of the document type without release documentation, the message control facility should be set up in such a way that a message is immediately sent to the vendor if any changes are made to the delivery schedule stored in the system. All open scheduling agreements are always output.

- **With release documentation (in the standard system, document type LPA)**

If you use scheduling agreements with release documentation, the delivery schedule lines are not transmitted directly to the vendor. Initially, the lines of the delivery schedule stored in the system for an LPA scheduling agreement are for internal information only. A message informing the vendor of your material requirements cannot be transmitted to the vendor until you explicitly create an SA release, that is, a forecast (FRC) or Just-in-Time (JIT) delivery schedule. Through this process, you can change the way the schedule lines are represented. With the release documentation, you can display the SA releases (delivery schedules) transmitted to a vendor over a certain period at any time. This enables you to trace precisely when you sent which information to the vendor.

There are two types of scheduling agreement (SA) release:

- **Forecast (FRC) delivery schedules**

Can be used to give the vendor a medium-term overview of your material requirements.

- **Just-in-Time (JIT) delivery schedules**

Can be used to inform your vendor of your short-term (near future) requirements. This type of schedule shows requirements per day or even per hour.



Hint: Delivery schedule lines cannot be generated per hour in the planning run.

SA releases can only be generated for scheduling agreements with release documentation. You create a scheduling agreement with release documentation if you use a document type for which the release documentation indicator has been set in Customizing. For the standard document type LPA, the indicator is preset.

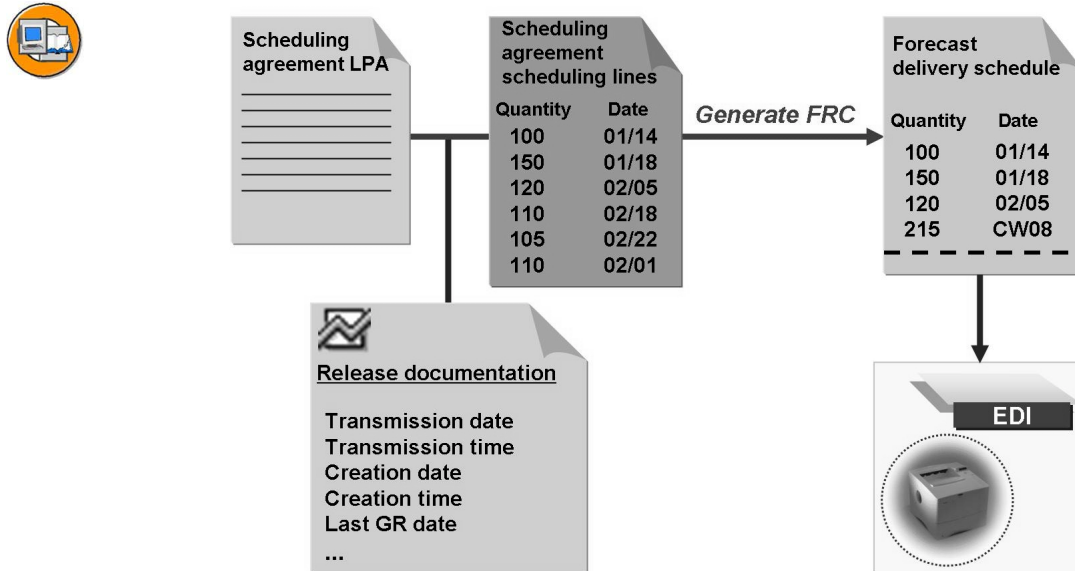


Figure 18: Scheduling Agreement with Forecast Delivery Schedule

An SA release can be created either manually or automatically on a regular basis with the aid of a report. When using the report (online or in the background), SA releases can be generated either for all selected items of a scheduling agreement or only for those items for which schedule lines have been newly created or changed.

The release documentation enables you to find out when you sent which information to the vendor.

The vendor can also tell which of their deliveries have already been taken into account.

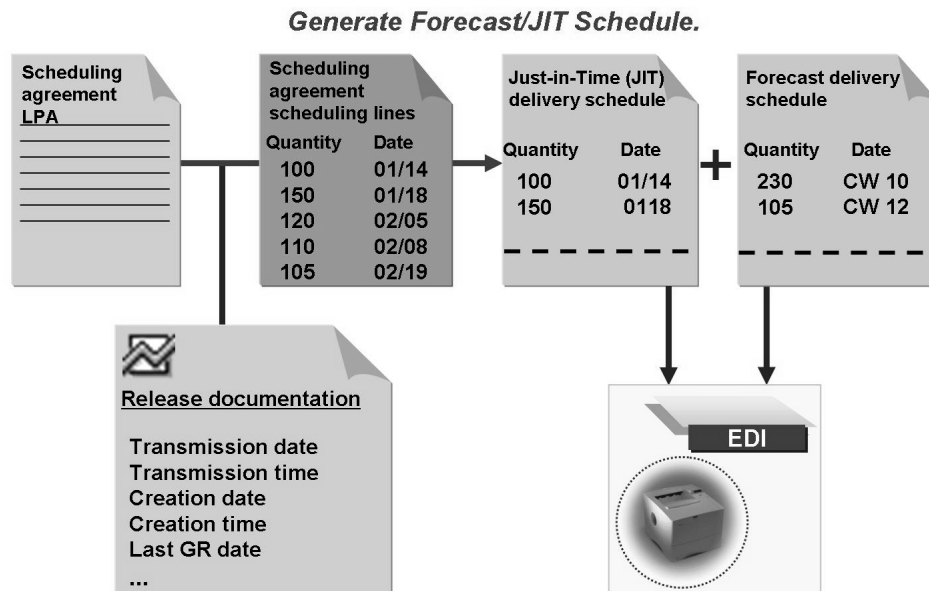


Figure 19: Scheduling Agreement with Forecast and JIT Delivery Schedules

Create SA releases:

SAP Menu → Logistics → Materials Management → Purchasing → Outline Agreement → Delivery Schedule → Create SA Release

Generate SA releases in the scheduling agreement delivery schedule:

Edit → Generate Forecast/JIT Schedule

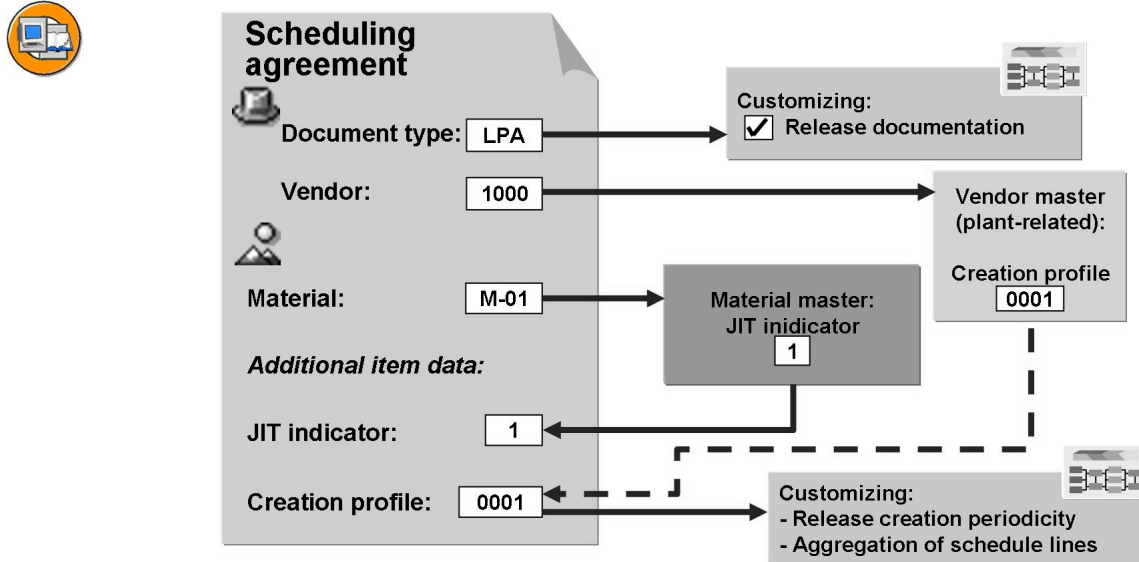


Figure 20: Control Data for Scheduling Agreements

You create scheduling agreements with or without release documentation. Since the release documentation indicator is preset in Customizing for the standard document type LPA, you can work with release documentation if you use this document type. In the case of the standard document type LP, the release documentation indicator is not set.

Whether or not you can generate both forecast and JIT delivery schedules against a scheduling agreement with release documentation is determined by the JIT delivery schedule indicator in the material master record. In order for you to be able to work with JIT schedules, the JIT delivery schedule indicator must be set in the material master record (*Purchasing* or *MRP 2* view) and in the additional data for the scheduling agreement item. No JIT delivery schedules can be created unless this indicator has been set. The JIT delivery schedule must be set in the material master record before the scheduling agreement is created. The JIT indicator cannot be set in the delivery scheduling agreement if it is not set in the material master record.

A release creation profile exists for a delivery schedule with release documentation. The use of a release creation profile is optional. The release profile controls the creation periodicity of SA releases and the aggregation of scheduled quantities.

If the plant-specific data of a vendor master record already includes the release creation profile, the latter is automatically adopted in the additional data of a scheduling agreement item with the vendor and the relevant plant. If the vendor master record does not include the creation profile, you have the option of entering the creation profile in the additional data of a scheduling agreement item manually.

Define document types for scheduling agreement:

SAP Customizing Implementation Guide → Materials Management → Purchasing → Scheduling Agreement → Define Document Types

Create release creation profile:

SAP Customizing Implementation Guide → Materials Management → Purchasing → Scheduling Agreement → Maint. Rel. Creation Profile for Sched. Agmt w. Rel. Docu.

You can use release creation profiles to define the criteria for the creation of SA releases (you can influence the quantities and delivery dates/times to be transmitted to the vendor, for example).

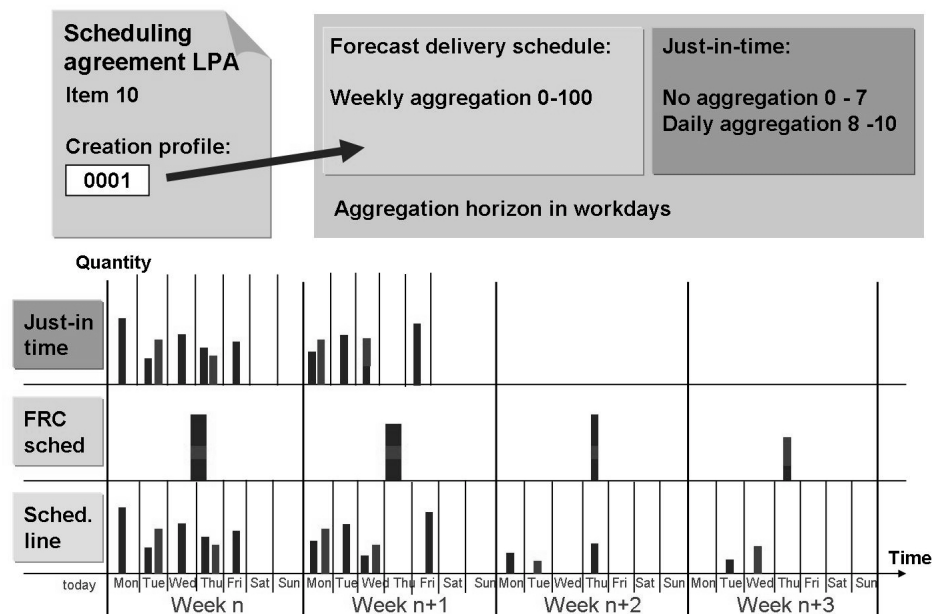


Figure 21: Aggregation with the Release Creation Profile

The release creation profile is an instrument used to determine how frequently releases against a scheduling agreement are generated and sent to the vendor.

The creation profile controls the creation periodicity of the SA releases and - starting from the current date of release creation - the way in which quantities are aggregated. The release creation periodicity determines the time intervals (for example, daily or weekly) in which SA releases are generated and transmitted. You can define different time intervals for forecast delivery schedules and JIT schedules.

Aggregation of scheduled quantities determines the periods for which the schedule line quantities of a schedule line agreement item are to be consolidated. You can define different time periods for forecast delivery schedules and JIT schedules. This enables you to aggregate scheduled quantities for forecast delivery schedules to a greater extent than for JIT schedules, which are usually transmitted to the vendor showing delivery requirements for calendar days, or even hours.

You also define the delimitation of the transmission horizon in the release creation profile. This enables you to send vendors only the data they require for planning.

Example of the exclusive use of forecast delivery schedules:

For a scheduling agreement where delivery schedule lines covering several months have been maintained, a release creation profile may provide for releases to be transmitted weekly, for example. The release quantities can be aggregated as follows: no aggregation of the schedule line data for the first 10 days as of the current date of release creation; daily aggregation from the 10th to the 30th day and monthly aggregation from the 30th to the 60th day.

Example of the use of both forecast and JIT delivery schedules:

For a scheduling agreement for which delivery schedule lines covering several months have been maintained, a release creation profile may provide for the JIT schedules to be transmitted twice weekly, and forecast schedules to be transmitted only in the event of changes in the delivery scheduling data that exceed predefined tolerances. The release quantities can be aggregated as follows: in the case of the JIT schedule, no aggregation of data for the first seven calendar days, daily aggregation from the eighth to the 10th day. The forecast delivery schedule consolidates data from the seventh to the 100th day on a weekly basis.

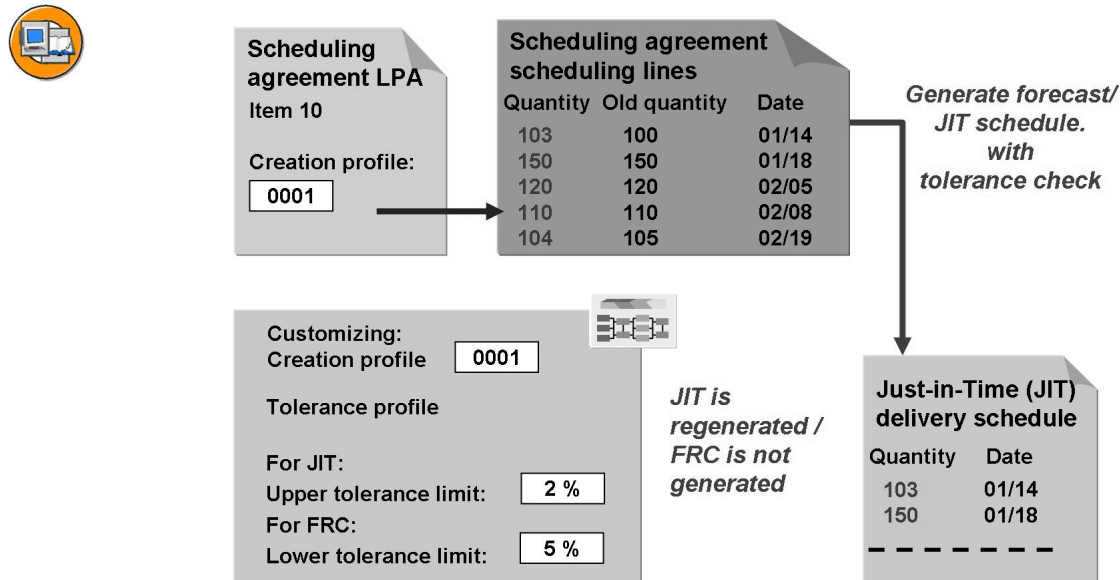


Figure 22: Tolerance Limits for Scheduling Agreement Items

Via the creation profile, you can specify that a tolerance check is to be carried out if SA releases need to be created following changes in the overall delivery schedule. Releases for SA delivery schedule lines that have been changed can be generated on the basis that predefined tolerance limits have been exceeded. Using tolerance limits, you can specify that SA releases are to be generated only in the event of major changes in the overall delivery schedule. The tolerance limits are defined in the release creation profile in Customizing. Tolerance limits can be defined for a maximum of three checking periods per SA release type (FRC and JIT).

Example:

A line of the overall scheduling agreement delivery schedule stored in the system is changed as follows: instead of the original 100 pc, 103 pc are now needed on the scheduled delivery date. This represents a change of 3% in the quantity. Since the upper tolerance limit for JIT agreements (2%) is thus exceeded, a new JIT delivery schedule is generated for issue to the vendor.

Instead of the original 105 pc, only 104 pc are now needed. This change is within the set tolerance - the lower tolerance limit for forecast delivery schedules is 5% - so that no new SA release is generated automatically.

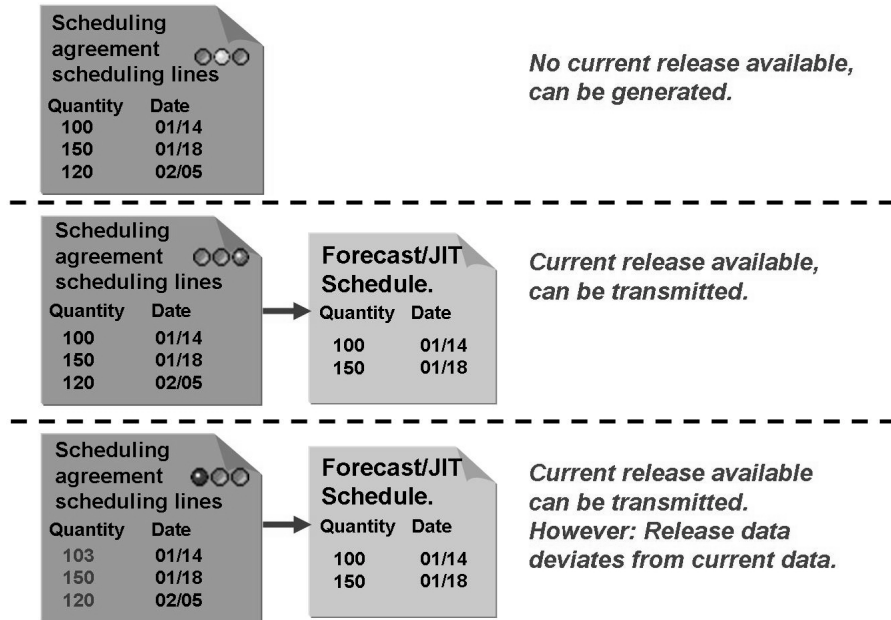


Figure 23: Status of SA Releases

You can determine the status of the SA releases from the screen for SA delivery schedule maintenance. The traffic light colors are to be interpreted as follows:

- **Yellow**

When you first invoke the maintenance screen for a scheduling agreement delivery schedule, the traffic light always initially shows yellow. This is because no SA release that could be transmitted to the vendor yet exists. As soon as you generate a release in the form of a forecast or JIT delivery schedule, the traffic light changes to green. If or when the current release is sent to the vendor, the traffic light changes back to yellow.

- **Green**

The green light signifies that a current release exists, but it has not yet been transmitted to the vendor. This release can be sent.

- **Red**

If changes are made to the schedule within the horizon for forecast or JIT delivery schedules before the last SA release has been transmitted to the vendor, the traffic light changes to red. The red light signifies that the already existing release data differs from the current scheduling data. An SA release exists, but its data does not match up with that of the current overall delivery schedule in the system. As soon as a new release is generated, the traffic light changes back to green.



Hint: If you use only the SA release type **forecast (FRC) delivery schedule** in scheduling agreement processing, the traffic lights relate exclusively to FRC schedules. If you use both SA release types **FRC** and **JIT delivery schedules**, the traffic lights relate exclusively to the status of the JIT schedules.



Exercise 3: Scheduling Agreement

Exercise Duration: 35 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create scheduling agreements with release documentation and delivery schedule lines

Business Example

You wish to use scheduling agreements to handle the procurement of certain materials that are to be delivered on a Just-in-Time basis. Initially, the vendor is to get a rough overview of the quantities you'll be needing over the next few weeks. Subsequently, the vendor is to receive Just-in-Time delivery data on the precise quantities needed.

Task 1:

Create scheduling agreement with release documentation.

1. You need a material master record for a new **raw material** in plant **1000**.

The material is to be procured on the basis of scheduling agreements. The intention is to issue forecast (FRC) and Just-in-Time (JIT) delivery schedules to the vendor. Which indicator in the *Purchasing* view of the material master record controls the use of JIT delivery schedules?

Create the new material master record with the following data:

Material number	T-M520D##
Industry sector	Mechanical engineering
Material type	Raw material (ROH)
Views	Purchasing, Accounting 1
Plant	1000
Material description	Headlight 65W
Base unit of measure	pc
Purchasing group	Z##
Material group	003
JIT delivery schedule indicator	1
Valuation class	3000
Price control	V
Moving price	80 EUR

2. Change vendor master record **T-K520B##** in such a way that when a scheduling agreement with release documentation is created for **plant 1000**, the release creation profile **ZTM2 (SCM520)** is defaulted from the vendor master record.
3. Create a scheduling agreement for vendor **T-K520B##** for material **T-M520D##**.

Which agreement type do you choose to allow the use of both forecast and JIT delivery schedules?

Continued on next page

The agreement begins as of today's date and is valid for **two years**. The agreement is valid for **plant 1000**. The target quantity is **100,000 pc**. You have negotiated a price of **78 EUR per pc**. Deliveries are received into **storage location 0001**. Before saving the scheduling agreement, branch to **Additional Data** and verify that the release creation profile **ZTM2** and the JIT delivery schedule indicator have been adopted from the vendor master record and material master record, respectively. In the additional data, enter the planned delivery time of **two days**.

4. Maintain the following SA delivery schedule:

The inputs relate to **workdays** and are calculated from today onwards.

Delivery date in workdays	Scheduled quantity	Time
In 3 days	50	10:00
In 3 days	60	14:00
In 6 days	80	10:00
In 6 days	40	14:00
In 9 days	60	10:00
In 9 days	80	14:00
In 15 days	150	
In 16 days	120	

What is the total scheduled quantity?

5. From the SA delivery schedule maintenance screen, generate a forecast (FRC) delivery schedule.

Branch to the release documentation for your scheduling agreement item. Display the transmission details. On the *Creation/Transmission* tab page, you can see which release creation profile has been assigned to the scheduling agreement item.

Creation profile:

Display the release creation profile details and determine the settings for forecast delivery schedules.

Continued on next page

Week-based aggregation in workdays:

Display the consolidation of the schedule lines in your forecast delivery schedule.

What do the schedule lines that are to be sent to the vendor look like?

You save the FRC schedule generated by saving the changes made in delivery schedule maintenance.

- 6. From within SA delivery schedule maintenance, generate a Just-in-Time (JIT) delivery schedule.

Branch to the release documentation for your scheduling agreement item.

Display the release creation profile details and determine the settings for JIT delivery schedules.

No aggregation in workdays:

Day-based aggregation in workdays:

Display the consolidation of the schedule lines in your JIT delivery schedule.

Which schedule lines have not been taken into account in the JIT delivery schedule?

You save the JIT schedule generated by saving the changes made in delivery schedule maintenance.

Continued on next page

Task 2:

Alternative task: Create scheduling agreement of type LP.



Hint: If you wish to process this task in addition to task 1, please use another material number (e.g. T-M520L##).

1. You need a material master record for a new **raw material** in plant **1000**. The material is to be procured on the basis of scheduling agreements.

Create the new material master record with the following data:

Material number	T-M520D##
Industry sector	Mechanical engineering
Material type	Raw material (ROH)
Views	Purchasing, Accounting 1
Plant	1000
Material description	Headlight 65W
Base unit of measure	pc
Purchasing group	Z##
Material group	003
Valuation class	3000
Price control	V
Moving price	80 EUR

2. Create a scheduling agreement **without** release documentation for vendor **T-K520B##** for material **T-M520D##**.

Which agreement type do you choose?

The agreement begins as of today's date and is valid for **two years**. The agreement is valid for **plant 1000**. The target quantity is **100,000 pc**. You have negotiated a price of **78 EUR per pc**. Deliveries are received into **storage location 0001**.

Before saving the scheduling agreement, branch to the additional data for the item.

Specify a planned delivery time of **two days**.

Continued on next page

You have agreed with your vendor that all schedule lines within the first **10 calendar days** lie within the firm zone (production go-ahead) and that all schedule lines within the period from the **11th to the 20th calendar day** lie within the trade-off zone (material go-ahead).

You have also agreed with your materials planner that schedule lines falling within the firm zone will not be changed automatically in the requirements planning run. Schedule lines falling within the trade-off zone are to be automatically changeable in the planning run.

Which setting must the *Binding on MRP* field have?

3. Maintain the following SA delivery schedule:

The inputs relate to **workdays** and are calculated from today onwards.

Delivery date in workdays	Scheduled quantity
In 3 days	50
In 6 days	60
In 9 days	80
In 12 days	40
In 17 days	60
In 21 days	50

What is the total scheduled quantity?

Which schedule lines are assigned to the trade-off zone?

4. Display the messages for the delivery schedule to be transmitted to the vendor. Which schedule lines will be sent to the vendor?

Send the message to the vendor.

5. Change any scheduled quantity and then check the new message. Can it be seen from the message that the scheduled quantity has changed?

Solution 3: Scheduling Agreement

Task 1:

Create scheduling agreement with release documentation.

1. You need a material master record for a new **raw material** in plant **1000**.

The material is to be procured on the basis of scheduling agreements. The intention is to issue forecast (FRC) and Just-in-Time (JIT) delivery schedules to the vendor. Which indicator in the *Purchasing* view of the material master record controls the use of JIT delivery schedules?

 Create the new material master record with the following data:

Material number	T-M520D##
Industry sector	Mechanical engineering
Material type	Raw material (ROH)
Views	Purchasing, Accounting 1
Plant	1000
Material description	Headlight 65W
Base unit of measure	pc
Purchasing group	Z##
Material group	003
JIT delivery schedule indicator	1
Valuation class	3000
Price control	V
Moving price	80 EUR

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create General* → *Immediately*

In order for you to be able to generate both forecast and JIT delivery schedules, the JIT delivery schedule indicator in the *Purchasing* view of the material master record must have the value **1**.

Continued on next page

2. Change vendor master record **T-K520B##** in such a way that when a scheduling agreement with release documentation is created for **plant 1000**, the release creation profile **ZTM2 (SCM520)** is defaulted from the vendor master record.
 - a) *SAP Menu → Logistics → Materials Management → Purchasing → Master Data → Vendor → Purchasing → Change (Current)*

You can define the release creation profile in the plant-specific purchasing data (*Alternative Data*). The field is located among the default values for the material.

3. Create a scheduling agreement for vendor **T-K520B##** for material **T-M520D##**.

Which agreement type do you choose to allow the use of both forecast and JIT delivery schedules?

The agreement begins as of today's date and is valid for **two years**. The agreement is valid for **plant 1000**. The target quantity is **100,000 pc**. You have negotiated a price of **78 EUR per pc**. Deliveries are received into **storage location 0001**. Before saving the scheduling agreement, branch to **Additional Data** and verify that the release creation profile **ZTM2** and the JIT delivery schedule indicator have been adopted from the vendor master record and material master record, respectively. In the additional data, enter the planned delivery time of **two days**.

- a) *SAP Menu → Logistics → Materials Management → Purchasing → Outline Agreement → Scheduling Agreement → Create → Vendor Known*

Choose the agreement type **LPA** in order to be able to send FRC and JIT delivery schedules to your vendor.

Access the additional data via *Item → More Functions → Additional Data*.

4. Maintain the following SA delivery schedule:

The inputs relate to **workdays** and are calculated from today onwards.

Delivery date in workdays	Scheduled quantity	Time
In 3 days	50	10:00
In 3 days	60	14:00

Continued on next page

In 6 days	80	10:00
In 6 days	40	14:00
In 9 days	60	10:00
In 9 days	80	14:00
In 15 days	150	
In 16 days	120	

What is the total scheduled quantity?

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Outline Agreement* → *Delivery Schedule* → *Maintain*

Select the item and choose *Item* → *Delivery schedule*.

The total scheduled quantity is 640 pc.

5. From the SA delivery schedule maintenance screen, generate a forecast (FRC) delivery schedule.

Branch to the release documentation for your scheduling agreement item. Display the transmission details. On the *Creation/Transmission* tab page, you can see which release creation profile has been assigned to the scheduling agreement item.

Creation profile:

Display the release creation profile details and determine the settings for forecast delivery schedules.

Week-based aggregation in workdays:

Display the consolidation of the schedule lines in your forecast delivery schedule.

What do the schedule lines that are to be sent to the vendor look like?

Continued on next page

You save the FRC schedule generated by saving the changes made in delivery schedule maintenance.

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Outline Agreement* → *Delivery Schedule* → *Maintain*

Select the item and choose *Edit* → *Generate Forc. Schd.*

- b) Select the item and choose *Item* → *SA Release Docu.* On the *Creation/Transmission* tab page, you can see that creation profile ZTM2 has been assigned to the item. Choose *Profile Details* (i button), to obtain the following information (*Aggregation Horizons* tab page):

Week-based aggregation in workdays: 100

- c) Select the forecast delivery schedule with the number 1. Under *Goto* → *Schedule lines/release*, you can see that all schedule lines have been aggregated by the week.

6. From within SA delivery schedule maintenance, generate a Just-in-Time (JIT) delivery schedule.

Branch to the release documentation for your scheduling agreement item.

Display the release creation profile details and determine the settings for JIT delivery schedules.

No aggregation in workdays:

Day-based aggregation in workdays:

Display the consolidation of the schedule lines in your JIT delivery schedule.

Which schedule lines have not been taken into account in the JIT delivery schedule?

Continued on next page

You save the JIT schedule generated by saving the changes made in delivery schedule maintenance.

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Outline Agreement* → *Schedule Agreement* → *Delivery Schedule* → *Maintain*

Select the item and choose *Edit* → *Generate JIT Sched*

- b) Select the item and choose *Item* → *SA Release Docu.*

On the *Creation/Transmission* tab page, choose *Profile Details*, directly adjacent to the creation profile to obtain the following information (*Aggregation Horizons*) tab page:

No aggregation in workdays: 7

Day-based aggregation in workdays: 8-10

- c) Select the JIT delivery schedule with the number 1.

Via *Goto* → *Sched. lines/release*, you can see that none of the scheduling agreement delivery schedule lines after the 10th workday have been taken into account in the JIT schedule.

Task 2:

Alternative task: Create scheduling agreement of type LP.



Hint: If you wish to process this task in addition to task 1, please use another material number (e.g. T-M520L##).

1. You need a material master record for a new **raw material** in plant **1000**.

The material is to be procured on the basis of scheduling agreements.

Create the new material master record with the following data:

Material number	T-M520D##
Industry sector	Mechanical engineering
Material type	Raw material (ROH)
Views	Purchasing, Accounting 1
Plant	1000
Material description	Headlight 65W
Base unit of measure	pc
Purchasing group	Z##

Continued on next page

Material group	003
Valuation class	3000
Price control	V
Moving price	80 EUR

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Material Master*
 → *Material* → *Create General* → *Immediately*
2. Create a scheduling agreement **without** release documentation for vendor **T-K520B##** for material **T-M520D##**.

Which agreement type do you choose?

The agreement begins as of today's date and is valid for **two years**. The agreement is valid for **plant 1000**. The target quantity is **100,000 pc**. You have negotiated a price of **78 EUR per pc**. Deliveries are received into **storage location 0001**.

Before saving the scheduling agreement, branch to the additional data for the item.

Specify a planned delivery time of **two days**.

You have agreed with your vendor that all schedule lines within the first **10 calendar days** lie within the firm zone (production go-ahead) and that all schedule lines within the period from the **11th to the 20th calendar day** lie within the trade-off zone (material go-ahead).

You have also agreed with your materials planner that schedule lines falling within the firm zone will not be changed automatically in the requirements planning run. Schedule lines falling within the trade-off zone are to be automatically changeable in the planning run.

Which setting must the *Binding on MRP* field have?

Continued on next page

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Outline Agreement* → *Scheduling Agreement* → *Create* → *Vendor Known*

Choose agreement type **LP**.

Access the additional data via *Item* → *More Functions* → *Additional Data*.

There you can define the planned delivery time, the firm zone, and the trade-off zone. In the *Binding on MRP* field, you must enter the value **1**.

3. Maintain the following SA delivery schedule:

The inputs relate to **workdays** and are calculated from today onwards.

Delivery date in workdays	Scheduled quantity
In 3 days	50
In 6 days	60
In 9 days	80
In 12 days	40
In 17 days	60
In 21 days	50

What is the total scheduled quantity?

Which schedule lines are assigned to the trade-off zone?

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Outline Agreement* → *Schedule Agreement* → *Delivery Schedule* → *Maintain*

Select the item and choose *Item* → *Delivery Schedule*.

The total scheduled quantity is 340 pc.

Schedule lines 3 and 4 fall within the trade-off zone.

4. Display the messages for the delivery schedule to be transmitted to the vendor. Which schedule lines will be sent to the vendor?

Continued on next page

Send the message to the vendor.

- a) *SAP Menu → Logistics → Materials Management → Purchasing → Outline Agreement → Schedule Agreement → Delivery Schedule → Print/Transmit*

Select your scheduling agreement and choose **Execute**. Select the item and choose *Display Message*.

All scheduled quantities have been included in the delivery schedule sent to the vendor.

Choose *Back*.

Select the item again and choose *Output Message*

5. Change any scheduled quantity and then check the new message. Can it be seen from the message that the scheduled quantity has changed?

- a) *SAP Menu → Logistics → Materials Management → Purchasing → Outline Agreement → Schedule Agreement → Delivery Schedule → Print/Transmit*

Select your scheduling agreement and choose **Execute**. Select the item and choose *Goto → Display Message*.

From the message, you can see which schedule line has changed, and by which quantity.



Lesson Summary

You should now be able to:

- Enumerate the advantages of using scheduling agreements
- Differentiate between the various types of scheduling agreement
- Create scheduling agreements, SA delivery schedules and SA releases and generate these automatically
- Describe the functions of the release creation profile
- Distinguish between forecast and JIT delivery schedules



Unit Summary

You should now be able to:

- Distinguish between and create purchasing info records with and without material master records
- Distinguish between and create cross-plant and plant-specific purchasing info records
- Create conditions in purchasing info records
- Distinguish between different forms of contract
- Differentiate between and use item categories M and W in contracts
- Create centrally agreed contracts with plant conditions
- Create contract release orders for different types of contract item
- Enumerate the advantages of using scheduling agreements
- Differentiate between the various types of scheduling agreement
- Create scheduling agreements, SA delivery schedules and SA releases and generate these automatically
- Describe the functions of the release creation profile
- Distinguish between forecast and JIT delivery schedules



Test Your Knowledge

1. Which statements apply for condition maintenance in purchasing information records?

Choose the correct answer(s).

- A There is only ever one valid condition record for one date.
- B If a new validity period exceeds an existing validity period completely, the latter is deleted when saving.
- C If a condition record is created with a plant reference, no further condition records can subsequently be created without a plant reference.
- D If a planned delivery time is created in the purchasing information record, this is transferred to the material master record on saving as long as a different entry exists there.

2. What types of purchasing information records (= infotypes) are there?

Choose the correct answer(s).

- A Standard
- B Third-party
- C Subcontracting
- D Plant

3. How do scheduling agreements differ from contracts?

Choose the correct answer(s).

- A You can create contracts with reference to a scheduling agreement but you cannot create scheduling agreements with reference to a contract.
- B Account assignment category U (unknown) is allowed in the contract but not in the scheduling agreement.
- C Contracts can contain a plant but scheduling agreements have to.
- D You can use item category W (material group) in both the contract and the scheduling agreement but you can only use item category M (material unknown) in the contract.

4. Which messages are possible for scheduling agreements with release documentation?

Choose the correct answer(s).

- A Scheduling agreement (NEW message type)
- B Forecast delivery schedule
- C Just-in-Time (JIT) delivery schedule
- D Scheduling agreement delivery schedule



Answers

1. Which statements apply for condition maintenance in purchasing information records?

Answer: A, B

2. What types of purchasing information records (= infotypes) are there?

Answer: A, C

3. How do scheduling agreements differ from contracts?

Answer: B, C

4. Which messages are possible for scheduling agreements with release documentation?

Answer: A, B, C

Scheduling agreement delivery schedules are only possible for scheduling agreements without release documentation.

Unit 2



Source Determination



The unit focuses on the use of source lists and quota arrangements to control the source determination process. The instructor should always make clear to participants whether he or she is referring to source determination while creating a requisition manually or source determination during the requirements planning run. There are major differences between these two cases, which the instructor should emphasize.

The priorities in source determination (during both the manual creation of requisitions and the planning run) are summarized in the last lesson of this unit.

Unit Overview

For new procurement transactions, you initially wish to make use of data that already exists in the system. The determination of a new source of supply through the more time-consuming process of RFQ and quotation is often only an option when you have discovered that the system does not contain a suitable source for a particular requirement.

As a rule, a production system contains a large number of suitable sources (in the form of info records and outline purchase agreements). The source determination process helps you to find the most suitable source of supply for a certain requirement from this large volume of data. In this process, the system suggests a suitable outline agreement or info record for a purchase order.



Unit Objectives

After completing this unit, you will be able to:

- Describe the various ways of creating source list records
- List the different uses of a source list
- Control the source determination process with the aid of the source list
- Create the quota arrangement for a material
- Describe how the source determination process can be controlled with the aid of the quota arrangement

- Describe how the automatic source determination process works when purchase requisitions are assigned manually
- Describe how the automatic source determination process works in the requirements planning run
- List the options for blocking sources of supply for procurement purposes

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Lesson: Source List



Lesson Duration: 90 Minutes

Lesson Overview

This lesson shows you how the source list is used in purchasing and in material requirements planning. It provides an overview of how you can use the source list to influence the process of automatic source determination that takes place when a purchase requisition is created and during the requirements planning run.



Lesson Objectives

After completing this lesson, you will be able to:

- Describe the various ways of creating source list records
- List the different uses of a source list
- Control the source determination process with the aid of the source list



It is a good idea to divide the system demonstration into two parts. In the first part, the instructor can demonstrate the effects of the source list on the source determination process during manual creation of purchase requisitions as well as requirements planning (optional exercise for participants).

After the participants' exercise, it is a good idea to demonstrate the remaining topics, such as the source list requirement, the creation of source list records, and source list records for a material group contract, using simple examples.

Due to parameter EVO, which is assigned to participants in their user master data, the *Source Determination* indicator has already been set in the header area of the purchase requisition. However, the instructor should show participants that you can also preset this indicator in the *Personal Settings* in the Requisition and PO transaction.

Since it is important for the Document Release Procedure unit that participants use the requirement tracking number SCM520 in requisition items, you can set the field control in Customizing so that the tracking number becomes a mandatory field dependent on document type NB. In addition, participants can preset the requirement tracking number for the requisition in their *Personal Settings*.

Additional system demonstration:

- Source list requirement (material-related) with any material
- For the plant-related source list requirement, just show where this is set in Customizing. You can however show a demo if you wish as long as you remove the indicator again afterwards.
- Analyze and then generate source list records. (Caution: This transaction does not generate a “delta” and is therefore only suitable for materials for which no source list as yet exists (for example, M-01 to M-05 in plants 1000, 1200).
- Show a simple example of a source list record for a material group contract (for example, exclude a material of the same material group from a contract release order).

Time needed for exercise: approx. 35 min.

Business Example

For some of your materials, there is more than one source of supply. You can manage these supply sources using source lists to control how the application-related supply sources are used.

Overview of Supply Source Determination

The purpose of the source determination process is to automatically assign a source of supply to a purchase requisition. If the person entering the requisition has set the *Source Determination* indicator in the requisition header, the system searches for possible sources of supply for all the items of the requisition. If the system finds several valid sources for an item, the decision process can be supported by a price simulation or by reference to data from the vendor evaluation facility.

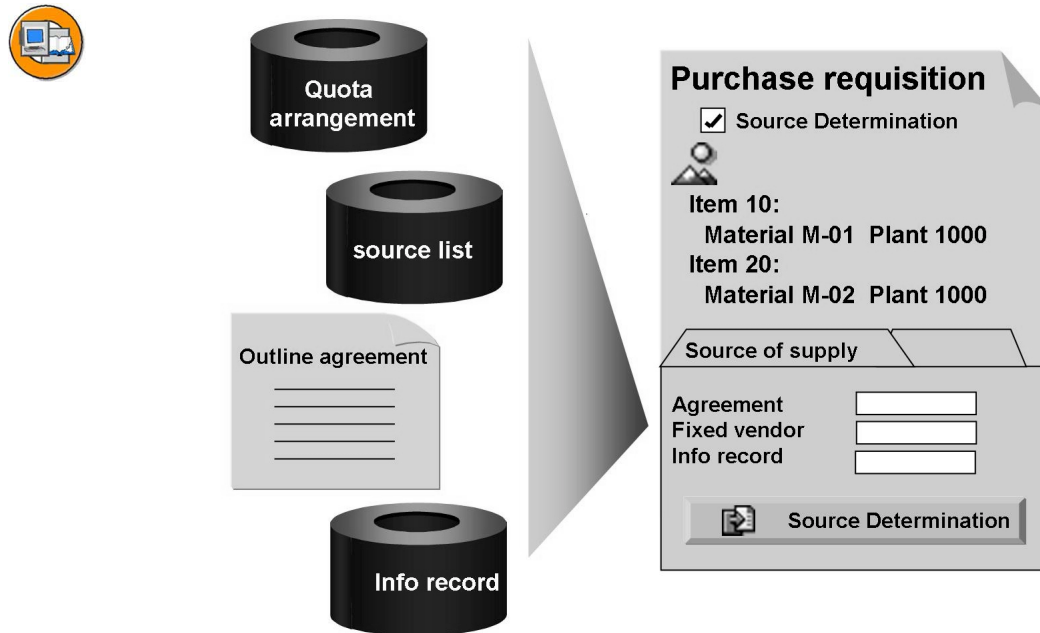


Figure 24: Overview of Supply Source Determination

You can use the source list and / or quota arrangement to control the sources.



Source list		Quota arrangement	
Material:	M-01	Material:	M-01
Plant:	1000	Plant:	1000
-----		-----	
Valid from	till	Valid from	till
01.01.2005	30.06.2008	01.01.2005	31.12.2009
Vendor A Contract 4711 fixed		Vend. A Contract 4711	20 %
-----		Vend. B Contract 4712	20 %
Valid from	till	Plant 1200	(in-house production) 60 %
01.07.2008	31.12.2009		
Vendor B Contract 4712 fixed			

Figure 25: Master Data in Purchasing

In the **source list**, you specify which source of supply is valid for a certain period of time. You can specify a preferred source as *fixed* or *MRP-relevant* for a certain period in the source list. You can mark an undesired source as *blocked*.

With the aid of a **quota arrangement**, you can have material requirements arising over a certain period divided up among different sources on the basis of quotas. Quota arrangements determine which source of supply (maybe from among several possible ones) is automatically assigned to a purchase requisition.

Functions of the Source List

You use the source list to administer your sources of supply. The source list contains a list of sources for a material in a particular plant and for particular time periods. Each source is defined by a source list record. The source list has the following purposes:

- Restricting the selection of sources during the source determination process
- Defining a source as a fixed source
- Blocking a source



Source List

Material: M-01
Plant: 1000

Valid from	to	Vendor	Contract	Item	Fixed	Blk.	MRP
01/01/05	06/30/08	1000	4711	10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
01/01/06	06/30/06	1050	4712	10	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
07/01/08	12/31/09	1030			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
01/01/05	12/31/09	1001			<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Figure 26: Source List

Each source list record consists of the following data:

- **Validity period**
Period within which the settings made in the source list are valid. The time period always makes reference to the **delivery date** for a requirement.
- **Key source data**
Number of the vendor and the responsible purchasing organization (info records) or number and item of the outline agreement (scheduling agreement or contract) representing the source of supply for the material.
- **Fixed source**
Select the *Fixed* field to define a source as a fixed source for the purposes of source determination. The fixed source is determined in all cases except the planning run.
- **Procurement plant**
If the material can be procured from a plant, enter the plant number in the *PPI* field and leave the field for the vendor number and/or contract number empty. The plant is only determined as part of source determination for an item with the stock transfer item type.
- **Blocked source**
Select the *Blocked* field to define a source of supply as blocked. The info record or outline agreement is not suggested in the course of the source determination process and no PO or requisition can be created with this source.



Hint: If you set the *Blocked* indicator and do not enter a vendor but only a validity period, the material is excluded from external procurement which means it cannot be ordered or requested during this period.

- **MRP**
You use the *MRP* (MRP-relevant) indicator to control whether a source should be found during the planning run (indicator 1). If this source is a scheduling agreement, you can also generate scheduling agreement schedule lines directly (indicator 2). You can mark multiple source list entries as MRP-relevant if you want to use this in quota arrangement.

If you wish to prevent a material from being ordered or requested from a vendor for which no corresponding source has been entered in the source list, define the material as subject to a source list requirement in the material master record.

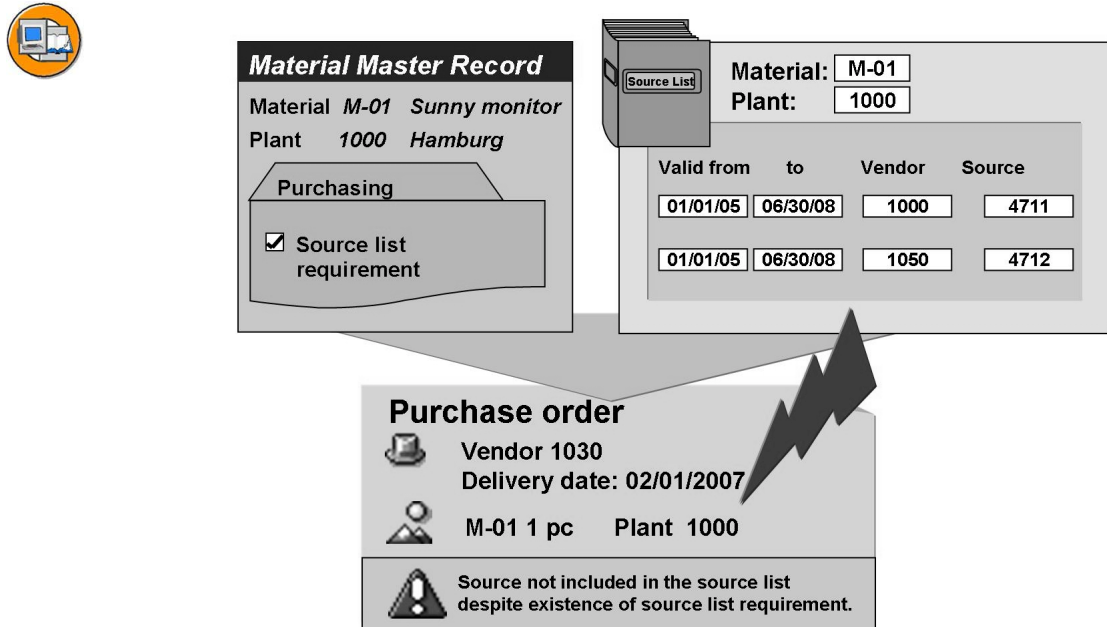


Figure 27: Source List Requirement (Material-Related)

You can also specify that all materials for a certain plant are to be subject to a source list requirement in Customizing. If a source list requirement is defined for a plant, you have to maintain valid source list entries for each material in the plant before this can be ordered or requested for a certain source.

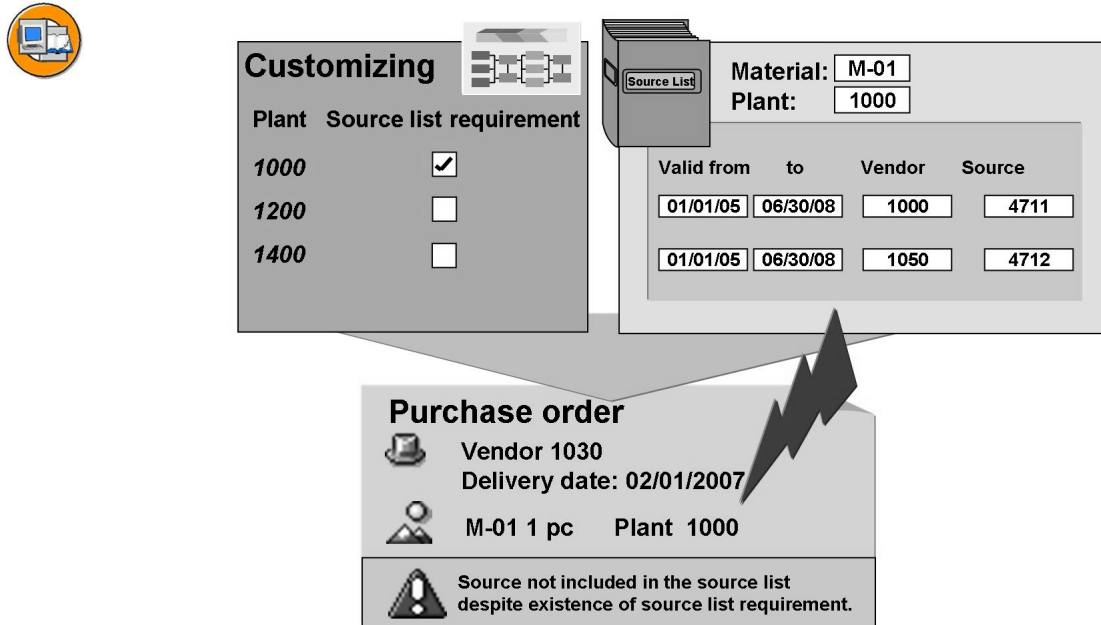


Figure 28: Source List Requirement (Plant-Related)



Hint: With the **source list analysis**, you can find out whether source list records exist for materials of a plant within a certain period. For plants with a source list requirement, this enables you to tell which materials source list records are missing for and call them immediately for maintenance.

Analyze source list:

SAP Menu → Logistics → Materials Management → Purchasing → Master Data → Source List → Follow-On Functions → Analyze

Define source list requirement at plant level:

SAP Customizing → Implementation Guide → Materials Management → Purchasing → Source List → Define Source List Requirement at Plant Level

Creation of Source List Records

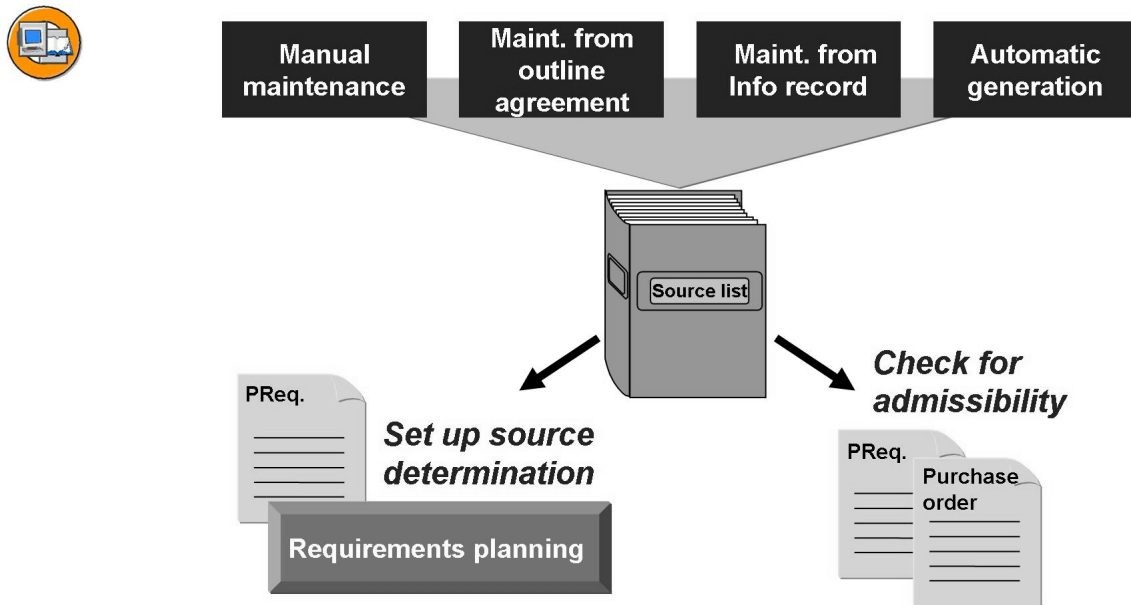


Figure 29: Create Source List Records

You can create source list records for individual sources of a material as follows:

- **Manually**
This method is recommended if you have to make numerous changes to, or new entries in, a source list.
- **Creation from within an outline agreement**
With this procedure, you can adopt an item from an outline agreement in a source list when creating or changing the agreement. On the outline agreement overview screen, select an item for which you wish to enter source list records and choose *Item* → *Maintain Source List*. If you have not entered a plant in the outline agreement item, you must enter the plant for each source list record.
- **Creation from within an info record**

With this procedure, you can enter a vendor in the source list when creating or changing a purchasing info record. In the info record, choose *Extras* → *Source List*. If the info record is valid for an entire purchasing organization, you can create the source list for all plants of the organization in question. Choose the plant via *Goto* → *Plant*.

- **Automatically**

You can have source list records generated automatically by the system. The source list records can be generated for several materials (collective procedure) or for a single material (individual procedure). The system thus enables you to create or update all the records for a certain source list very quickly. With this procedure, you can generate a source list record for every info record and/or every outline agreement item for a material or several materials.



Caution: This functionality is not suitable for updating your source lists because source list records cannot be automatically generated just for the new sources.

Before generating source list records, you should answer the following questions:

- For which materials or plants are source list records to be generated?
- Are only outline agreement items, only info records, or both to be taken into account?
- For which period are the source list records that are to be generated to be valid?
- Do source list records already exist for the materials for which you wish to generate source list records? If so, you must decide how the system is to treat the old records (delete or leave unchanged).
- Which indicators (fixed, blocked MRP-relevant) should be set?

Create source list manually:

SAP Menu → *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Source List* → *Maintain*

Generate source list automatically:

SAP Menu → *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Source List* → *Follow-On Functions* → *Generate*

Source List Records for Material Group Contracts



Item → Maintain source list

Contract 4613				
ICat	Mat.	Short text	Quantity	Price
M	Office	Notepads	1000 PC	2.50

Source list records for document				
Contract:	4613	Item	10	
Material group:	007			
Exclusion:	<input checked="" type="checkbox"/>			
Valid from	to	Material	Blocked	
01/01/05	06/30/08	KG-1	<input checked="" type="checkbox"/>	
01/01/05	06/30/08	KG-2	<input checked="" type="checkbox"/>	

Figure 30: Source List Records for Material Group Contracts

There may be outline agreement items relating to a material group rather than a single specific material - for example, an outline agreement item with item category M (material unknown) or W (material group). You can create material-specific source list records for these contract items. In doing so, you can decide whether to exclude or include certain materials of the relevant material group by means of the source list.

- **Exclude**

Generally, all materials belonging to the material group in question can be ordered with reference to this contract item except those blocked in the source list for the material group item.

- **Include**

Only materials belonging to the material group in question that appear in the source list for the material group item can be ordered with reference to this contract item.

Example:

A contract exists for computer components. It is not necessary for every possible material to be included in the contract as a separate item. The contract must merely have a single item covering all materials (for example, the material group ZT99). The material D-01 that also belongs to material group ZT99 is to be excluded from release orders issued because it is covered by a separate contract. You therefore decide to use the source list for the material group item as an exclusion list.

To create the source list for a material group item, proceed as follows:

On the outline agreement overview screen, select the item for which you wish to enter the source list record and choose *Item* → *Maintain Source List*.

To exclude material D-01, keep the *Exclusion* indicator set and enter the material number D-01 in the list with the appropriate validity period. The system will then generate a source list record in which this outline agreement item is blocked as a source for material D-01.



Hint: Materials without a material master record cannot be blocked using the source list.



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Exercise 4: Source List

Exercise Duration: 35 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create and administer a source list

Business Example

For some of your materials, there is more than one possible source of supply. You administer these sources by means of source lists.

Task 1:

Automatic source determination without a source list.

1. Create a new material master record with the following data:

Material number	T-M520E##
Industry sector	Mechanical engineering
Material type	Semifinished product (HALB)
Views	Purchasing, MRP 1, MRP 2, Accounting 1
Plant	1000
Description	Halogen lamp 15W
Base unit of measure	pc
Purchasing group	Z##
Material group	SCM520
MRP type	ND
Planned delivery time	10 days
Valuation class	7900
Price control	S
Standard price	20 EUR

2. **20 pc** of material **T-M520E##** are needed in plant **1000**. Create a purchase requisition for this requirement. Ensure that the *Source Determination* indicator is set. Assign the requirement tracking number **SCM520** to the requisition item.

Continued on next page

Has a source of supply been assigned to the purchase requisition item?



Hint: Store the requirement tracking number SCM520 in the *personal settings* for the purchase requisition.

3. Create a plant-specific info record with the following data:

Vendor	T-K520A##
Material	T-M520E##
Purchasing organization	1000
Plant	1000
Planned delivery time	8 days
Purchasing group	Z##
Standard quantity	100
Net price	19 EUR per pc

4. A further **100 pc** of material **T-M520E##** are needed in plant **1000**. Create a purchase requisition for this requirement too. Ensure that the *Source Determination* indicator is set. Assign the requirement tracking number **SCM520** to the purchase requisition item.

Has a source of supply been assigned to the purchase requisition item?

5. Create a second info record with the following data:

Vendor	T-K520B##
Material	T-M520E##
Purchasing organization	1000
Plant	1000
Planned delivery time	7 days
Purchasing group	Z##
Standard quantity	100
Net price	20 EUR per pc

Continued on next page

6. A further **100 pc** of material **T-M520E##** are needed in plant **1000**. Create a purchase requisition for this requirement. Ensure that the *Source Determination* indicator is set. Assign the requirement tracking number **SCM520** to the requisition item.

Interpret the result of the automatic source determination process.

Assign the source with the lowest effective price to the item.

Task 2:

Automatic source determination with a source list.

1. Create a source list for your material **T-M520E##** for plant **1000**. The validity period of the source list records begins with today's date and ends on December 31 of next year. Enter vendors **T-K520A##** and **T-K520B##** as possible sources for purchasing organization **1000** (see note). Define vendor **T-K520B##** as the **fixed source**.



Hint: You can have generate source list records automatically via *Edit* → *Generate Records*. This function lists all the sources that exist in the system.

2. To check your settings, create a further purchase requisition for material **T-M520E##** in plant **1000**. Another **100 pc** are needed. Ensure that the *Source Determination* indicator is set. Assign the requirement tracking number **SCM520** to the purchase requisition item.

Has a source of supply been assigned to the purchase requisition item?

Task 3:

Optional: Automatic source determination during the requirements planning run.

1. Change the materials planning settings (MRP 1 and 2) for material **T-M520E##** in plant **1000** as follows:

Continued on next page

MRP type	PD
MRP controller	001
MRP lot size	ES
Procurement type	F
Scheduling margin key	000
Safety stock	500

2. Carry out the planning run for material **T-M520E##** in plant **1000**.



Hint: You should carry out single-level, single-item planning. Do not carry out overall (total) planning (that is, planning for the entire plant 1000). Have purchase requisitions created during the planning run.

Subsequently display the generated procurement element in the stock/requirements list.

Has a source of supply been assigned to the purchase requisition?

3. Change the relevant source list in such a way that the source corresponding to vendor **T-K520A##** is flagged as MRP-relevant.
4. Carry out the planning run for material **T-M520E##** in plant **1000** again.



Hint: You should carry out single-level, single-item planning. Do not carry out overall (total) planning (that is, planning for the entire plant 1000).

Have purchase requisitions generated during the planning run and change the planning mode. You want the old planning data to be deleted, and new data created.

Subsequently display the generated procurement element in the stock/requirements list.

Has a source of supply been assigned to the purchase requisition?

Solution 4: Source List

Task 1:

Automatic source determination without a source list.

1. Create a new material master record with the following data:

Material number	T-M520E##
Industry sector	Mechanical engineering
Material type	Semifinished product (HALB)
Views	Purchasing, MRP 1, MRP 2, Accounting 1
Plant	1000
Description	Halogen lamp 15W
Base unit of measure	pc
Purchasing group	Z##
Material group	SCM520
MRP type	ND
Planned delivery time	10 days
Valuation class	7900
Price control	S
Standard price	20 EUR

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Material Master* → *Material* → *Create (General)* → *Immediately*
2. **20 pc** of material **T-M520E##** are needed in plant **1000**. Create a purchase requisition for this requirement. Ensure that the *Source Determination* indicator is set. Assign the requirement tracking number **SCM520** to the requisition item.

Has a source of supply been assigned to the purchase requisition item?

Continued on next page



Hint: Store the requirement tracking number SCM520 in the *personal settings* for the purchase requisition.

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Purchase Requisition* → *Create*

On the *Source of Supply* tab page, you can see that the system was unable to determine a source.

- b) **Personal settings:** To be able to populate the *Purchasing Group* and *Plant* fields, you must adopt them in the selection options via *More Fields*.

3. Create a plant-specific info record with the following data:

Vendor	T-K520A##
Material	T-M520E##
Purchasing organization	1000
Plant	1000
Planned delivery time	8 days
Purchasing group	Z##
Standard quantity	100
Net price	19 EUR per pc

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Info Record* → *Create*

4. A further **100 pc** of material **T-M520E##** are needed in plant **1000**. Create a purchase requisition for this requirement too. Ensure that the *Source Determination* indicator is set. Assign the requirement tracking number **SCM520** to the purchase requisition item.

Has a source of supply been assigned to the purchase requisition item?

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Purchase Requisition* → *Create*

On the *Source of Supply* tab page, it can be seen that the system has assigned the info record for vendor T-K520A## to the item as the source.

Continued on next page

5. Create a second info record with the following data:

Vendor	T-K520B##
Material	T-M520E##
Purchasing organization	1000
Plant	1000
Planned delivery time	7 days
Purchasing group	Z##
Standard quantity	100
Net price	20 EUR per pc

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Info Record* → *Create*
6. A further **100 pc** of material **T-M520E##** are needed in plant **1000**. Create a purchase requisition for this requirement. Ensure that the *Source Determination* indicator is set. Assign the requirement tracking number **SCM520** to the requisition item.

Interpret the result of the automatic source determination process.

Assign the source with the lowest effective price to the item.

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Purchase Requisition* → *Create*

The system branches to the *Source of Supply* tab page. The requester is asked to choose one of the sources listed there. The system does not assign a source of supply because there are several equally suitable sources.

Choose *Price simulation all* and display the effective prices.

From a price simulation, you see that the source corresponding to vendor T-K520A## is the most favorable. Return to the requisition and assign this source to the item.

Continued on next page

Task 2:

Automatic source determination with a source list.

1. Create a source list for your material **T-M520E##** for plant **1000**. The validity period of the source list records begins with today's date and ends on December 31 of next year. Enter vendors **T-K520A##** and **T-K520B##** as possible sources for purchasing organization **1000** (see note). Define vendor **T-K520B##** as the **fixed source**.



Hint: You can have generate source list records automatically via *Edit → Generate Records*. This function lists all the sources that exist in the system.

- a) *SAP Menu → Logistics → Materials Management → Purchasing → Master Data → Source List → Maintain*

Choose *Edit → Generate Records* to have the system list all valid sources. Set the *Fixed* indicator for the source corresponding to vendor **T-K520B##**.

2. To check your settings, create a further purchase requisition for material **T-M520E##** in plant **1000**. Another **100 pc** are needed. Ensure that the *Source Determination* indicator is set. Assign the requirement tracking number **SCM520** to the purchase requisition item.

Has a source of supply been assigned to the purchase requisition item?

- a) *SAP Menu → Logistics → Materials Management → Purchasing → Purchase Requisition → Create*

The system has assigned the info record corresponding to vendor **T-K520B##** to the item.

Task 3:

Optional: Automatic source determination during the requirements planning run.

1. Change the materials planning settings (MRP 1 and 2) for material **T-M520E##** in plant **1000** as follows:

MRP type	PD
MRP controller	001
MRP lot size	ES

Continued on next page

Procurement type	F
Scheduling margin key	000
Safety stock	500

- a) *SAP Menu → Logistics → Materials Management → Material Master → Material → Change → Immediately*
2. Carry out the planning run for material **T-M520E##** in plant **1000**.



Hint: You should carry out single-level, single-item planning. Do not carry out overall (total) planning (that is, planning for the entire plant 1000). Have purchase requisitions created during the planning run.

Subsequently display the generated procurement element in the stock/requirements list.

Has a source of supply been assigned to the purchase requisition?

-
- a) *SAP Menu → Logistics → Materials Management → Material Requirements Planning (MRP) → MRP → Planning → Single-Item, Single-Level*

Change the presetting for the *Create Purchase Requisition* indicator to **1** (purchase requisitions) and carry out the planning run for material **T-M520E##**.

- b) *SAP Menu → Logistics → Materials Management → Material Requirements Planning (MRP) → MRP → Evaluations → Stock/Reqmts List*

Display the details of the purchase requisition generated as a result of the planning (*Details of Element*). No source of supply has been assigned to the purchase requisition item.

3. Change the relevant source list in such a way that the source corresponding to vendor **T-K520A##** is flagged as MRP-relevant.

- a) *SAP Menu → Logistics → Materials Management → Purchasing → Master Data → Source List → Maintain*

Set the value of the *MRP* indicator (signifying use of source list in MRP) for the source corresponding to vendor **T-K520A##** to **1**.

Continued on next page

4. Carry out the planning run for material **T-M520E##** in plant **1000** again.



Hint: You should carry out single-level, single-item planning. Do not carry out overall (total) planning (that is, planning for the entire plant 1000).

Have purchase requisitions generated during the planning run and change the planning mode. You want the old planning data to be deleted, and new data created.

Subsequently display the generated procurement element in the stock/requirements list.

Has a source of supply been assigned to the purchase requisition?

-
- a) *SAP Menu → Logistics → Materials Management → Material Requirements Planning (MRP) → MRP → Planning → Single-Item, Single-Level*

Change the preset value of the *Create Purchase Requisition* indicator to **1** (purchase requisitions). Change the value of the *Planning Mode* indicator to **3** (delete and recreate planning data), and carry out the planning run for material **T-M520E##**.

- b) *SAP Menu → Logistics → Materials Management → Material Requirements Planning (MRP) → MRP → Evaluations → Stock/Reqmts List*

Display the details of the purchase requisition generated as a result of the planning. The source corresponding to vendor **T-K520A##** has been assigned to the purchase requisition item.



Lesson Summary

You should now be able to:

- Describe the various ways of creating source list records
- List the different uses of a source list
- Control the source determination process with the aid of the source list

Lesson: Quota Arrangement



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Lesson Duration: 80 Minutes

Lesson Overview

A quota arrangement represents an additional source assignment option in the process of automatic source determination. If a quota arrangement exists for a material, it has the highest priority during source determination. This lesson describes how a quota arrangement can be used when you create a purchase requisition, or during the requirements planning run.



Lesson Objectives

After completing this lesson, you will be able to:

- Create the quota arrangement for a material
- Describe how the source determination process can be controlled with the aid of the quota arrangement



In this unit, it is sensible to relate the system demonstration as closely as possible to the participants' exercise. In the first part (create quota arrangement in the case of a manually created requisition), the instructor can illustrate how the quota rating is calculated. In the second part (quota arrangement in requirements planning) you should use the splitting function. To further consolidate participants' knowledge of this topic, it is useful to cover procurement from one of an enterprise's other plants. Participants can carry this out as an optional task in the exercise.

Additional system demonstration:

- Subsequent inclusion in the quota arrangement of an item representing a stock transfer from a second plant (in-house production in second plant). To relate the demo to the participants' optional task, splitting should be used.
- Demonstrate lot sizes and the minimum splitting quantity using a simple example. A quota arrangement is available in the system for material T-REY, plant 1000, with four sources with the quotas 4:3:2:1, for this purpose. As a preparatory measure, it only remains to create a safety stock, optimally this should be 1000 pc.

Time needed for exercise: approx. 45 min.

Business Example

For some of your materials, there is more than one source of supply. Requirements for these materials are to be apportioned in a fixed ratio among the various sources.

Functions of the Quota Arrangement

Like the source list, the quota arrangement facilitates the administration of sources of supply at plant level. If you would like to procure a certain material from a number of different sources within a certain time period, you can assign a quota to each individual source.

The quota indicates which share of the requirements arising for the material over a certain period is to be procured from which source.

If a valid quota arrangement exists for a material, it is taken into account during source determination. A quota arrangement is valid for a specific period of time. A quota arrangement item is created for each source during that period.



Caution: If a quota arrangement applies, this does not mean that the quantity of a single manually created purchase requisition is automatically apportioned among different sources. In such case, the entire requested quantity of the requisition is assigned to one source - the source that is next in line to receive the relevant order - in accordance with the quota arrangement. You can only divide up a single requirement according to the quota in the planning run.



Quota arrangement

Material:

Plant:

Valid from: to

O.ty.	S.ty.	Vendor	P.plant	Quota	in %	Quo.-alloc.qty
<input type="text" value="F"/>	<input type="text"/>	<input type="text" value="1000"/>	<input type="text"/>	<input type="text" value="1"/>	<input type="text" value="10"/>	<input type="text" value="100"/>
<input type="text" value="F"/>	<input type="text"/>	<input type="text" value="1050"/>	<input type="text"/>	<input type="text" value="1"/>	<input type="text" value="10"/>	<input type="text" value="150"/>
<input type="text" value="F"/>	<input type="text" value="U"/>	<input type="text"/>	<input type="text" value="1100"/>	<input type="text" value="4"/>	<input type="text" value="40"/>	<input type="text" value="440"/>
<input type="text" value="E"/>	<input type="text" value="E"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="4"/>	<input type="text" value="40"/>	<input type="text" value="360"/>

Figure 31: Quota Arrangement

To define a quota allocation procedure for the procurement of a material, proceed as follows:

After having entered the material and plant numbers on the initial screen, specify, in the header overview, the date until which the quota arrangement is valid. The start date is always the current date or the follow-on date from the end of the previous quota arrangement. Enter a quota arrangement item for each source that you wish to define in the arrangement, as follows:

1. Specify the procurement type for each source (in-house production or external procurement).
2. Where appropriate, specify the special procurement type (for example, stock transfer).
3. Enter the vendor or supplying plant.
4. Specify the quota you want to assign to this source.

The system calculates the percentage distribution of the requirements on the basis of the quotas and updates the quota-allocated quantity following each assignment of requirements effected on the basis of the quota arrangement.

In Customizing for quota arrangements, you define the number range for the quota arrangement and specify whether the number is to be assigned internally (by the system) or externally (through user input).

Create quota arrangement:

SAP Menu → Logistics → Materials Management → Purchasing → Master Data → Quota Arrangement → Maintain

Specify number ranges for quota arrangement:

SAP Customizing Implementation Guide → Materials Management → Purchasing → Quota Arrangement → Define Number Ranges

Before a quota arrangement can be maintained for a material, you must specify the business applications for which the quota arrangement is to be used (for example, in materials planning or in purchase requisitions). You make this specification in the *Quota Arrangement Usage* field, which is to be found in the plant-specific purchasing/materials planning data of the material master record.

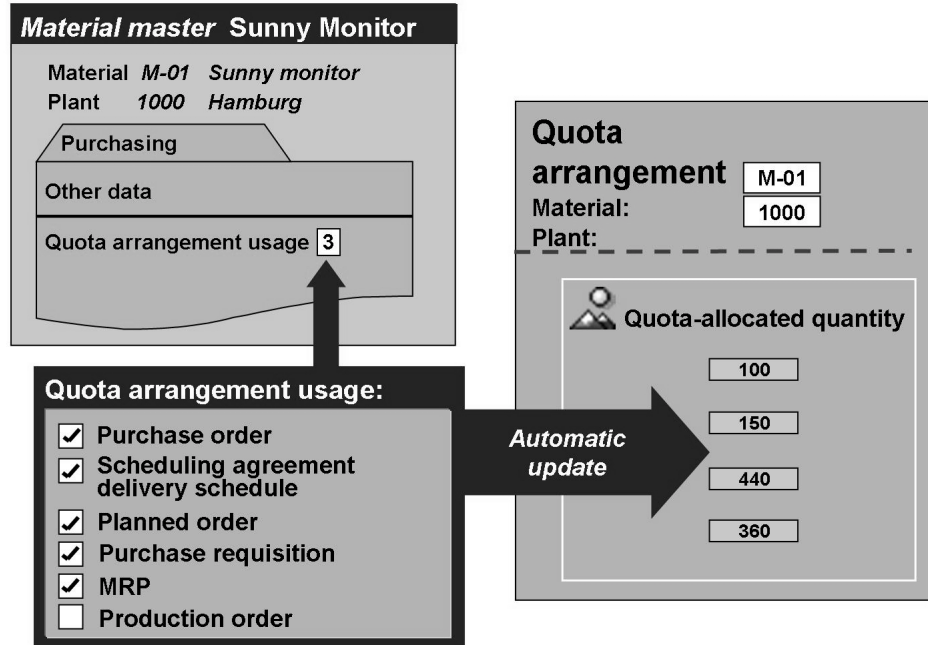


Figure 32: Quota Arrangement Usage

An entry in this field determines the areas in which the source determination facility finds the appropriate source on the basis of the quota arrangement. The quota-allocated quantity of the relevant quota arrangement item is updated from the areas specified via this indicator. The following areas can be taken into consideration:

- **Purchase requisitions**

The source determination process is controlled via the quota arrangement and the quantity requested for a material is included in the quota-allocated quantity.
- **Purchase orders**

The material quantity ordered during the validity period is included in the quota-allocated quantity providing the purchase order was not generated with reference to a requisition that drew on the quota arrangement.
- **Scheduling agreement**

The total quantity of the scheduling agreement delivery schedule lines for this material goes into the quota-allocated quantity.
- **Planned orders**

The total quantity of all relevant assigned planned orders for this material goes into the quota-allocated quantity. If the planned order is converted to a requisition, the quantity-allocated amount is not updated a second time.
- **Materials planning**

Source determination on the basis of quota arrangements can also be used in material requirements planning (MRP). Planned orders and purchase requisitions generated in the planning run have a source assigned on a quota basis, and the quota-allocated quantity is updated.
- **Production order**

The total quantity from all production orders for this material goes into the quota-allocated quantity of a relevant quota arrangement item for in-house production.

Permissible combinations of the areas listed are stipulated in Customizing and combined to form keys for quota arrangement usage.

Set quota arrangement usage indicator:

SAP Customizing Implementation Guide → Materials Management → Purchasing → Quota Arrangement → Define Quota Arrangement Usage

In the case of sources for which you have specified a quota in the current validity period, the system calculates which source is used next for a requirement. This calculation is carried out by the system during the source determination process for a requested material.



$$\text{Quota rating} = \frac{\text{Quota-allocated quantity} + \text{quota base quantity}}{\text{Quota}}$$

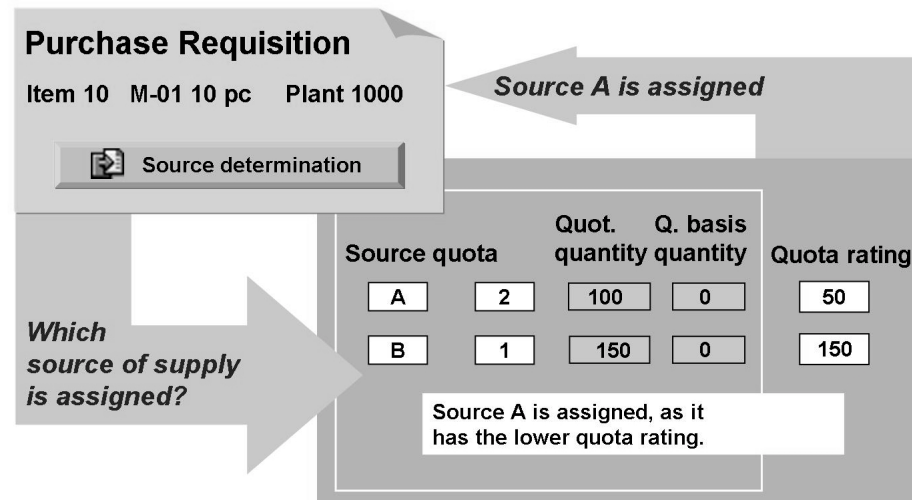


Figure 33: Source Determination

The system calculates a quota rating for each of the sources. The quota rating is calculated as follows:

$$\text{Quota rating} = (\text{quota-allocated quantity} + \text{quota base quantity}) / \text{quota}$$

The individual values are as follows:

- **Quota-allocated quantity**
Total quantity of all requirements included in the quota-allocated quantity according to the quota arrangement usage indicator in the material master record. The quota-allocated quantity is updated automatically.
- **Quota base quantity**
Quantity used for manual control of the quota arrangement (for example, when new sources are included).
- **Quota**
Number that determines how requirements are apportioned among the various sources.

The current quota rating is not displayed in the quota arrangement.

In the source determination process, the source with the lowest quota rating is always assigned.

The **quota base quantity** can be used on the one hand when a new source is included in an already existing quota arrangement and on the other to remedy a disproportion between quota and quota-allocated quantity. You can use the quota base quantity to prevent the new source from being assigned all requirements (for example, in the form of requisitions or purchase orders) until such time as its quota-allocated quantity exceeds that of one of the existing sources. This is achieved due to the fact that the quota base quantity acts as an additional quota-allocated quantity in the calculation of the quota rating.

Use of the quota base quantity - example:

You include a new vendor in an already existing quota arrangement. The existing quota arrangement consists of two vendors, who are each assigned 50% of the material requirements that arise. Each of these vendors has a high quota-allocated quantity because your company has already ordered a lot of material from them during the validity period of the quota arrangement.

The new vendor is to be assigned the same share of forthcoming requirements as the other two. However, according to the formula for calculating the quota rating, all requirements will be allocated to the new vendor until such time as his quota rating exceeds that of one of the other two vendors.

If the purchase requisitions are to be immediately assigned evenly, as if the new vendor had always been a party to the quota arrangement, you must define the quota base quantity for the new vendor appropriately, or have it determined by the system.

The system provides the following procedures for determining the quota base quantity:

- **Individual calculation**

Calculates the quota base quantity for the selected quota arrangement items. Select the items whose quota base quantity is to be recalculated and choose *Edit* → *Base Quantities* → *Individual Calculation*.

- **Collective calculation**

Calculates the quota base quantity for **all** quota arrangement items. Use this procedure if the allocation of requirements that arise for a material under a quota arrangement is to be based on the starting situation again, in which all sources have the same quota rating. Choose *Edit* → *Base Quantities* → *Collective Calculation*.

Calculation of quota rating - example:

You create a purchase requisition for a material (100 pc) for which the source determination process in the requisition is regulated on the basis of a quota arrangement. The following table shows the current situation with regard to the quota arrangement at the time of source determination:

Vendor	Quota	Quota-allocated quantity	Quota base quantity
A	3	780	0
B	2	380	0
C	1	0	260

In accordance with the formula mentioned earlier, the quota ratings for vendors A, B, and C are as follows:

Vendor	Quota rating
A	$(780 + 0) / 3 = 260$
B	$(380 + 0) / 2 = 190$
C	$(0 + 260) / 1 = 260$

This means that the source representing vendor B is will be assigned to the requisition item because this vendor has the lowest quota rating.

After the requisition has been saved, the situation regarding the quota arrangement is as follows:

Vendor	Quota	Quota-allocated quantity	Quota base quantity
A	3	780	0
B	2	480	0
C	1	0	260

Quota Arrangement in Material Requirements Planning

In contrast to source assignment via quota arrangement, when creating a purchase requisition manually, you can split up an individual requirement among the various sources in the quota arrangement in the planning run based on the quota.

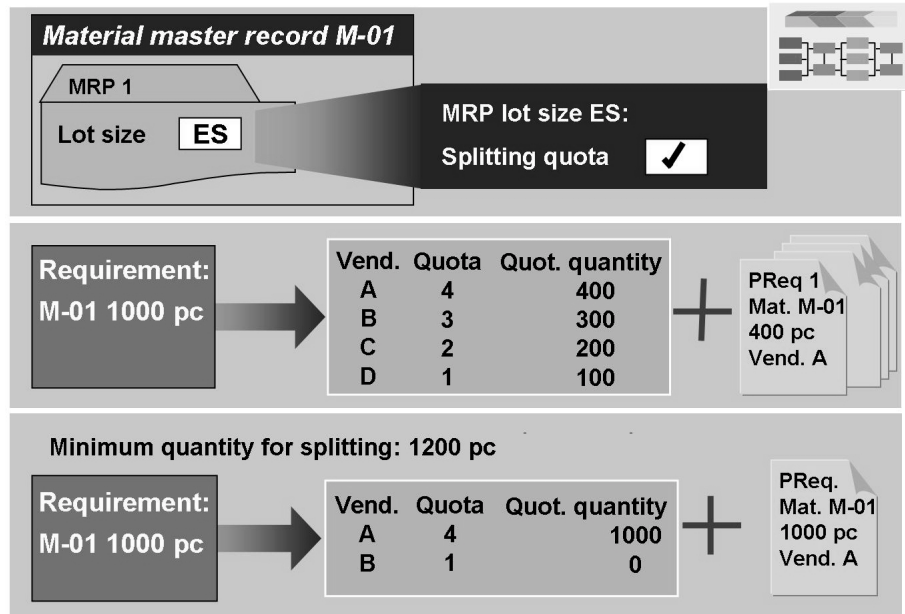


Figure 34: Requirement Splitting

You control whether a requirement is split or not using the assigned lot-sizing procedure and the minimum split quantity in the quota arrangement header. The indicator for the splitting quota must have been assigned to the lot-sizing procedure with which the material is planned (in Customizing). In the case of the lot size ES (exact lot size calculation with splitting), for example, the *Splitting* indicator is set.

Example of requirement splitting in materials planning:

The starting situation is as follows: There is a requirement for 1000 pc of a certain material in whose master record the lot size ES (exact lot size calculation with splitting) has been set. All vendors have the quotas contained in the following table at their disposal:

Vendor	Quota	Quota-allocated quantity
A	4	420
B	3	310
C	2	190
D	1	100

In requirements planning, four purchase requisitions are generated, the requirement of 1000 pc being apportioned among the four sources in the proportion 4:3:2:1. In the case of a quota arrangement with splitting, the quota-allocated quantity and quota rating are both irrelevant. This results in the following situation after the quota arrangement:

Vendor	Quota	Quota-allocated quantity
A	4	820
B	3	610
C	2	390
D	1	200

To prevent the system from splitting up a requirement that is too small in the course of a planning run, you can specify a minimum quantity for splitting. The minimum quantity defines the lowest quantity that a lot must have before it can be split up among several sources during the requirements planning run.

If the lot is smaller than the minimum quantity, the usual quota arrangement logic applies.

Example of requirement splitting with minimum splitting quantity:

For quota arrangement maintenance for a material with the number M-01, a minimum splitting quantity of 1200 is set. If there is a requirement of 1000 pc, in the course of a planning run for material M-01, this requirement will be converted into a single procurement element. Since the requirement falls below the minimum splitting quantity, no splitting takes place and the source with the lowest quota rating is determined by the system as the source for the procurement element.

Define lot-sizing procedure:

SAP Customizing IMG → Materials Management → Consumption-Based Planning → Planning → Lot-Size Calculation → Define Lot-Sizing Procedure

When maintaining a quota arrangement, you can also specify a minimum or maximum lot size for each item of the arrangement. However, the specified lot sizes are only taken into account in the case of requisitions and planned orders that are generated automatically (that is, via the MRP system). The lot size specified in the quota arrangement item overrides the settings in the material master record.

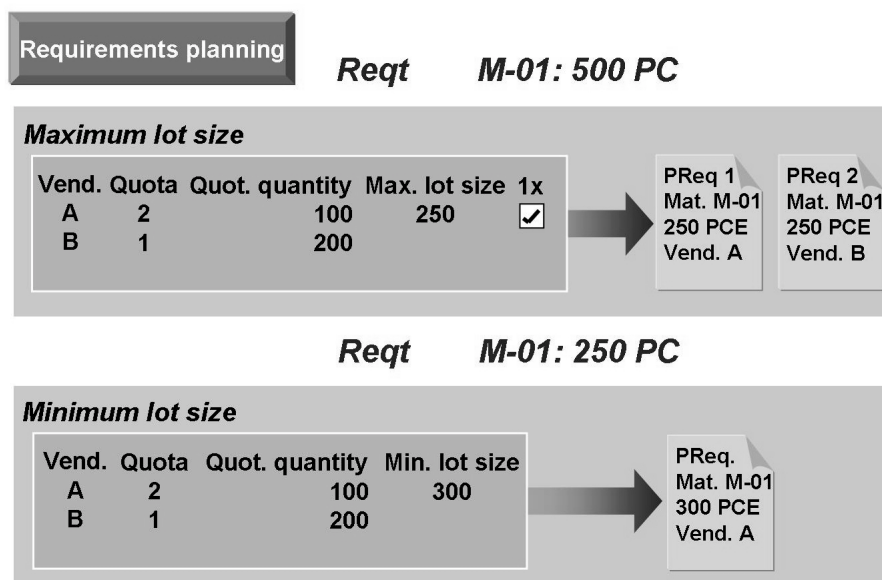


Figure 35: Lot Sizes

- **Maximum lot size per quota arrangement item**

Maximum lot size is the maximum quantity that may be assigned to a source for each procurement proposal in the requirements planning run. If the requirement quantity exceeds the maximum lot size, another quota-allocation process takes place for the residual quantity. It may then happen that, due to a low quota rating, the same source is reselected and a second procurement proposal generated for it. To prevent this, you can set the 1x indicator. If this indicator is set, a source is not taken into account for more than one lot with a quantity equal to the maximum lot size for each requirement. The remaining quantity is then allocated to the remaining sources.

- **Minimum lot size per quota arrangement item**

Minimum lot size is the minimum PO quantity that may be assigned to a source for each procurement proposal in the requirements planning run. If the requirement quantity is less than the minimum lot size, the minimum lot size for the source is set for the lot.

Example of maximum lot size with 1x indicator:

There is a requirement for 500 pc of a certain material. The starting situation is as shown in the following table:

Vendor	Quota	Quota-allocated quantity	Max. lot size	1x
A	3	100	250	x
B	1	200		

As the 1x indicator has been set, a planning run will generate a procurement proposal for 250 pieces with vendor A as the source and a procurement proposal for 250 pieces with vendor B as the source.

If the 1x indicator is not set, the planning run will generate two procurement proposals for 250 pieces with vendor A as the source.

In addition to a minimum and/or maximum lot size, you can also specify a **maximum quantity** in a quota arrangement item. The maximum quantity is taken into account in both the manual creation of purchase requisitions and the automatic generation of procurement proposals in material requirements planning.

The maximum quantity acts as a limit value for the quota-allocated quantity for a source. A quota arrangement item is not suggested as the source if the quota-allocated quantity is - or would become - greater than or equal to the maximum quantity.



Reqt M-01: 800 pc

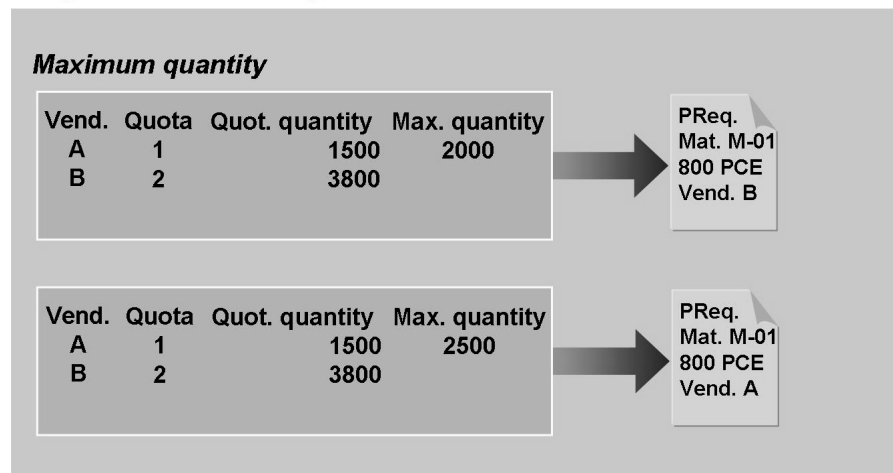


Figure 36: Maximum Quantity

Example of maximum quantity

There is a requirement for 800 pc of material M-01. The quota arrangement has been maintained in the system according to the following table:

Vendor	Quota	Quota-allocated quantity	Max. quantity
A	1	1500	2000
B	2	3800	

With this starting situation, a planning run would result in the generation of one procurement proposal for 800 pc with vendor B as the source. Although vendor A has a lower quota rating than vendor B, the maximum quantity would be exceeded if the procurement proposal were to be assigned to vendor A due to the quota quantity of 1500 pc already allocated.

If the maximum quantity were not 2000 but 2500 pc, the system would assign vendor A as the source.



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Exercise 5: Quota Arrangement

Exercise Duration: 45 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create and administer a quota arrangement

Business Example

You administer some sources of supply with the aid of quota arrangements.

Task 1:

Automatic source determination with a quota arrangement.

1. Change the master record for material **T-M520E##** in plant **1000**. Set the *Quota Arrangement Usage* indicator to **3** in the *Purchasing* view.
2. Create a quota arrangement for material **T-M520E##** in plant **1000**. The quota arrangement is to be valid until the end of next year. Assign the **quota 2** to your vendor **T-K520A##** and the **quota 1** to your second vendor **T-K520B##**. The quota arrangement is to be valid for external procurement.
3. Create another purchase requisition with two items. a) **50 pc** and b) **20 pc** of material **T-M520E##** are required in **plant 1000**. Ensure that the *Source Determination* indicator is set. Assign the requirement tracking number **SCM520** to the purchase requisition items.

Did the system assign a source to the first item? If so, which one?

Did the system assign a source to the second item? If so, which one, and why was this particular source assigned?

4. Display the quota arrangement for the material. What is the quota-allocated quantity for the two vendors?

Vendor T-K520A##:

Continued on next page

Vendor T-K520B##:

Task 2:

Automatic source determination with a quota arrangement in the requirements planning run.

1. Change the materials planning settings (MRP 1 and 2) for material **T-M520E##** in plant **1000** as follows:



Hint: If you have carried out the optional task 3, step 1, from exercise 6 (source list), the MRP data shown in the following table will have already been created.

MRP type	PD
MRP controller	001
MRP lot size	ES
Procurement type	F
Scheduling margin key	000
Safety stock	500

2. Carry out the planning run for material **T-M520E##** in plant **1000**.



Hint: You should carry out single-level, single-item planning. Do not carry out overall (total) planning (that is, planning for the entire plant 1000). Have purchase requisitions created during the planning run.

Display the result in the stock/requirements list.

Have new procurement elements been generated? If so, have sources been assigned?

Continued on next page

Task 3:

Optional: Stock transfer using a quota arrangement.

1. Copy the views created for material **T-M520E##** and plant **1000** (*Purchasing, MRP 1, MRP 2, Accounting 1*) for plant **1100**. In doing so, change the settings for MRP (MRP 2) as follows:

Procurement type	E
In-house production time	8

2. Material **T-M520E##** is manufactured in plant **1100**. **50 %** of the quantity of this material required in plant 1000 can be covered by transferring stock from plant 1100. To trigger the transfer of material from plant **1100**, a requisition with the item category **U** (stock transfer) is to be generated during the requirements planning run. Procurement type **F** is used in the quota arrangement for this process too. The special procurement type **U** and the procurement (=supplying) plant **1100** (field BWK) must be added to the new item. Change the quota arrangement created for plant **1000** accordingly.

Which quota must be assigned to plant 1100?

3. Test your settings by carrying out another requirements planning run for material **T-M520E##** in plant **1000** and then displaying the stock/requirements list.

Have purchase requisitions generated during the planning run and change the planning mode. You want the old planning data to be deleted and new data created.

Solution 5: Quota Arrangement

Task 1:

Automatic source determination with a quota arrangement.

1. Change the master record for material **T-M520E##** in plant **1000**. Set the *Quota Arrangement Usage* indicator to **3** in the *Purchasing* view.
 - a) *SAP Menu* → *Logistics* → *Materials Management* → *Material Master* → *Material* → *Change* → *Immediately*
2. Create a quota arrangement for material **T-M520E##** in plant **1000**. The quota arrangement is to be valid until the end of next year. Assign the **quota 2** to your vendor **T-K520A##** and the **quota 1** to your second vendor **T-K520B##**. The quota arrangement is to be valid for external procurement.
 - a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Quota Arrangement* → *Maintain*.

Enter the material and plant, then press *Enter*. Enter the valid-to date on the header screen for the quota arrangement, then choose *Goto* → *Item Overview*. Enter procurement type **F** for external procurement, the vendor, and the relevant quotas.
3. Create another purchase requisition with two items. a) **50 pc** and b) **20 pc** of material **T-M520E##** are required in **plant 1000**. Ensure that the *Source Determination* indicator is set. Assign the requirement tracking number **SCM520** to the purchase requisition items.

Did the system assign a source to the first item? If so, which one?

Did the system assign a source to the second item? If so, which one, and why was this particular source assigned?

Continued on next page

-
- a) *SAP Menu → Logistics → Materials Management → Purchasing → Purchase Requisition → Create*
 - b) The info record for vendor **T-K520A##** is assigned to the first item.
 - c) The info record for vendor **T-K520B#** is assigned to the second item. The source assignment is based on the quota arrangement set up for material **T-M520E##**. After the first item has been created, the quota-allocated quantity for vendor **T-K520A##** increases to 50 pc. The quota rating for vendor **T-K520A##** now amounts to 25. Since the quota-allocated quantity (and thus also the quota rating) for vendor **T-K520B##** prior to the creation of the second item is still 0, the source corresponding to vendor **T-K520B##** is assigned.
4. Display the quota arrangement for the material. What is the quota-allocated quantity for the two vendors?

Vendor T-K520A##:

Vendor T-K520B##:

- a) *SAP Menu → Logistics → Materials Management → Purchasing → Master Data → Quota Arrangement → Display.*

Select the relevant line in the overview and choose *Goto → Item Overview*.

The quota-allocated quantities are 50 pc for vendor **T-K520A##** and 20 pc for vendor **T-K520B##** .

Task 2:

Automatic source determination with a quota arrangement in the requirements planning run.

1. Change the materials planning settings (MRP 1 and 2) for material **T-M520E##** in plant **1000** as follows:



Hint: If you have carried out the optional task 3, step 1, from exercise 6 (source list), the MRP data shown in the following table will have already been created.

Continued on next page

MRP type	PD
MRP controller	001
MRP lot size	ES
Procurement type	F
Scheduling margin key	000
Safety stock	500

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Material Master*
→ *Material* → *Change* → *Immediately*
2. Carry out the planning run for material **T-M520E##** in plant **1000**.



Hint: You should carry out single-level, single-item planning. Do not carry out overall (total) planning (that is, planning for the entire plant 1000). Have purchase requisitions created during the planning run.

Display the result in the stock/requirements list.

Have new procurement elements been generated? If so, have sources been assigned?

Continued on next page

- a) *SAP Menu → Logistics → Materials Management → Material Requirements Planning (MRP) → MRP → Planning → Single-Item, Single-Level*

Change the preset value of the *Create Purchase Requisition* indicator to **1** (purchase requisitions). Also change the value of the *Planning Mode* indicator to **3** (delete and recreate planning data), and carry out the planning run for material **T-M520E##**.

- b) *SAP Menu → Logistics → Materials Management → Material Requirements Planning (MRP) → MRP → Evaluations → Stock/Reqmts List*

Two purchase requisitions have been generated.

If you display the details for the requisitions that have been generated via the planning process, you can see that vendor **T-K520A##** has been assigned to one of the requisition items and vendor **T-K520B##** to the other (Quantity= 36 pieces). The requirement has been split according to the predefined quotas in the ratio 2:1 because an MRP lot size with splitting has been defined in the MRP data of the material master record.



Hint: Note the requisitions not fixed in the stock/requirements list. These were generated in the planning run. The fixed purchase requisitions are from past exercises and were created manually.

Task 3:

Optional: Stock transfer using a quota arrangement.

- Copy the views created for material **T-M520E##** and plant **1000** (*Purchasing, MRP 1, MRP 2, Accounting 1*) for plant **1100**. In doing so, change the settings for MRP (MRP 2) as follows:

Procurement type	E
In-house production time	8

- SAP Menu → Logistics → Materials Management → Material Master → Material → Create General → Immediately*
- Material **T-M520E##** is manufactured in plant **1100**. **50 %** of the quantity of this material required in plant 1000 can be covered by transferring stock from plant 1100. To trigger the transfer of material from plant **1100**, a requisition with the item category **U** (stock transfer) is to be generated during

Continued on next page

the requirements planning run. Procurement type **F** is used in the quota arrangement for this process too. The special procurement type **U** and the procurement (=supplying) plant **1100** (field **BWK**) must be added to the new item. Change the quota arrangement created for plant **1000** accordingly.

Which quota must be assigned to plant 1100?

- a) *SAP Menu → Logistics → Materials Management → Purchasing → Master Data → Quota Arrangement → Maintain.*

Enter the material and plant, then press *Enter*. Choose *Goto → Item Overview* and add a third quota arrangement item. Enter procurement type **F**, special procurement type **U**, and supplying plant **1100** (field **PPI**).

In order for 50 % of the requirement to be covered by transfer from plant **1100**, the quota **3** (= total of other quotas) must be assigned to plant **1100**.

3. Test your settings by carrying out another requirements planning run for material **T-M520E##** in plant **1000** and then displaying the stock/requirements list.

Have purchase requisitions generated during the planning run and change the planning mode. You want the old planning data to be deleted and new data created.

- a) *SAP Menu → Logistics → Materials Management → Material Requirements Planning (MRP) → MRP → Planning → Single-Item, Single-Level*

Change the preset value of the *Create Purchase Requisition* indicator to **1** (purchase requisitions). Also change the value of the *Planning Mode* indicator to **3** (delete and recreate planning data), and carry out the planning run for material **T-M520E##**.

- b) *SAP Menu → Logistics → Materials Management → Material Requirements Planning (MRP) → MRP → Evaluations → Stock/Reqmts List*

Three requisitions with different sources have been generated. Take a look at the details for the purchase requisitions generated as a result of the planning. To do this click the *Vendor* button. Plant 1100 has been assigned to one requisition item (Quantity= 55 pieces) as the supplying plant. The requisition item was generated with item category **U**.



Lesson Summary

You should now be able to:

- Create the quota arrangement for a material
- Describe how the source determination process can be controlled with the aid of the quota arrangement

Lesson: Further Aspects of Source Determination



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Lesson Duration: 80 Minutes

Lesson Overview

This lesson will give you an insight into the contexts and priorities of source determination. You will see that the source determination process that takes place at the time of the requirements planning run differs from the process that takes place without materials planning. You will also become acquainted with source determination for material groups.

Sources of supply can also be blocked in a variety of ways. This unit will teach you the different ways to block sources.

You will also learn how the **regular vendor** is used. The regular vendor is an alternative to using the source list.



Lesson Objectives

After completing this lesson, you will be able to:

- Describe how the automatic source determination process works when purchase requisitions are assigned manually
- Describe how the automatic source determination process works in the requirements planning run
- List the options for blocking sources of supply for procurement purposes



In this lesson, you should review in summary form the rules according to which the source determination process takes place during the manual creation of a purchase requisition and during the planning run.

All other aspects of source determination should be illustrated using brief, simple examples.

Additional system demonstration:

Simple example of use of regular vendor: two info records, no source list, no outline purchase agreement. An info record is flagged as a regular vendor and assigned in the purchase requisition through the source determination process. In this connection, you should not forget to first activate the use of the regular vendor in Customizing for the relevant plant. Explain to participants that general data for the regular vendor is maintained in the info record and that this is valid client-wide.

Demonstrate source determination when creating a purchase order with an unknown vendor.

A training system for purchase requisition / purchase order using the catalog is only possible if a catalog has been connected to the training system beforehand. This cannot be guaranteed. Therefore, before training starts, check if a catalog is available and with which organization units it is linked...

Time needed for exercise: approx. 35 min.

Business Example

In your enterprise, the automatic source determination process is controlled with the aid of source lists and quota arrangements. For just a few materials, you use the regular vendor to avoid having to create source lists.

Priorities in Source Determination

The flow logic in automatic source determination at the time of the planning run differs from that in source determination during the manual processing of requisitions.

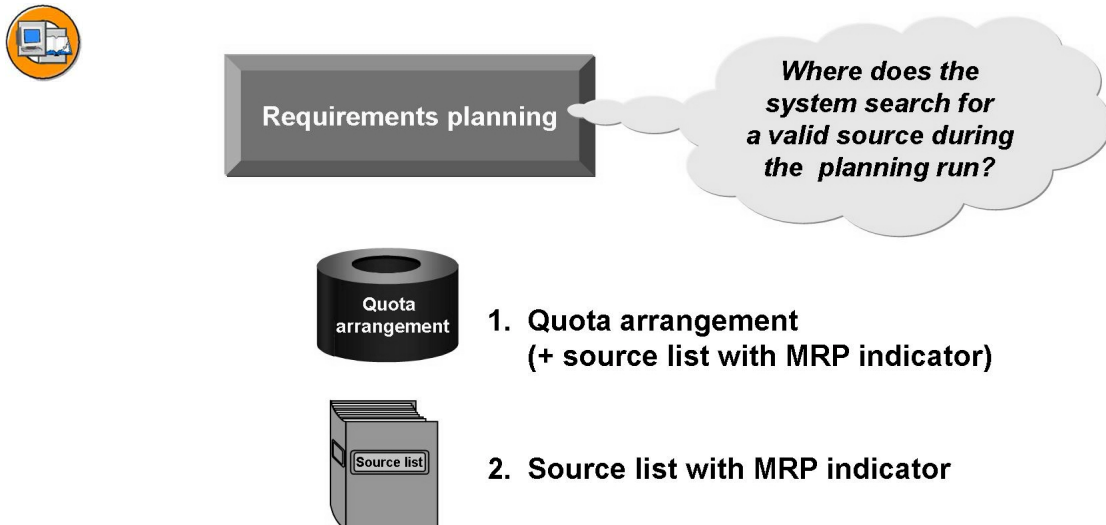


Figure 37: Source Determination at Time of Planning Run

During the requirements planning run, the source determination process is carried out in the background. Possible sources are determined by the system during requirements planning according to the following priorities:

1. **Quota arrangement**

If a quota arrangement exists for the material, this has the highest priority. You can only enter vendors and plants in the quota arrangement but no outline agreements like with the source list. If contracts and scheduling agreements are to be found as sources, these must be entered in the source list with MRP indicator 1 (MRP-relevant record) or 2 (MRP-relevant record, automatic SA delivery schedules). If, in the info records, you have entered different delivery times and minimum order quantities than in the material master record, you should also maintain MRP-relevant source list entries for the materials concerned.

Source determination takes place according to the settings and rules of the quota arrangement.

2. **Source list**

If there is no quota arrangement, the system checks the existing source list entries for which the MRP indicator 1 or 2 has been set. If the indicator is set for more than one item, the system takes the first item with an MRP indicator.

For materials for which neither a quota arrangement nor a source list have been created in the planned plant, procurement proposals are generated without a source.

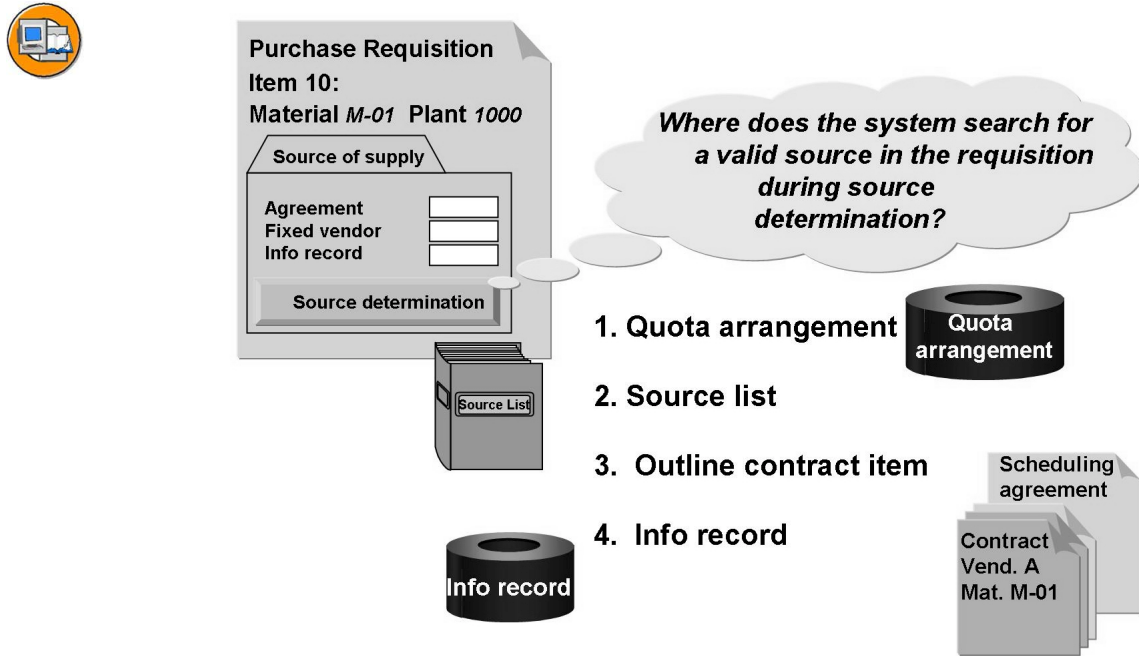


Figure 38: Automatic Source Determination

Determination of possible sources for a requested material is based on the following flow logic:

1. Quota Arrangement

The system first checks whether there is a quota arrangement for the material whose validity period covers the delivery date in the purchase requisition. If there is a quota arrangement, the system calculates according to the quotas specified for the source from which the material is to be procured and then suggests the source.

If there is a valid quota arrangement for a material, the automatic source determination process always comes up with a unique source assignment.

2. Source List

If there is no valid quota arrangement, the system checks whether there is an entry in the source list for the material in the relevant plant. The validity period of the source list entry must cover the delivery date in the requisition. The entry may take the form of either an info record or an outline agreement (contract or scheduling agreement).

If the source list contains a unique source, this source is assigned to the purchase requisition. The source is unique if the *Fixed* indicator has been set for this source in the source list, or if the source list contains only one entry. If both an outline agreement item and an info record are marked as fixed source, the outline agreement item has higher priority and is thus assigned.

If several sources are found and none of these are marked as a fixed source, a list will appear from which you can select a source.

3. Outline agreement item and info record

If there is neither a quota arrangement nor a source list, the system searches for valid outline agreement items and info records. If the source determination process is already triggered in the requisition **header**, a unique outline agreement item or a unique info record is assigned directly. Unique here means here that there is only one valid outline contract item or one valid info record.

Outline agreement items have a higher priority than info records in this process.

If the source determination process is triggered **per item**, all valid sources that exist in the system are offered for selection.

Source Determination: Further Functions

When a requisition is created or changed, an automatic source determination process can also be carried out for a material without a master record.

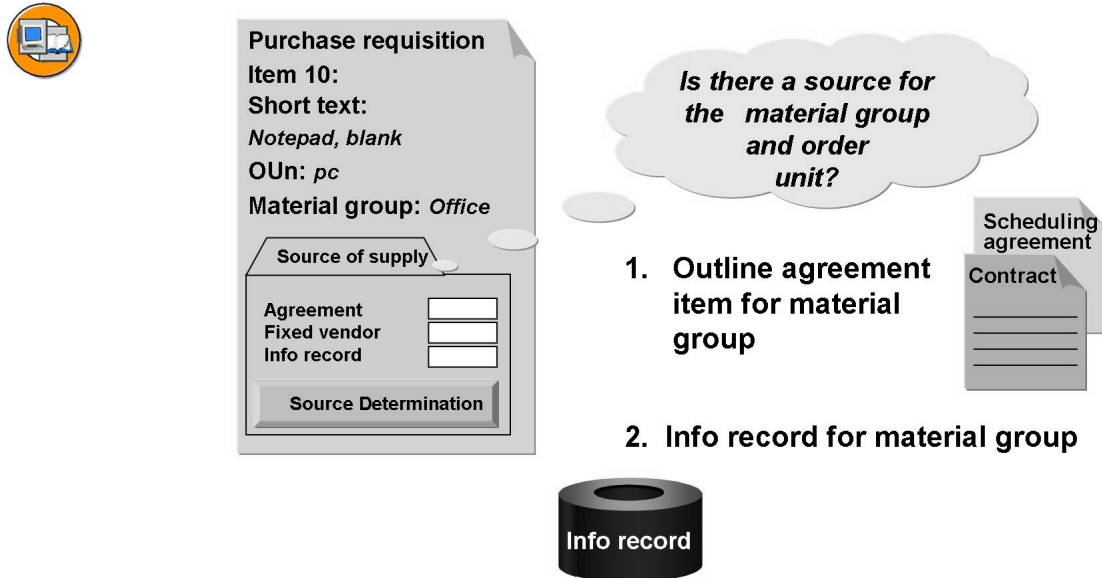


Figure 39: Source Determination for Material Group

The system is able to find sources for a material without a master record if there is an outline agreement item or an info record for the relevant material group. In such case, the material group of the outline agreement item or info record must be identical to the material group of the requested material. The system also checks to see whether the order units are identical.

If an outline agreement item exists for the material group, it takes priority over an info record for the material group.

Source Determination in Purchase Orders

It is possible that no purchase requisition has been entered in the system for a requirement and the procurement process is to commence directly with a PO. This may be the case, for example, if the requirement has been notified to Purchasing by 'phone and the buyer wishes to create a purchase order immediately, without knowing the vendor at this stage. You can also use the source determination facility in this case.



Create purchase order → (vendor unknown)

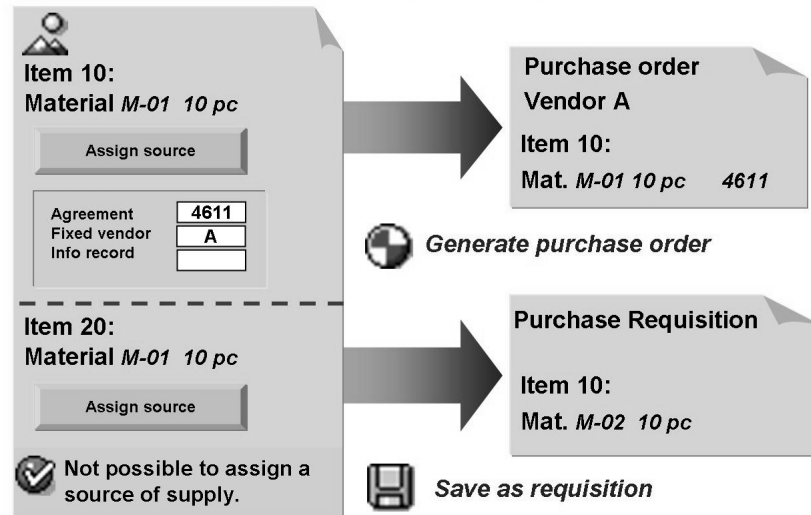


Figure 40: Create Purchase Order with Source Determination

As in the case of requisitions, the system suggests possible sources of a material for the purchase order on the basis of existing quota arrangements, source list records, outline agreements and/or info records. If no source exists, or if none of the existing sources is assigned, the document can be saved as a requisition.

The *Create Purchase Order, Vendor Unknown* function represents a combination of the functions *Create Purchase Requisition* and *Create Purchase Order*.

To create a purchase order with source determination, proceed as follows:

1. On the initial screen, make entries in all mandatory fields (for example, purchasing group and order date).

If the source determination process is to be carried out automatically for each item, select the *Source Determination* field.

2. Enter the item data of the requested materials in the item overview. You can also adopt items from a requisition by choosing *Purchase Order → Copy Requisition*. If you have not selected automatic source determination on the initial screen, select the items to which a source is to be assigned.
3. Choose *Edit → Assign Source*

The system suggests potential sources for the material.

If the source determination process produces a unique result on the basis of the flow logic discussed, the source is automatically assigned to the item. You can see which source has been assigned in this case by displaying the detail screen for the item.

If there is more than one potential source, a dialog box containing a list of the possible sources appears. Either choose a source or close the box if you do not wish to select any of the sources offered.

You can carry out a price simulation to help you make a decision. The system calculates the relevant net or effective price per source for the quantity to be ordered.

4. Select the assigned items for which you wish to generate POs and choose *Edit → Generate Purchase Order*.

All items not converted into PO items can be saved as requisitions, so that already entered data is not lost. To save unconverted items as requisitions, select the relevant item and choose *Purchase Order → Save as Requisition*. Assigned items that cannot be converted into POs because they are subject to a release procedure, for instance, can likewise be saved as requisition items.

5. If the selected items are procured from several vendors, an overview is displayed for selection purposes. Position the cursor on a vendor and click *Choose* to generate the PO. The system consolidates the items for the chosen vendor and generates a purchase order.

Create purchase order with automatic source determination:

SAP Menu → Logistics → Materials Management → Purchasing → Purchase Order → Create → Vendor Unknown

Procurement with Catalog

As of **mySAP ERP 2005** you have the possibility of connecting a catalog to the Enjoy transactions in purchase requisitions and purchase orders.

The components for the creation and administration of electronic catalogs, **SAP Catalog Content Management**, is included in the scope of supply for both the **mySAP SRM** and **mySAP ERP2005** applications.

Catalogs from other suppliers can also be connected.



Purchase Requisition / Purchase Order

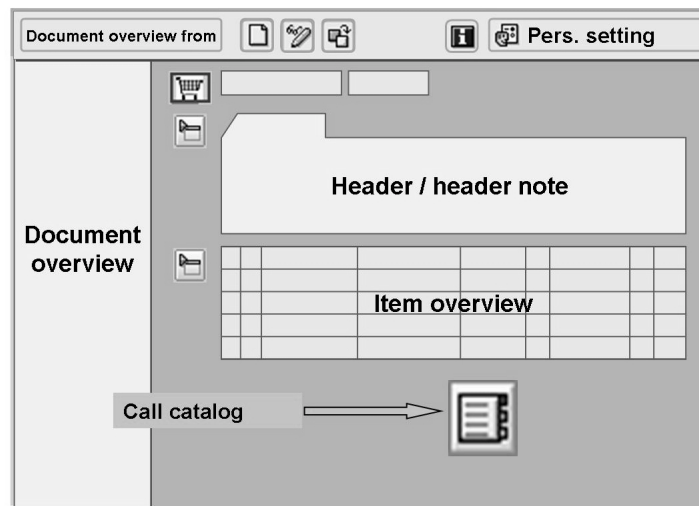


Figure 41: Procurement in ERP with Catalog

After calling the catalog, you can select the material that you wish to request or order. If you subsequently place items in the shopping cart, these are automatically applied in the purchase requisition or purchase order.



Hint: You can find detailed information on creating a shopping cart in the chapter on external procurement with mySAP ERP and mySAP Business Suite.

Establishing a connection to catalogs:

SAP Customizing Implementation Guide → Materials Management → Purchasing → Environment Data → Web Services: ID and Description

If more than one catalog is connected, you can choose the required catalog from a list.

The Regular Vendor

You use the *Regular Vendor* indicator in the info record to specify that a material is to be procured client-wide from this vendor. The regular vendor is thus comparable with the **fixed vendor** that can be specified in the source list for the lower organizational level **plant**.

You should use the **regular vendor** only if you have nothing other than info records stored in the system for a material and if you prefer not to create a source list to control the source determination process.

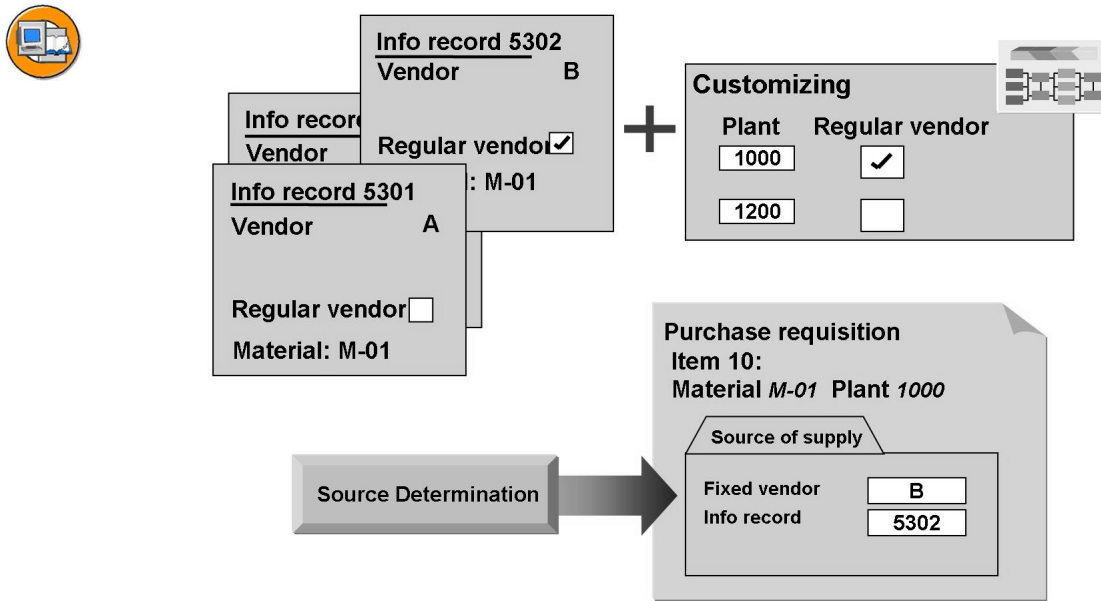


Figure 42: Regular Vendor

You set the indicator for the regular vendor in the general data of the info record. In order for the regular vendor to be pulled during source determination, regular vendor usage must be activated in Customizing for the relevant plant.

If the indicator has been set in the info record and the appropriate Customizing setting has been made, the regular vendor is proposed as the only source.

The indicator can only be set in one info record for each material. If you set this in another info record, you will receive a warning. The indicator will be deleted in the other info record if you acknowledge this.



Hint: In requirements planning, the regular vendor is only taken into account if a retail system is involved.

Activate regular vendor per plant:

*SAP Customizing Implementation Guide → Materials Management → Purchasing
→ Source Determination → Define Regular Vendor*

Blocking Vendors and Source List Entries

In some cases, you may wish to prevent goods from continuing to be procured from a particular vendor (maybe because the latter has recently supplied products of deficient quality). The vendor master record allows you to block purchases from such vendors.

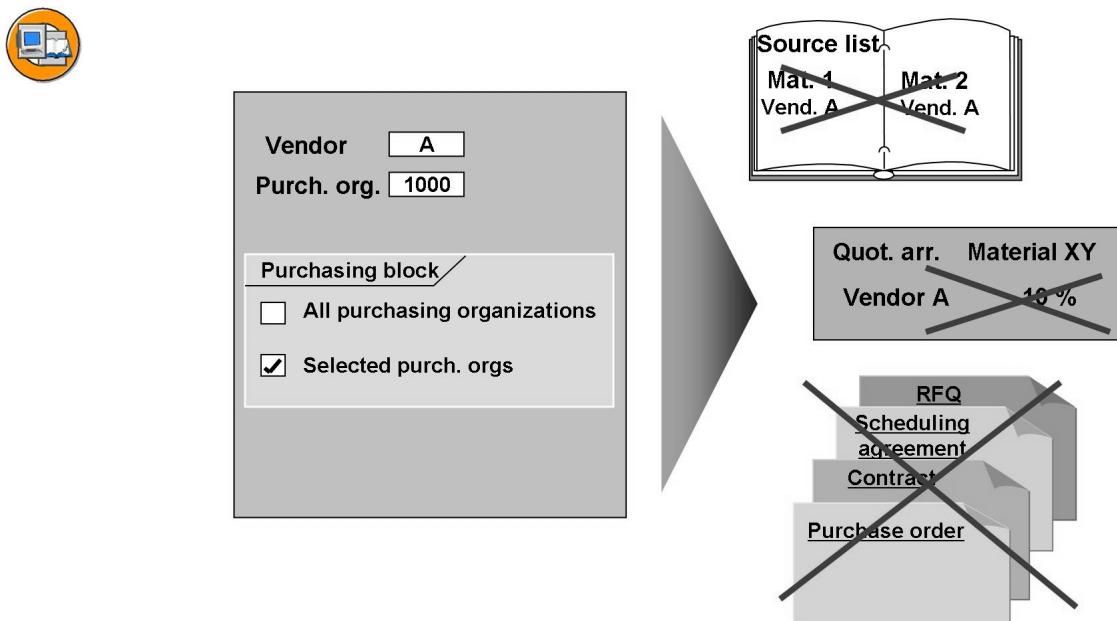


Figure 43: Blocking Vendors

You can block a vendor master record either for all purchasing organizations or for the purchasing organization selected on the initial screen of the transaction only.

As soon as you set the blocking indicator for a vendor, it is not possible to create any more POs for that vendor. Neither can you create any RFQs, outline agreements, quota arrangement records, or source list entries for the blocked vendor. Assigning an info record or an outline agreement as a source in a requisition is likewise no longer possible.

The block applies until you remove the blocking indicator.

Block vendor:

Purchasing → *Master Data* → *Vendor* → *Purchasing* → *Block*

or

Purchasing → *Master Data* → *Vendor* → *Central* → *Block*

Using the first menu path, you can only block a vendor master record with regard to purchasing. The second path enables you to impose not only a purchasing block but also a posting block. The posting block means that no postings can be made to the creditor account either (1) in any company code, or (2) for the company code entered in the initial screen. Any attempt to post to this account will cause the system to generate an error message.

You can also block a vendor from within vendor master account maintenance via *Extras* → *Blocked Data*.



Hint: When you block a vendor, you will receive a warning message from the system if documents are still open for this vendor. You should pay special attention to this as you can still enter goods receipts for and undertake changes to the open documents, but you will not be able to create any invoices if there is posting block.

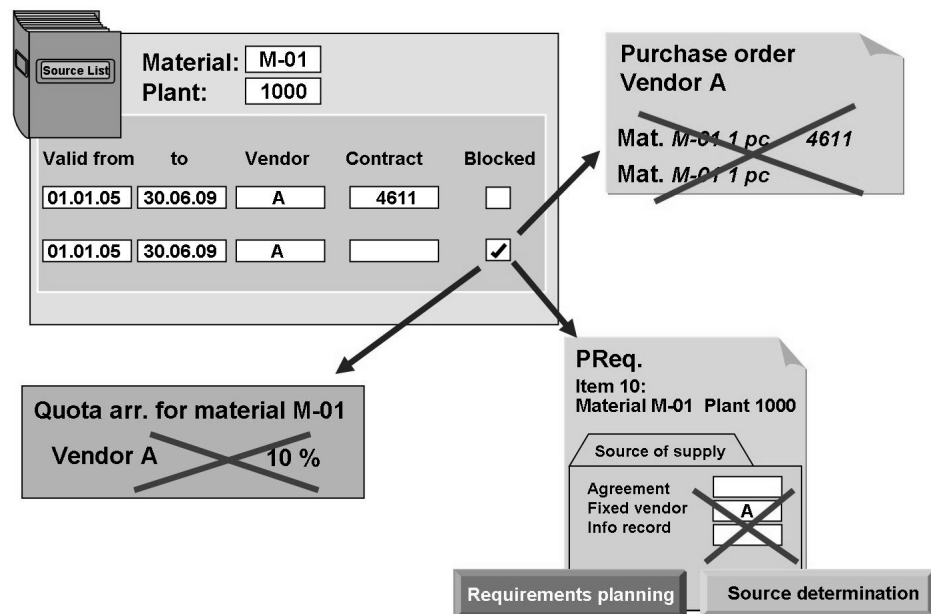


Figure 44: Blocking Sources of Supply in Source List

If you set the blocking indicator for a source list entry, the source represented by that entry can no longer be used in purchasing documents. A distinction is made between the following cases:

- **Blocking a source list line with contract number**

If you set the blocking indicator in a source list line with a contract number, you cannot then create a release order against that contract. However, you could order the material without reference to the contract.

A blocked source is not suggested during the source determination process in a requisition or PO. A contract that is blocked in the source list cannot be used as a source of supply. A corresponding quota arrangement item is likewise no longer considered if no parallel info record exists.

- **Blocking a source list line without contract number**

If you set the blocking indicator in a source list line without a contract number (meaning the source in question is an info record), the consequences are more far-reaching than if a source list line with a contract number is blocked. In this case, it is generally not possible to order the relevant material from the vendor concerned - either with or without reference to an existing contract. During the source determination process in a purchase requisition, neither an info record nor a contract is proposed for the blocked combination of material and vendor. An existing quota arrangement item is no longer taken into account in this case either.



Hint: If you set the blocking indicator and enter just a validity period, the material is generally blocked from being procured in this plant.



Exercise 6: Further Aspects of Source Determination

Exercise Duration: 35 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Reproduce the source determination process

Business Example

In your enterprise, requirements arising in individual user departments are recorded manually. In the case of certain materials, a source determination process takes place, which purchasing controls via source lists and quota arrangements.

Task 1:

Analyze priorities in source determination.

1. You need the following materials for plant **1000**:

Material	Quantity
T-M520A##	50 pc
T-M520B##	80 pc
T-M520D##	100 pc
T-M520E##	50 pc

Create an appropriate purchase requisition and ensure that the *Source Determination* indicator is set in the requisition header.

What is the result of the source determination process for the individual items? Enter the assigned sources and a short reason for the assignment in the following table:

Material	Quantity	Vendor	Reason for assignment
T-M520A##	50 pc		
T-M520B##	80 pc		
T-M520D##	100 pc		
T-M520E##	50 pc		

Continued on next page

2. More materials are needed for plant **1000**. Create an appropriate purchase requisition and ensure that the *Source Determination* indicator is set.

Use account assignment category **K** for all items and assign the purchase to G/L account **400000** and cost center **1000**.



Hint: When you enter the account assignment data for the first item, activate the repeat account assignment facility (*Repeat On*).

Material	Further data
T-M520C##	10 boxes , 10 EUR per box
Propelling pencils, 0.7mm	5 boxes (BOX) , material group ZT##, purchasing group Z##, 9 EUR per box
Packing boxes size 4	10 pc , material group 008, purchasing group Z##, 1 EUR per pc
Lubricating oil	50 liters (L) , material group 010, purchasing group Z##, 5 EUR per liter

What is the result of the source determination process for the individual items? Assign the source to items 30 and 40 of the requisition you have created. Enter the assigned sources and a short reason for the assignment in the following table:

Material	Vendor	Reason for assignment
T-M520C##		
Propelling pencils, 0.7mm		
Packing boxes size 4		
Lubricating oil		

Now select the contract with your vendor T-K520B## for the third item.

Continued on next page

Task 2:

Block source of supply.

1. Create a source list for material **T-M520C##** in plant **1000**. There is at least one source of supply (info record for vendor T-K520A##) in the system. Enter this source in the source list via *Edit* → *Generate Records* and adopt the suggested validity period. Block the vendor from being assigned as the source for the procurement of material **T-M520C##** by setting the *Blocked* indicator.



Hint: Set the *Blocked* indicator for any other sources of supply for material T-M520C## that may exist in the system.

2. Test your setting by attempting to create a purchase order for vendor **T-K520A##**.

Which system message do you get? Can you nevertheless save the document?

Task 3:

Purchase order with source determination.

1. You are informed by telephone of the following requirement for cost center **1000** in plant 1000:

Material	Further data
T-M520C##	10 boxes, 10 EUR per box
T-M520B##	20 pc
Steel bolts, M 4x15	100 pc, material group 009, 0.25 EUR per pc

The materials are needed in **two weeks**.

You wish to record the requirement in the system, carry out an automatic source determination process, and (if this process is successful) immediately generate a purchase order to cover the requirement. You wish to save items to which no sources could be assigned as purchase requisitions.

Create a purchase order with source determination.

Continued on next page

How do you ensure that the source is automatically determined after the item data is entered and, if possible, directly assigned to the item?

2. Unset the **Blocking Indicator** in the source list for material **T-M520C##** and plant **1000** for vendor **T-K520A##**.

Solution 6: Further Aspects of Source Determination

Task 1:

Analyze priorities in source determination.

1. You need the following materials for plant **1000**:

Material	Quantity
T-M520A##	50 pc
T-M520B##	80 pc
T-M520D##	100 pc
T-M520E##	50 pc

Create an appropriate purchase requisition and ensure that the *Source Determination* indicator is set in the requisition header.

What is the result of the source determination process for the individual items? Enter the assigned sources and a short reason for the assignment in the following table:

Continued on next page

Material	Quantity	Vendor	Reason for assignment
T-M520A##	50 pc		
T-M520B##	80 pc		
T-M520D##	100 pc		
T-M520E##	50 pc		

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Purchase Requisition* → *Create*

The source assigned in each case is shown on the *Source of Supply* tab page.

The solution to the task can vary depending on which data you have created in the system.

Material	Quantity	Vendor	Reason for assignment
T-M520A##	50 pc	T-K520A## (info record)	Sole info record
T-M520B##	80 pc	T-K520B## (contract)	Sole outline agreement
T-M520D##	100 pc	T-K520B## (scheduling agreement)	Sole outline agreement
T-M520E##	50 pc	T-K520B##	Quota arrangement

2. More materials are needed for plant **1000**. Create an appropriate purchase requisition and ensure that the *Source Determination* indicator is set.

Use account assignment category **K** for all items and assign the purchase to G/L account **400000** and cost center **1000**.



Hint: When you enter the account assignment data for the first item, activate the repeat account assignment facility (*Repeat On*).

Continued on next page

Material	Further data
T-M520C##	10 boxes , 10 EUR per box
Propelling pencils, 0.7mm	5 boxes (BOX) , material group ZT##, purchasing group Z##, 9 EUR per box
Packing boxes size 4	10 pc , material group 008, purchasing group Z##, 1 EUR per pc
Lubricating oil	50 liters (L) , material group 010, purchasing group Z##, 5 EUR per liter

What is the result of the source determination process for the individual items? Assign the source to items 30 and 40 of the requisition you have created. Enter the assigned sources and a short reason for the assignment in the following table:

Material	Vendor	Reason for assignment
T-M520C##		
Propelling pencils, 0.7mm		
Packing boxes size 4		
Lubricating oil		

Continued on next page

Now select the contract with your vendor T-K520B## for the third item.

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Purchase Requisition* → *Create*

The source assigned in each case is shown on the *Source of Supply* tab page.

The solution to the task can vary depending on which data you have created in the system.

Material	Vendor	Reason for assignment
T-M520C##	T-K520A##	Sole info record
Propelling pencils, 0.7mm	T-K520A##	Sole info record
Packing boxes size 4	Not unique: all vendors T-K520B*	There are several contracts for material group 008.
Lubricating oil	Not unique: all vendors T-K520B##	There are several contracts for material group 010.

Task 2:

Block source of supply.

1. Create a source list for material **T-M520C##** in plant **1000**. There is at least one source of supply (info record for vendor T-K520A##) in the system. Enter this source in the source list via *Edit* → *Generate Records* and adopt the suggested validity period. Block the vendor from being assigned as the source for the procurement of material **T-M520C##** by setting the *Blocked* indicator.



Hint: Set the *Blocked* indicator for any other sources of supply for material T-M520C## that may exist in the system.

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Source List* → *Maintain*
2. Test your setting by attempting to create a purchase order for vendor **T-K520A##**.

Which system message do you get? Can you nevertheless save the document?

Continued on next page

-
-
-
- a) *SAP Menu → Logistics → Materials Management → Purchasing → Purchase Order → Create → Vendor/Supplying Plant Known*

The system tells you that according to the source list the source is blocked. The document cannot be saved. You can hold the document however.

Task 3:

Purchase order with source determination.

1. You are informed by telephone of the following requirement for cost center **1000** in plant 1000:

Material	Further data
T-M520C##	10 boxes, 10 EUR per box
T-M520B##	20 pc
Steel bolts, M 4x15	100 pc, material group 009, 0.25 EUR per pc

The materials are needed in **two weeks**.

You wish to record the requirement in the system, carry out an automatic source determination process, and (if this process is successful) immediately generate a purchase order to cover the requirement. You wish to save items to which no sources could be assigned as purchase requisitions.

Create a purchase order with source determination.

How do you ensure that the source is automatically determined after the item data is entered and, if possible, directly assigned to the item?

Continued on next page

-
- a) *SAP Menu → Logistics → Materials Management → Purchasing → Purchase Order → Create → Vendor Unknown*

Set the *Source Determination* indicator to have the source determination process carried out automatically when the item is entered.



Hint: If you enter the relevant delivery date and accounting assignment category on the initial screen, this will be adopted in all items as the default value.

Since only the second item (material T-M520B##) has had a source assigned to it, select the item and choose *Edit → Generate Purchase Order*.

Adopt the item in the purchase order and save.

Save the remaining two items as a purchase requisition.

2. Unset the **Blocking Indicator** in the source list for material **T-M520C##** and plant **1000** for vendor **T-K520A##**.
- a) *SAP Menu → Logistics → Materials Management → Purchasing → Master Data → Source List → Maintain*



Lesson Summary

You should now be able to:

- Describe how the automatic source determination process works when purchase requisitions are assigned manually
- Describe how the automatic source determination process works in the requirements planning run
- List the options for blocking sources of supply for procurement purposes



Unit Summary

You should now be able to:

- Describe the various ways of creating source list records
- List the different uses of a source list
- Control the source determination process with the aid of the source list
- Create the quota arrangement for a material
- Describe how the source determination process can be controlled with the aid of the quota arrangement
- Describe how the automatic source determination process works when purchase requisitions are assigned manually
- Describe how the automatic source determination process works in the requirements planning run
- List the options for blocking sources of supply for procurement purposes



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Test Your Knowledge

1. You create a requisition using source determination. When is a source found uniquely?

Choose the correct answer(s).

- A When there is a valid quota arrangement.
- B When there is no quota arrangement but a single valid info record exists as a source list entry without any other indicators.
- C When there is no quota arrangement but several valid info records exist as source list entries without any other indicators.
- D When there is no quota arrangement but multiple valid source list entries, of which both an outline agreement item and an info record are selected as fixed sources.
- E Only when info records exist of which one is selected in the purchasing organization data as the regular vendor.

2. How do you block sources?

Choose the correct answer(s).

- A Using a cross-plant vendor status in the vendor master record general data.
- B Client-wide in the source list for a material.
- C Plant-dependent in the source list for a material.
- D Using a blocking indicator in the vendor master record purchasing data.

3. You want to create a purchase order but do not know the vendor. Which statement is applicable?

Choose the correct answer(s).

- A You have to first create a requisition.
- B You create a purchase order without a vendor, hold this and then assign a source to the purchase order using a collective transaction.
- C Using the "Create PO, vendor unknown" function.
- D You always have to use a one-time vendor.



Answers

1. You create a requisition using source determination. When is a source found uniquely?

Answer: A, B, D

If both an outline agreement and an info record are selected as fixed source (answer B), the outline agreement has even higher priority and is thus found uniquely. The regular vendor (answer E) is not maintained in the purchasing organization data but in the general data. The use of the regular vendor must also be activated in Customizing for the plant.

2. How do you block sources?

Answer: C, D

3. You want to create a purchase order but do not know the vendor. Which statement is applicable?

Answer: C

Unit 3

Optimized Purchasing



This unit not only presents the collective transactions ME57, ME58, and ME59N in detail, but also introduces the new option of setting up the document overview in transaction ME21N in such a way as to replace transaction ME58 for the generation of POs. Explain the difference between the standard and the Enjoy interface for the ME57 transaction.

Unit Overview

In this unit, you will become acquainted with the various options available for the efficient conversion of requisitions into purchase orders. Which functions you can use to convert requisitions into POs depends on the prerequisites and the desired result.



Unit Objectives

After completing this unit, you will be able to:

- Automatically assign non-assigned requisitions using a collective transaction, and convert them into POs and SA delivery schedule lines
- Convert requisition items without a source into RFQs
- Convert assigned purchase requisitions into POs and scheduling agreement items using collective transactions

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Lesson: Processing Non-Assigned Purchase Requisitions



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Lesson Duration: 35 Minutes

Lesson Overview

In this lesson, you will become acquainted with the options provided by the system for assigning as yet unassigned requisitions to sources of supply as effectively as possible and converting these into purchase orders and scheduling agreement delivery schedule lines.



Lesson Objectives

After completing this lesson, you will be able to:

- Automatically assign non-assigned requisitions using a collective transaction, and convert them into POs and SA delivery schedule lines
- Convert requisition items without a source into RFQs



If participants have not attended course SCM500, they may not be familiar with RFQ and quotation processing. The possibility of creating an RFQ from a requisition item is the subject of an optional exercise and should be demonstrated by the instructor.

Additional system demonstration:

Assignment transaction ME56

Creation of RFQ using transaction ME57

Time needed for exercise: approx. 20 min.

Business Example

In addition to requisition items that have already been assigned, your company also requests materials for which a supply source is not or cannot be assigned on creating the purchase requisition. These purchase requisitions are converted by the purchasing department into purchase orders, SA delivery schedules and RFQs using the collective transaction *Assign and Process*.

Assigning and Processing Purchase Requisitions

In the case of purchase requisition items that were not assigned to sources at the time of their creation, you have the option of assigning collective sources and converting the purchase requisitions using a single transaction. Alternatively, you can assign the requisitions to sources in a first step and then continue processing the assigned items using other transactions in a second step.

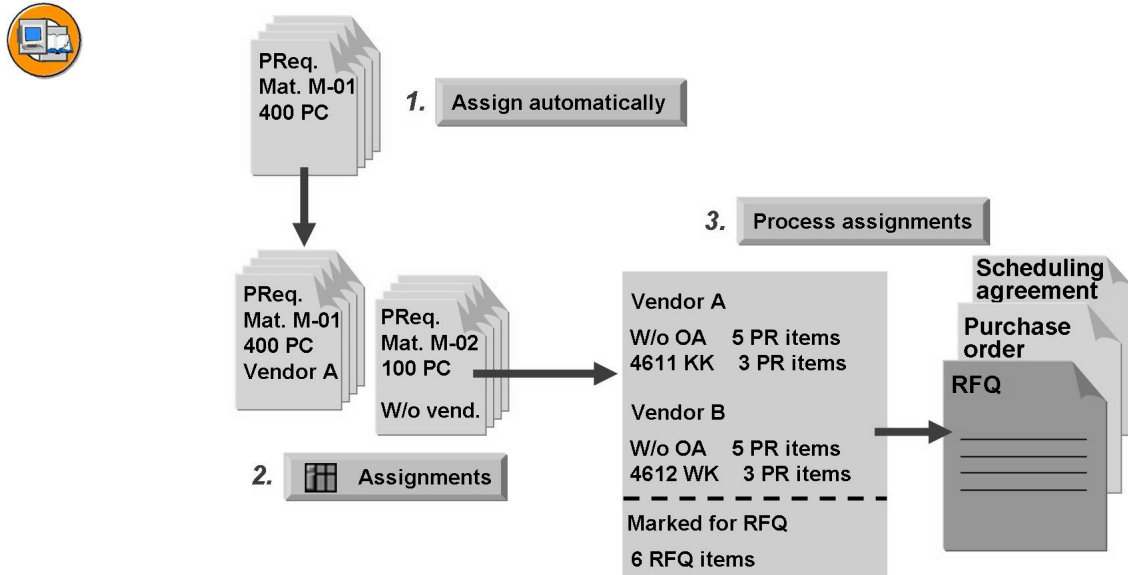


Figure 45: Assigning and Processing Purchase Requisitions

If you wish to carry out both functions in a single step, choose *Purchase Requisition* → *Follow-On Functions* → *Assign and Process*. The *Assign and Process Requisitions* function is a combination of the *Assign Source to Requisitions* and *Ordering for Assigned Requisitions* functions.

You can trigger the automatic assignment of sources for all selected purchase requisition items from a list of open purchase requisitions. If there are several sources of supply of a material, you can choose the desired one from a list of all possible sources.

You can manually assign requisitions for which no source can be found to a vendor or flag them for RFQ processing (*Edit* → *Flag for RFQ* → *Without Vendor/With Vendor*).



Hint: The flag for RFQ cannot be saved. This function is therefore only available in ME57. Purchase requisitions that are flagged for RFQ must be converted into RFQs immediately, otherwise the assignment will be lost on saving.

After the assignment phase, you can either save your requisitions with assigned sources or generate the assignment list in a second step in order to convert the assigned items into POs, SA delivery schedules or RFQs.



Caution: If requisitions that have already been assigned are selected, and the automatic source determination process identifies a different source than the one already entered, the previous source is overwritten without prior warning.

Assign and process purchase requisitions

SAP Menu → Logistics → Materials Management → Purchasing → Purchase Requisition → Follow-On Functions → Assign and Process

As of SAP R/3 Enterprise, you can use the Enjoy interface for follow-on processing of purchase requisitions. This enables you to assign sources in a single-screen transaction and convert requisitions into follow-on documents (POs or RFQs).



Selection	Number of items
W/o source of supply	1
Vendor 1000	2

PReq.	Item	In proc.	Source	Material	Short text
10001	10			M-01	Monitor 1
10010	20			M-02	Monitor 2
10099	10			M-01	Monitor 1

Source of supply	Acct assgmt	Material data	Versions
Fixed vendor	1000		
Info record	4711		

Assign source

Figure 46: Assign and Process Enjoy Purchase Requisitions

Enjoy follow-on processing

- Gives you the option of changing individual purchase requisitions.
- Enables you to assign individual or multiple requisitions to sources.
- Allows you to convert requisitions into POs and RFQs

To be able to use transaction ME57 as a single-screen transaction, you have to use a list scope for which ALV Grid Control is active.

To activate ALV Grid Control for a list scope, make the following settings in Customizing:

SAP Customizing Implementation Guide → Materials Management → Purchasing → Reporting → Maintain Purchase Requisition Lists → Define Scope of List Details: Indicator

Use ALV Grid Control indicator.

You can also define this list scope as a default value:

SAP Customizing Implementation Guide → Materials Management → Purchasing → Reporting → Maintain Purchase Requisition Lists → Define Default Values for Transactions



Exercise 7: Processing Non-Assigned Purchase Requisitions.

Exercise Duration: 20 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Process non-assigned purchase requisitions

Business Example

You wish to convert non-assigned purchase requisition items into POs, contract release orders, and scheduling agreement delivery schedule lines with minimum manual effort. To do this, you must first assign a suitable source of supply, or, if no source exists in the system, create a request for quotation (RFQ).

Task:

Processing Non-Assigned Purchase Requisitions.

1. To process your non-assigned requisitions, choose *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Purchase Requisition* → *Follow-On Functions* → *Assign and Process*.

Select all purchase requisitions for your **purchasing group Z##** for **plant 1000**. Set the *Released Requisitions Only* indicator.

As far as possible, assign a source to every requisition item and then convert the assigned items into POs or contract release orders.

Optional: If it is not possible to assign a source to a requisition item, flag the item for the issue of RFQs to vendors **T-K520A##** and **T-K520B##**.

Solution 7: Processing Non-Assigned Purchase Requisitions.

Task:

Processing Non-Assigned Purchase Requisitions.

1. To process your non-assigned requisitions, choose *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Purchase Requisition* → *Follow-On Functions* → *Assign and Process*.

Select all purchase requisitions for your **purchasing group Z##** for **plant 1000**. Set the *Released Requisitions Only* indicator.

As far as possible, assign a source to every requisition item and then convert the assigned items into POs or contract release orders.

Optional: If it is not possible to assign a source to a requisition item, flag the item for the issue of RFQs to vendors **T-K520A##** and **T-K520B##**.

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Purchase Requisition* → *Follow-On Functions* → *Assign and Process*

To do so choose *Edit* → *Select* → *Select All* and then *Assign Automatically*.

Optional: If it was not possible to assign a source to one of the items, choose *Edit* → *Flag for RFQ* → *With Vendor*.

- b) Generate the list of assignments by choosing *Goto* → *Assignment Overview*.

Convert the assigned requisitions into POs and RFQs using *Process Assignment*. You can use your group number ## as the collective number in the RFQ.



Lesson Summary

You should now be able to:

- Automatically assign non-assigned requisitions using a collective transaction, and convert them into POs and SA delivery schedule lines
- Convert requisition items without a source into RFQs

Lesson: Processing Assigned Purchase Requisitions



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Lesson Duration: 60 Minutes

Lesson Overview

In this lesson, you will become acquainted with the various options provided by the system for converting requisitions that have already been assigned to a source of supply into purchase orders and scheduling agreement delivery schedule lines as efficiently as possible.



Lesson Objectives

After completing this lesson, you will be able to:

- Convert assigned purchase requisitions into POs and scheduling agreement items using collective transactions



As an alternative to ME58, the instructor should show how the document overview affords you the option of including all open requisitions for **one** vendor in a purchase order in a **single** step. How the document overview should be set up for this purpose is described in detail in the exercise. You can implement the layout in your demo and then store it as a general setting if you would like course participants to complete this exercise.

This unit does not include an exercise on transaction ME59N. Participants use this transaction in the exercise for the unit on the document release procedure.

Additional system demonstration:

- It is generally advisable to create additional assigned requisitions in order to better illustrate the effect of collective conversion. In doing so, the instructor should take care not to create any blocked requisition items (through a different requirement tracking number, for instance).
- Transaction ME59N should be discussed in this unit, but it may be better to demonstrate it in the system after participants have completed the exercise.

Here too, it is a good idea to prepare suitable data to show that the system automatically generates delivery schedule lines for a PO item, for instance.

Time needed for exercise: approx. 20 min.

Business Example

In your enterprise, you have set up the source determination facility in such a way that sources are assigned to purchase requisition items as soon as they are created, either automatically or manually. You have also assigned sources to the purchase requisitions as yet unassigned per collective transaction or manually. You want

to continue processing the purchase requisitions with assigned sources from the planning run too. You now want to convert all these purchase requisition items into purchase orders or scheduling agreement delivery schedules.

Conversion of Requisitions into Purchase Orders

The SAP system provides the following functions for converting assigned purchase requisitions to follow-on documents:

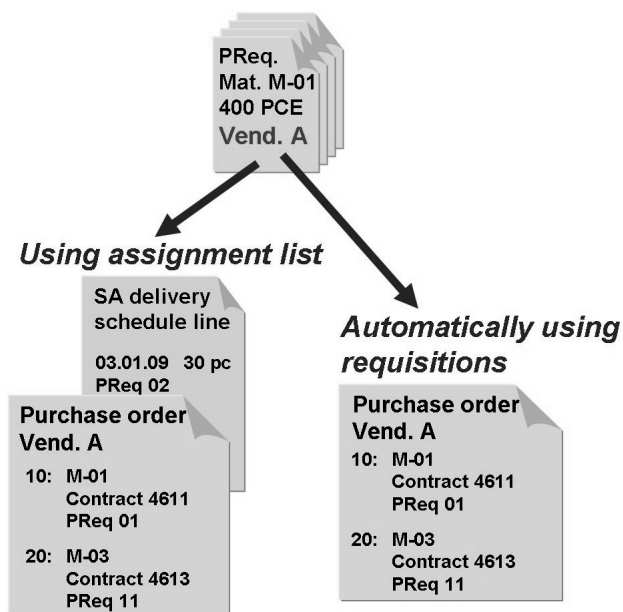


Figure 47: Collective Transactions for Converting Requisitions

- Assignment list
- Document overview in the PO transaction
- Automatic generation of purchase orders

Assignment list

A prerequisite for the semiautomatic conversion of purchase requisitions into POs or SA delivery schedule lines, which is possible using the function *Create Purchase Order → Via Assignment List*, is that sources must already have been assigned to the requisitions to be converted.

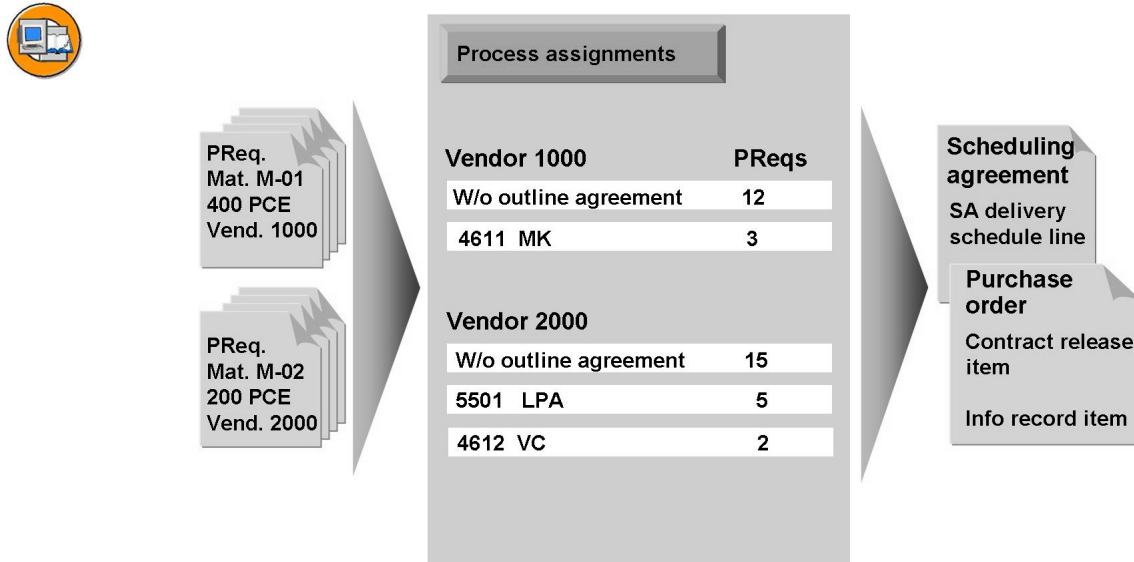


Figure 48: Creating Follow-On Documents via an Assignment List

You obtain a list showing the number of assigned requisition items per source of supply. You can convert all requisition items that are assigned to the same **source** into POs in a single step. Items for which a contract or scheduling agreement is assigned must be converted separately.

Create Purchase Orders via Assignment Lists:

SAP Menu → Logistics → Materials Management → Purchasing → Purchase Order → Create → Via Requisition Assignment List

or

SAP Menu → Logistics → Materials Management → Purchasing → Purchase Requisition → Follow-On Functions → Create Purchase Order → Via Assignment List

Document Overview

Instead of creating POs via assignment lists, you can set up the document overview in the *Create Purchase Order* transaction in such a way that the conversion of all requisition items assigned to the same vendor can be carried out in a single step. The document overview is an alternative to the assignment lists created by the system if you select just the already assigned, released, and still-open purchase requisition items.

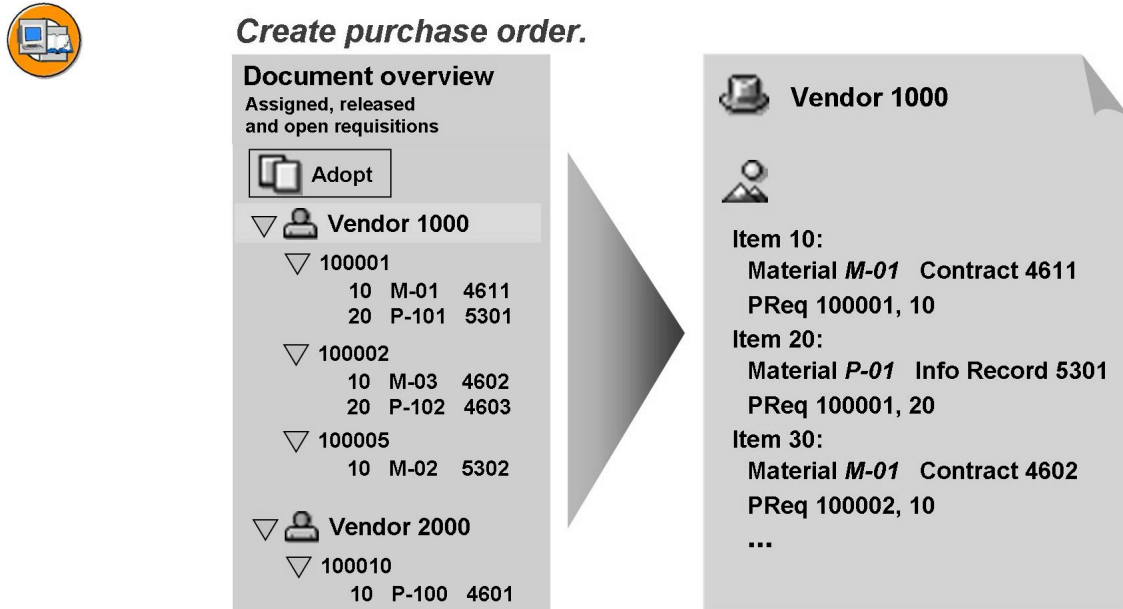


Figure 49: Document Overview as Alternative to Assignment List

For maximum efficiency in the conversion of open requisition items, it is sensible to define the layout of the document overview for requisitions in such a way that the breakdown occurs at the highest level after the vendor. With the aid of such a layout, you can quickly and easily consolidate all items for the same vendor in one purchase order. You can convert the items either individually or in groups. From time to time, you should use the *Refresh* function in the document overview so that it shows only those requisition items that have not yet been converted.

Automatic Generation of Purchase Orders

Requisition items to which a source of supply has already been assigned can also be converted into POs automatically in an SAP system. This transaction can be run either online or in the background.

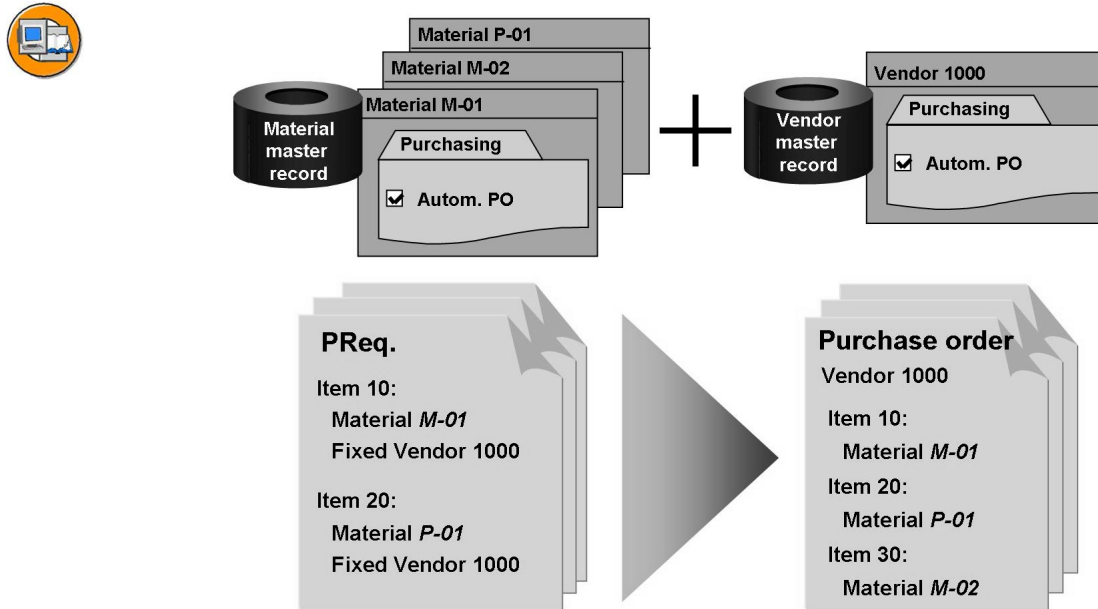


Figure 50: Automatic Generation of Purchase Orders

In automatic PO generation, the system selects only those requisition items that satisfy the following conditions:

- The *Automatic Purchase Order* indicator must have been set in the plant-specific purchasing data of the material master record.
- The *Automatic Purchase Order* indicator must have been set in the purchasing data of the vendor master record.
- Valid conditions must have been determined for the assigned source.

If you have requisitions with an assigned source in the system and want to generate POs from them automatically, proceed as follows:

1. First enter your organizational selection criteria (for example, responsible purchasing group and plant) in the upper part of the initial screen in the transaction *Purchase Order → Create → Automatically via Purchase Requisitions*. In the lower part of this screen, enter the selection criteria for the requisitions (for example, a number interval, a certain material, or a date range for requisitions released over this period).
2. In the middle part of the screen, specify the cases in which a separate purchase order is to be created for a requisition item (if, for example, you do not wish requisition items for different plants to be included in the same purchase order).

The following control parameters are also located in the middle part of the screen:

The *Omit Faulty Items* indicator causes the system to create a PO with nine items from a total of 10 requisition items for the same vendor of which one is faulty (perhaps due to unspecified account assignment), for example. An advantage is that the reprocessing effort is relatively small. You need only reprocess one item. A disadvantage is that there is no guarantee that requisition items that actually belong together are all included in the same PO.

Set the *Detailed Log* indicator if you wish to perform and log the function in the background. The log shows which POs have been generated and which requisition items are faulty. The log provides detailed information indicating the cause of the error for each faulty item.

Set the *Generate Schedule Lines* indicator if you wish a single PO item with a delivery schedule to be generated for multiple requisition items that differ only in respect of the desired delivery date.

You can also perform the function as a test by setting the *Test Run* indicator.

3. After the test run, either start the program online or save the screen as a selection variant and schedule the report as a background job to be carried out at regular intervals, for example.



Caution: You cannot automatically generate delivery schedule lines against a scheduling agreement with this transaction. As a rule, SA delivery schedule lines are generated directly from material requirements planning.

Create purchase orders automatically:

SAP Menu → Logistics → Materials Management → Purchasing → Purchase Order → Create → Automatically via Purchase Requisitions

or

SAP Menu → Logistics → Materials Management → Purchasing → Purchase Requisition → Follow-On Functions → Create Purchase Order → Automatically via Purchase Requisitions



Exercise 8: Processing Assigned Purchase Requisitions

Exercise Duration: 20 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Convert purchase requisitions to purchase orders.

Business Example

You wish to convert assigned purchase requisition items into POs, contract release orders, and scheduling agreement delivery schedule lines with minimum manual effort.

Task:

Convert assigned requisitions.

1. Use the transaction *SAP Menu → Logistics → Materials Management → Purchasing → Purchase Requisition → Follow-On Functions → Create Purchase Order → Via Assignment List* to convert **some** of the requisitions you have already assigned to POs, contract release orders or scheduling agreement delivery schedules according to the source. Select all assigned requisition items for your purchasing group **Z##**.

How many open requisition items exist for each vendor/supplying plant?

Convert all requisition items for vendor **T-K520A##** into purchase orders and then all requisition items referencing a scheduling agreement for your vendor **T-K520B##** into SA delivery schedules.

If necessary, convert the open requisition items for plant 1100.

Exit the transaction without converting the remaining requisition items for vendor **T-K520B##**.

2. Convert any still-open assigned requisitions via the document overview in the *Create Purchase Order* transaction.

Continued on next page

Optional: Define a suitable selection variant and an appropriate layout for purchase requisitions. In doing so, note the following:

In defining the **selection variants**, select only **assigned, released, and still-open requisitions**. Use your **purchasing group Z##** as a further selection criterion.

Define the **breakdown** in such a way that the vendor is shown at the top. Below the vendor, the purchase requisition number, the item, the material, the short text, the purchase requirement quantity and the unit of measurement should be adopted in the **layout**.

Solution 8: Processing Assigned Purchase Requisitions

Task:

Convert assigned requisitions.

1. Use the transaction *SAP Menu → Logistics → Materials Management → Purchasing → Purchase Requisition → Follow-On Functions → Create Purchase Order → Via Assignment List* to convert **some** of the requisitions you have already assigned to POs, contract release orders or scheduling agreement delivery schedules according to the source. Select all assigned requisition items for your purchasing group **Z##**.

How many open requisition items exist for each vendor/supplying plant?

Convert all requisition items for vendor **T-K520A##** into purchase orders and then all requisition items referencing a scheduling agreement for your vendor **T-K520B##** into SA delivery schedules.

If necessary, convert the open requisition items for plant 1100.

Continued on next page

Exit the transaction without converting the remaining requisition items for vendor **T-K520B##**.

- a) *SAP Menu → Logistics → Materials Management → Purchasing → Purchase Requisition → Follow-On Functions → Create Purchase Order → Via Assignment List*

The number of assigned requisition items can vary. There should be some requisition items for both vendor T-K520A## and vendor T-K520B##.

- b) To convert requisition items, position the cursor on the line containing the desired source (for example, T-K520A##, line *without outline agreement*). Choose *Edit → Process Assignment* and acknowledge the message with *Continue*.

Adopt the requisition items in the purchase order and acknowledge any system messages with *Enter*. Save the purchase order.

- c) To convert requisition items whose source is a scheduling agreement, position the cursor on the relevant line and choose *Edit → Process Assignment*. This invokes the *Maintain Scheduling Agreement Delivery Schedule* transaction. Save the new delivery schedule lines.
- d) If you have an item with a supplying plant as a source, convert this to a stock transfer order.
- e) Exit the transaction without converting any more requisition items for vendor T-K520B##.

2. Convert any still-open assigned requisitions via the document overview in the *Create Purchase Order* transaction.

Optional: Define a suitable selection variant and an appropriate layout for purchase requisitions. In doing so, note the following:

In defining the **selection variants**, select only **assigned, released, and still-open requisitions**. Use your **purchasing group Z##** as a further selection criterion.

Continued on next page

Define the **breakdown** in such a way that the vendor is shown at the top. Below the vendor, the purchase requisition number, the item, the material, the short text, the purchase requirement quantity and the unit of measurement should be adopted in the **layout**.

- a) *SAP Menu → Logistics → Materials Management → Purchasing → Purchase Order → Create → Vendor/Supplying Plant Known*

Open the document overview. Choose the selection variant “Purchase Requisition”.

Perform the steps as described in the task to adjust the breakdown and the layout.

Afterwards save the layout as a user-specific setting.

Then convert the purchase requisitions.



Lesson Summary

You should now be able to:

- Convert assigned purchase requisitions into POs and scheduling agreement items using collective transactions



Unit Summary

You should now be able to:

- Automatically assign non-assigned requisitions using a collective transaction, and convert them into POs and SA delivery schedule lines
- Convert requisition items without a source into RFQs
- Convert assigned purchase requisitions into POs and scheduling agreement items using collective transactions



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Test Your Knowledge

1. Which documents can you not generate with the "Automatic Generation of Purchase Orders" transaction (ME59N)?

Choose the correct answer(s).

- A Contract calls
- B SA delivery schedules
- C Purchase orders
- D RFQs

2. No source was found in the assignment list during automatic assignment of sources. What can you do?

Choose the correct answer(s).

- A Assign a source manually.
- B Flag the purchase requisition for RFQ.
- C Convert the purchase requisition directly to an RFQ to a one-time vendor.
- D Block the purchase requisition automatically.

3. You would like to convert assigned purchase requisitions into follow-on documents. Which of the following statements apply?

Choose the correct answer(s).

- A You can convert several requisition items from the same vendor to a purchase order. In doing so, one requisition item is generated for each PO item
- B You can convert several requisition items from the same vendor to a purchase order. In doing so, requisition items with the same material are automatically combined for one PO item.
- C If the assigned source was blocked after the assignment was made in the source list, it is not possible to convert the relevant requisition item.
- D You can convert SA delivery schedules and contract calls together.

4. What determines whether a requisition item is transferred directly to the document during conversion or displayed initially in the document overview?

Choose the correct answer(s).

- A Personal settings in the PO transaction.
- B Personal settings in the assignment transaction.
- C User parameter EFB
- D User parameter EVO



Answers

1. Which documents can you not generate with the "Automatic Generation of Purchase Orders" transaction (ME59N)?

Answer: B, D

2. No source was found in the assignment list during automatic assignment of sources. What can you do?

Answer: A, B

During manual assignment, the system checks whether there is a corresponding info record. A warning message is output in the standard system if an info record does not exist (Message 06341). If this is set up as an error message, a purchasing info record must be available for the fixed vendor being entered. Flagging the RFQ (answer B) is only possible in the "Assign and Process" transaction (ME57).

3. You would like to convert assigned purchase requisitions into follow-on documents. Which of the following statements apply?

Answer: A, C

SA delivery schedules and contract calls (answer D) have to be converted separately as various follow-on documents are required here. If you use automatic PO generation and select the *schedule lines* indicator, answer B also applies and you then receive one item with schedule lines for each requisition item. The indicator is not automatically preset in the standard version however.

4. What determines whether a requisition item is transferred directly to the document during conversion or displayed initially in the document overview?

Answer: D

You learn more about user parameter EVO in the unit "Selected Topics in Customizing".

Unit 4



Document Release Procedure



In this unit, participants process requisitions and purchase orders, which are subject to a release procedure.

When explaining release strategies and the associated Customizing settings, the instructor should only give a brief explanation of the topic of classification.

Unit Overview

This unit deals with the release procedures for purchase requisitions and external purchasing documents (POs, outline purchase agreements, and RFQs). The objective of the release procedure is to use an electronic release system instead of a cumbersome manual approval procedure using handwritten signatures.



Unit Objectives

After completing this unit, you will be able to:

- Describe the function of and steps in a release procedure
- Release requisitions and purchase orders
- Set up your own release procedures in Customizing

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Lesson: Release Procedure



180

Lesson Duration: 140 Minutes

Lesson Overview

In this lesson, you will learn about the various options for releasing blocked documents. After an introduction to the most important terminology relating to release procedures, you will learn how to define your own release procedures in Customizing.



Lesson Objectives

After completing this lesson, you will be able to:

- Describe the function of and steps in a release procedure
- Release requisitions and purchase orders
- Set up your own release procedures in Customizing



The content of this unit covers two areas:

- Release of requisitions and purchase orders
- Setting up release procedure in Customizing

This unit is difficult in that the aforementioned two topics cannot be cleanly separated from each other. When releasing requisitions and POs, participants tend to constantly raise questions that relate to underlying Customizing settings.

In a short system demonstration, show how the system reacts when you want to convert a blocked requisition to a PO. At this point, it is also useful to discuss basic aspects of putting a *purchase order "on hold"*.

Show participants the blocked requisition and *Release strategy* tab page. Note the release-relevant data: *release group*, *release strategy*, *release indicator*, *codes* so that you can refer to this data later in Customizing.

Release a requisition via individual release. Afterwards, the change should appear in the requisition. In the first part of the system demonstration, you can go through the collective release of purchase requisitions and show the relevant list displays for requisitions.

After the first part, you can now show the slides dealing with how to set up release procedures in Customizing. As system demonstration, the instructor should set up his or her own release procedure for purchase requisitions and then demonstrate it. Furthermore, the link to the classification system (class, characteristics, and release group) should be made clear.



Hint: In the exercise, participants use transaction ME59N to convert requisitions into POs.

An issue frequently raised by customers is the possibility of linking the document release process to workflow.

For purchase requisitions there is a standard workflow (workflow template, task 38). However, each user who is to receive the workflow must be included in the organizational plan for the workflow. This assignment can be made in transaction PFTC (access only via Display!) (workflow template, task 38). Branch further to the *Workflow Builder*. Double-click on the object *Release Purchase Requisition* and navigate to *Processor (Agent) Assignment*. Position the cursor on the topmost line and add your own user under *Create Agent Assignment*. Then *Update Index*.

There are standard workflows for all purchasing documents.

Additional system demonstration:

Effects of the release status on the changeability of the requisition after (partial) release.

Full release for requisitions

Display classes and characteristics

Also possible: Including a new characteristic in this class or removing characteristics from the class. This should only be shown after participants have performed all exercises (also including the optional exercise). If you are an experienced instructor you can ask the participants according to which criteria they can block a purchase requisition or purchasing document in their companies and go through this example with the participants.

Link to workflow in the case of the release procedure for requisitions

Time needed for exercise: approx. 35 + 15 (optional part) min.

Business Example

In your enterprise, you wish to have purchase requisition items that exceed a certain value approved by various individuals or departments before the requested materials can be ordered.

In addition, you want to have purchase orders whose value exceeds a certain limit approved before the message output process can take place.

To achieve this, you make use of the electronic release procedure.

Releasing Blocked Purchasing Documents

In the SAP system, you can set up approval procedures in Purchasing for purchase requisitions and external purchasing documents (POs, contracts, scheduling agreements, and RFQs).

If a purchase requisition or an external purchasing document fulfills certain conditions (for example, a requisition item is assigned to a cost center), the document has to be approved (by the cost center manager, for instance) before further processing can take place. The approval process can be replicated by an electronic release procedure.

This release procedure automatically blocks the relevant documents for further processing. Blocked requisition items cannot be converted into follow-on documents. Blocked purchase orders cannot be output.

Release Procedure for Requisitions

The aim of the release procedure for requisitions is to prevent that these can be converted into follow-on documents. Follow-on documents are requests, purchase orders and outline agreements.



Release Procedure for Requisitions

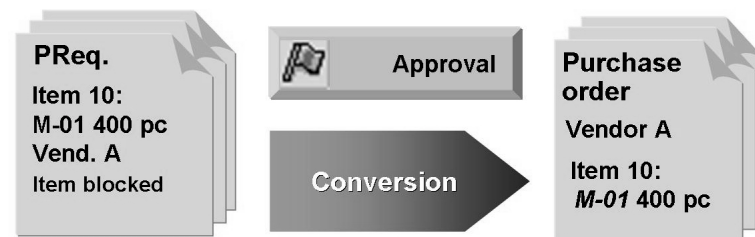


Figure 51: Purchase Requisition Release

One or several approvals may be required for the release. The release acts as an electronic signature.

It is necessary to differentiate between two types of release:

- Item-wise release
- Overall release

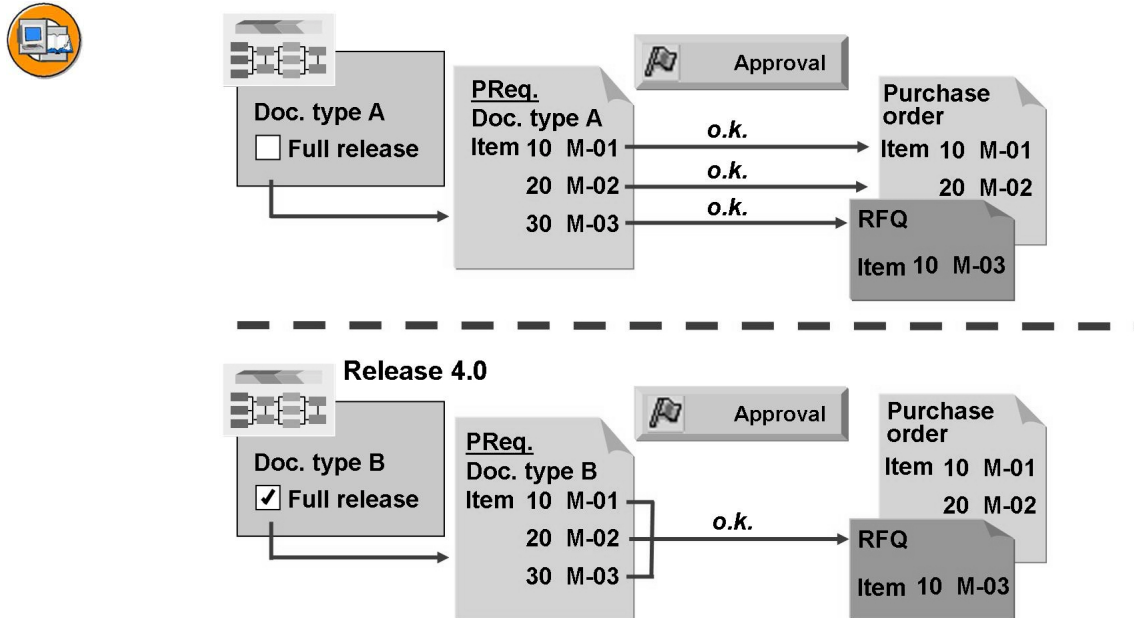


Figure 52: Overall and Item-Wise Release of Purchase Requisitions

With an item-wise release, every item is checked as to whether it corresponds to the criteria required for release. The check is made as the data is entered.

With the overall release, all items must fulfill these criteria. The criteria for overall releases must therefore be selected with great care. The check is made with the purchase requisition is stored or verified.

Each person involved in the release procedure indicates approval in a release transaction, using his or her release code. An already effected release can be cancelled with the same code, in which case the original release status is reinstated. This option exists only as long as a purchase requisition or a purchase requisition item has not been converted into a follow-on document.

If a connection to SAP Business Workflow has been created for a release code, the employee responsible for the approval receives a work item in his or her incoming post. From here, the purchase requisition or purchase requisition item that requires approval can be called directly.

The requisitioner can receive information on the result of the approval (agreed or declined) by means of a workflow.



Hint: Workflows can also be integrated in a mail system (Outlook or Notes).

Whether a requisition has to be released on an item-wise basis or in its entirety is determined by the document type and the release group in the classification.

For purchase requisitions, two release procedures are available:

- **Without classification**

With this procedure, purchase requisitions can only be released at item level. Only the account assignment category, material group, plant and value characteristics are available as release criteria.

- **With classification**

This procedure enables you to release requisitions both item by item and in their entirety. In principle, every field of the purchase requisition can be used as a criterion for the release.

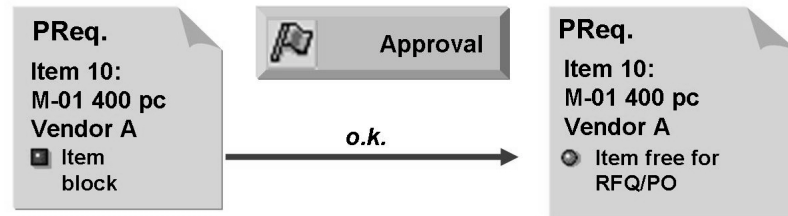


Caution: The two procedures are mutually exclusive - that is, you must decide on one of these two alternatives. On delivery, the system does not have a procedure with classification. As soon as a procedure is created with classification, the procedure is deactivated automatically without classification.

If you want to use the procedure without classification, please see the documentation for the relevant IMG activity regarding any points you need to note when doing this.



1. Individual release



2. Collective Release

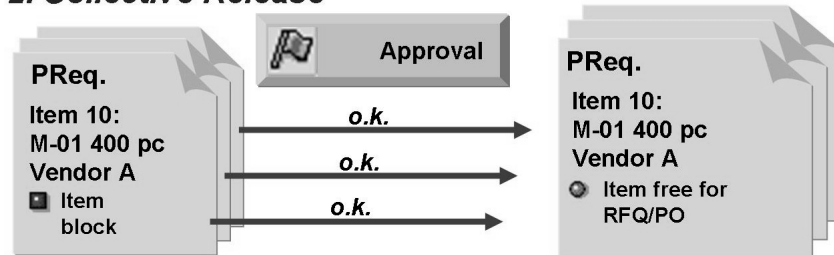


Figure 53: Release Options for Blocked Purchase Requisitions

There are two ways of releasing purchase requisitions:

- **Individual release**

You release individual items of a requisition, or - if the requisition must be released complete - the entire document.

With individual releases, you can also refuse the release.

- **Collective release**

You release several requisition items or requisitions awaiting release by your release code at one time.

To execute this transaction, you need only enter your release code. The system then lists all requisition items whose release is possible with the relevant code. You can limit the scope of this list using various selection options on the initial screen.

A refusal is not possible with the collective release.

Release purchase requisitions:

SAP Menu → Logistics → Materials Management → Purchasing → Purchase Requisition → Release → Individual Release

SAP Menu → Logistics → Materials Management → Purchasing → Purchase Requisition → Release → Collective Release

Release Procedure for Purchasing Documents

The purpose of the release procedure is to prevent the printout or transmission of the documents.

Purchasing documents are released or refused at header level. A item-wise release or refusal is not possible. The check is made with the purchase document is stored or verified.

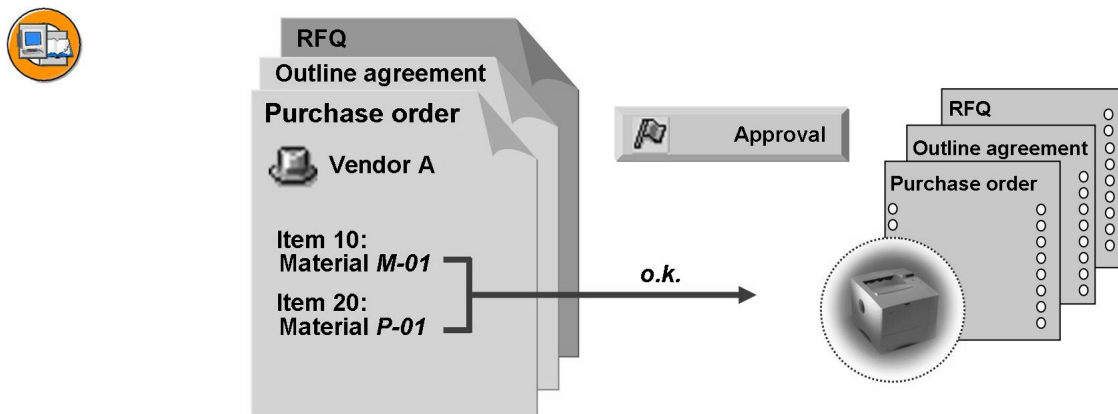


Figure 54: Overall Release of External Purchasing Documents

The collective transaction *Purchase Order/Contract/Scheduling Agreement/RFQ* → *Release* is provided for the release of external purchasing documents. These transactions give you the option of displaying the print preview of the message record for the blocked document. However, this message cannot be output (printed or transmitted).



Hint: As of SAP R/3 Enterprise, it is possible to release purchase orders not only collectively, but also individually. In transaction ME29N, the individual authorized to effect release can display the current version of a purchase order and, on the basis of this information, effect release with his or her release code, refuse to effect release, or cancel an already effected release - without changing transactions.

If you wish to make external purchasing documents subject to a release procedure, you can only use the procedure with classification.

Release purchasing documents:

SAP Menu → Logistics → Materials Management → Purchasing → Contract/Scheduling Agreement/RFQ → Release

SAP Menu → Logistics → Materials Management → Purchasing → Purchase Order → Release → Individual Release

SAP Menu → Logistics → Materials Management → Purchasing → Purchase Order → Release → Collective Release

Key Terms for Release Procedures

In the following, the key terminology with regard to release procedures is discussed. The initial basis for this should be a purchase requisition that is blocked by the system. If the purchase requisition is blocked by the system, the *Release strategy* tab appears on which you can find more detailed information on the release. For item-wise releases the tab is in the item details, for overall releases, it is in the header details.



Purchase requisition

Item 10:
Material M-01 Sunny Monitor 10 PCS Plant 1000 PGr 001

Item: [10] M-01, Sunny Monitor

Release strategy

Code	Description	Rel.poss.
Z1	Department	△
Z2	Purchasing	

Release group: 01 Requisitions
Release strategy: ZZ Purchasing course
Release indicator: S blocked

Figure 55: Key Terms

Release group

Several release strategies can be compiled in a release group.

Release group 01 is intended for purchase requisitions, release group 02 for purchasing documents.

The release group and the document type decide if the purchase requisitions are subject to item-wise or overall releases.

Release strategy

The release strategy shows you where the criteria are stored that have resulted in the blocking of the item or the document.



Hint: The criteria which cause the block are not shown. They are defined in Customizing for the release strategy.

Release indicator

The release indicator is a key denoting the current release status of the item or document. At the start of the release procedure, the condition is usually *Blocked*.

Release code

The release code is a two-character ID that allows an individual or group of individuals to release a blocked document or cancel an already effected release. Who may use which release codes is controlled via authorizations.

Setting Up Release Strategies in Customizing

Two types of procedure can be specified in Customizing for release procedures for purchase requisitions. Procedures without classification and procedures with classification. This course deals exclusively with setting up release procedures with classification.

Release procedures for purchasing documents are only possible with classification.

To set up a release procedure with classification, you must make the following Customizing settings in this order:

1. Create characteristics and classes
2. Create release group
3. Create release codes
4. Create release indicators
5. Create release strategy
6. (Optional) defining a workflow

In the following, the individual steps are discussed in detail examining the example of the purchase requisition.

Step 1: Create characteristics and classes

A precondition for a release strategy with classification is that a class with characteristics has been created for each document type (requisition, PO etc.). The individual release strategies differ by virtue of the different instances of all the characteristics a class contains. If you wish to set up both overall and item-wise release procedures for requisitions, you must create one class for each.



Characteristics	Classification		Customizing			
CEBAN/CEKKO	Definition Characteristic	Definition Class	Definition Release group			
...	Characteristic PLANT	Class FRG_EBAN	Rel. group	Rel. obj.	Full rel.	Release class
Plant →	<ul style="list-style-type: none"> • Multiple value • Reference to table field • Unformatted entry <input checked="" type="checkbox"/> 	Class type 032 Characteristics: PLANT VALUE	01	PReq.	<input type="checkbox"/>	FRG_EBAN
Material group	Characteristic VALUE					
Item category →	<ul style="list-style-type: none"> • Multiple value <input checked="" type="checkbox"/> • Reference to table field • Unformatted entry <input checked="" type="checkbox"/> • Interval values allowed <input checked="" type="checkbox"/> 					
Account assignment						
category						
assignment						
category						
Value →						
...						



Figure 56: Definition of Release Criteria

- **Create characteristics**

SAP Customizing Implementation Guide → Materials Management → Purchasing → Purchase Requisition → Release Procedure → Procedure with Classification → Edit Characteristics

The communication structure CEBAN (for requisitions) contains all fields that can be defined as release characteristics. You can cover any additional requirements via the customer exit provided by SAP.

For each field, you must create a characteristic from the communication structure CEBAN that acts as a criterion for your release strategy. You have a free choice of names for the characteristic. The characteristic must be linked in the *Additional data* tab with the database table CEBAN and the field name from this table.

The "Multiple Value" attribute can be assigned to a classification characteristic so that not only single values, but also multiple values, can be entered for the characteristic.

For characteristics of the data type NUM (numerical format) or CURR (currency format), you should allow interval values.

- **Create class**

SAP Customizing Implementation Guide → Materials Management → Purchasing → Purchase Requisition → Release Procedure → Procedure with Classification → Edit Classes

All characteristics that are to be used in release strategies for requisitions or external purchasing documents must be collected together in classes. The classes must be assigned to class type 032. You can define a maximum of two classes for requisitions (one each for overall and item-wise release). The names of the classes can be chosen freely.

Step 2: Create release group

SAP Customizing Implementation Guide → Materials Management → Purchasing → Purchase Requisition → Release Procedure → Procedure with Classification → Set Up Procedure With Classification



1 Definition of All Release Codes

Rel. group	Rel.Code	Workflow	Description
01	Z1		Controlling
01	Z2		Purchasing

2 Definition of All Release Indicators

Rel. Ind.	Description	Fixed	RFQ	PO	Field ref.	Change-able	Value Change
S	blocked						
A							
B		x	x	x	F203		
...							

3 Definition of Release Strategy

a Release codes: Z1, Z2

b Release prerequisites

Release prereq.	Z1	Z2
Z1	<input type="checkbox"/>	<input type="checkbox"/>
Z2	<input checked="" type="checkbox"/>	<input type="checkbox"/>

c Release status

Z1	Z2	Release ind.
<input type="checkbox"/>	<input type="checkbox"/>	S blocked
<input checked="" type="checkbox"/>	<input type="checkbox"/>	S blocked
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	B released

d Classification

Characteristic	Value
PLANT	1000, 2000
VALUE	> 1000

Figure 57: Customizing of Release Procedure with Classification

With the release group, you link the release class to the purchase requisition release object. You must also specify whether the release group is for item-wise or overall release.



Hint: Please only create one group for item-wise release and one group for overall release.

Step 3: Create release codes

Create all the release codes (with short descriptions) needed for your release strategies and assign them to the required release group.

If a workflow is to be initiated by a release code, set the corresponding indicator.

Step 4: Create release indicators

The following release indicators are necessary for each release procedure:

- **A release indicator for the initial status**

As a rule you must first release a purchase requisition before you can create an RFQ or a PO referencing the requisition. For this reason, a release indicator is assigned to a requisition to denote initial status and prevent it from being converted to an RFQ or a PO. You may not select the indicators for release for issue of an RFQ or a PO on the detail screen for this indicator.

- **A release indicator for the released status**

You must select the indicators for release for issue of an RFQ or a PO on the detail screen for this indicator. At least one of these indicators must be selected.

You can protect a purchase requisition that is has been generated in a planning run against changes caused by a new planning run with a fixing indicator.

You can use a field selection key to prevent certain fields being changed during later processing. Otherwise you can use the *Changeability* indicator to specify the consequence of changing the document after the start of the release procedure.

For value changes you can define a percentage that will be tolerated.

Step 5: Create release strategy

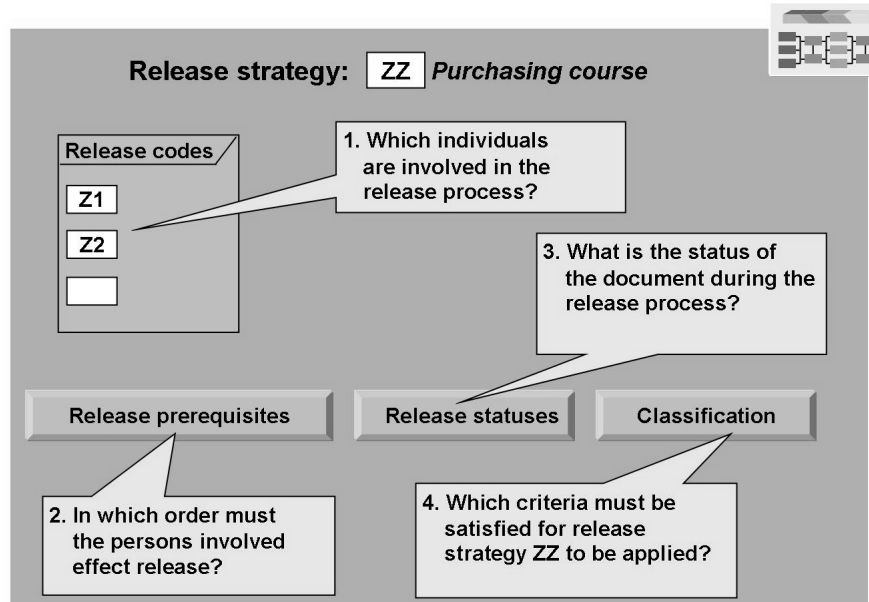


Figure 58: Release Strategies

The release strategies define the criteria that result in the blocking of a purchase requisition and the expiry of the release process. First you define the strategies that you wish to create. You define the following information for every strategy:

1. **Release codes**

In the first step towards defining your new release strategy, you specify which release points (release codes) are to be involved in the release process.

2. **Release prerequisites**

The release prerequisites determine the order in which the release points (individuals or groups of individuals) involved may effect release via their release codes.

Example:

The figure shows a release strategy with two release codes.

You can see that there is no release prerequisite for code Z1. For release code Z2, a release with release code Z1 is prerequisite. This is implemented by checking code Z1 as prerequisite for code Z2.

3. **Release status**

You specify the status of a document after it has been released by certain release points. You must specify the status the document would have in all situations that are liable to occur during the release process. The conditions must be logical. The first condition is usually *Blocked*, the final condition must contain all of the desired follow-on documents.

4. Classification

In the classification you define the attributes of the characteristics, that is, which field values in which fields result in the determination of a certain release strategy.

You can define several field values for multi-valued fields.

In doing so, please note that

- You cannot use jokers or placeholders
- Characteristics without a field value must also be empty in the document



Hint: Value intervals can only be specified for numerical values (e.g. an interval from 10,000 to 15,000 EUR for the value of the requisition item).

Also note the special features of individual attributes:

- You have to use the internal designation for the item type
- Cost centers have ten places in the standard version and must be created with zeros at the start

If you do not wish to restrict a characteristic, delete it from the release class.

5. Release simulation

The release simulation function enables you to check which status a document would acquire with this release strategy after having been released by a certain release point.

Choose *Simulate Release* and effect release by double-clicking on the release code. The system displays the status the document would acquire as a result of this release.

6. Step 6: (Optional) defining a workflow

Here you can determine the recipient of a workflow if a specific release code is determined that is intended for a workflow connection.

The determination is performed using a combination of the release group, release code and plant.



Hint: Other settings are also required for the workflow. For example, the workflow must be active and the individual workflow steps must be assigned to the employee who is to receive the workflow in the organizational structure of the workflow.

The following variations apply for **purchasing documents**:

- There are only processes with classification
- The communication structure which contains the fields for release characteristics is called CEKCO
- No field selection key can be assigned to the release indicator.

Authorizations

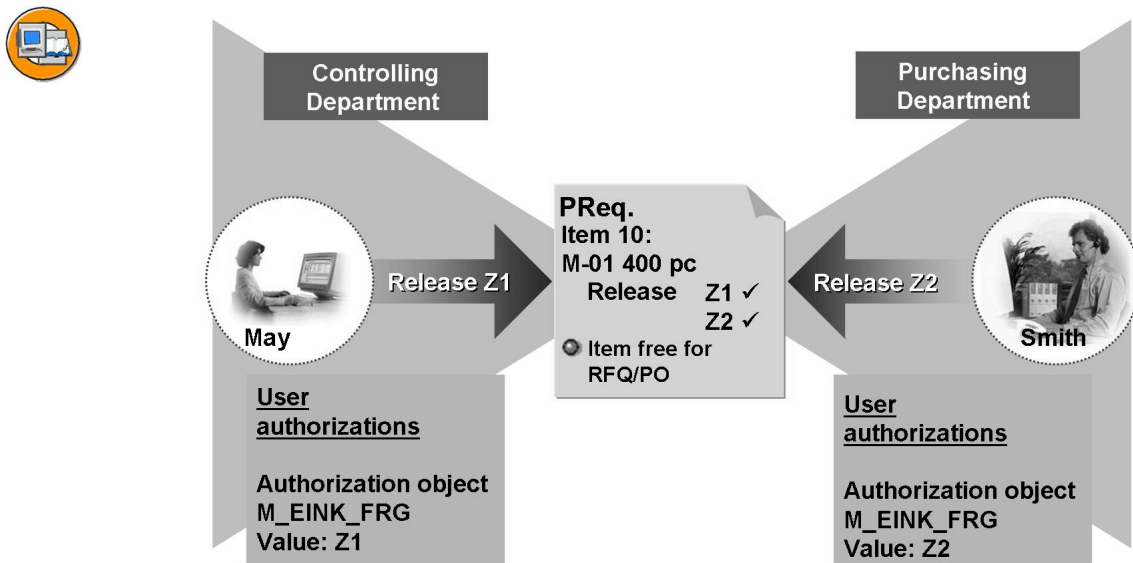


Figure 59: Authorization Objects

The authorization object *Release Code and Release Group in Purchasing* (*M_EINK_FRG*) determines which purchasing documents the user may release and which release codes he or she may use to do so. The authorization object *M_EINK_FRG* comprises the following fields:

- **Release group**

You use the release group to determine which purchasing documents the user may release.

Example 1:

You have created different release groups for purchase orders for different plants (for example, release group 10 for POs in plant 0001, release group 20 for POs in plant 0002). Using the release group, you can now specify whether a user can release POs for plant 0001 only, or for both plant 0001 and plant 0002.

Example 2:

You have created the following release groups for different document categories: release group 01 for POs; 02 for RFQs; and 03 for contracts. Using the release group, you can now specify whether the user can release RFQs only, or POs and contracts as well.

- **Release code**

You use the release code to determine how the user may release purchasing documents.

Example:

The following values have been defined in the authorization object for the user Miller: release groups 01 and 02 (from example 2), and release code Z1.

User Miller may thus release POs and RFQs using release code Z1.



Hint: If you use the release procedure for requisitions without classification, you must create authorizations for the authorization object *Release Code in Purchase Requisitions* (*M_BANF_FRG*).

Authorization maintenance:

SAP Menu → *Tools* → *Administration* → *User Maintenance* → *Role Administration*

or

SAP Menu → *Tools* → *Administration* → *User Maintenance* → *Authorizations and Profiles (Manual Maintenance)* → *Edit Authorizations/Profiles Manually*



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Exercise 9: Document Release Procedure

Exercise Duration: 50 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Release purchase requisitions and purchase orders
- Set up release procedures

Business Example

You wish to use a release procedure to ensure that requisitions and POs that exceed a certain value limit are approved by various persons before the requested materials can be ordered or the PO can be issued to the vendor.

Task 1:

Release purchase requisitions.

1. You have already created various requisitions, some of which need to be approved. First check how many **blocked** requisition items there are for your purchasing group **Z##**. Use a suitable list display for purchase requisitions for this purpose.

Number of requisition items: _____

Check the following information on the release status of a blocked purchase requisition item:

Release indicator: _____

Release strategy: _____

Release points/codes: _____

2. Take a look at the Customizing settings for the release procedure for purchase requisitions (with classification).

On the basis of which criteria was **release strategy ZZ** assigned to the requisition items?

Continued on next page

Which release point can signify approval without a prerequisite for release?

Which prerequisite must be fulfilled before release point **Z2** can release a purchase requisition item?

What is the status of a requisition item after just **Z1** has effected release?

3. Approve all blocked purchase requisition items with release code **Z1**.
Use the collective release function for requisitions and enter the number of your purchasing group **Z##** as a selection criterion on the initial screen.
4. After release has been effected, check whether the release indicator and the release status of your requisition items have changed. Use a suitable list display for purchase requisitions.
5. Now release the requisition items assigned to purchasing group **Z##** for the issue of POs. Use code **Z2** to effect release. What is the release status of the items after their release?

Task 2:

Generate POs automatically and release them.

1. Some of the released requisition items have already been assigned to a source of supply. You wish to convert the requisition items into purchase orders automatically.

Use a suitable list display to determine the following data:

How many open, released, and assigned requisition items exist for your purchasing group **Z##**? _____

Which materials are requested for which plants in these items?

Which vendors have been assigned to the items?

Continued on next page

-
-
- For the requisition items from step 1 to be automatically converted into POs, the *Automatic Purchase Order* indicator must have been set in the vendor **and** material master records. Change the relevant master records by setting the indicator for automatic PO generation.
 - Have your released and assigned purchase requisitions automatically converted into POs.

Run the program after selecting via your purchasing group **Z##** and the relevant vendor numbers.

- Purchase orders generated and any other purchase orders you have created must be approved if their total value is greater than 2,000 euros. Check in the purchase order header to see if a release is necessary.

If a purchase order is blocked, call the release function for purchase orders and release all blocked POs for purchasing group **Z##** with release code **Z3**.

Which release strategy has been assigned to these POs?

Is it possible to check the print preview of the purchase order for correctness prior to releasing the PO?

Task 3:

Optional: Create new release procedure.

- In your enterprise, users must enter requirement tracking numbers when creating purchase requisitions. For requisitions created with the requirement tracking number **SCM520-##**, you need a new release strategy and a new release code.

You must therefore define a new release strategy for requisitions.

First define your own **release code ##** for release group 01.

Then define the new release strategy **##** with the short description **Strategy ##**. This should likewise be assigned to release group 01.

Assign **release code ##** to your release strategy. Confirm the release prerequisites and statuses proposed by the system.

Continued on next page

Define the criteria for your release strategy as follows:

Account assignment category	blank
Material group	SCM520
Plant	1000
Purchasing group	Z##
Requirement tracking number	SCM520-##
Total value of item	> 1000 EUR
Document type	NB (purchase requisition)

Save your release strategy.

2. Create a requisition for **100 pc** of your material **T-M520E##** to test your new release strategy. Use requirement tracking number **SCM520-##**.

Has the item been blocked? If so, which strategy was assigned?

Solution 9: Document Release Procedure

Task 1:

Release purchase requisitions.

1. You have already created various requisitions, some of which need to be approved. First check how many **blocked** requisition items there are for your purchasing group **Z##**. Use a suitable list display for purchase requisitions for this purpose.

Number of requisition items: _____

Check the following information on the release status of a blocked purchase requisition item:

Release indicator: _____

Release strategy: _____

Release points/codes: _____

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Purchase Requisition* → *List Displays* → *General*

Use the dynamic selections and select the *Release indicator* field. Look for documents with the release indicator S (blocked). There should be at least three blocked requisition items. If you do not make this restriction, you can see from the release indicator (R) in the list display whether a purchase requisition item is blocked (indicator S).

- b) Position the cursor on a blocked requisition item and choose *Goto* → *Release strategy* or go to the purchase requisition via *Environment* → *Display requisition*. The relevant information is shown on the *Release Strategy* tab page.

Release indicator: S (Blocked)

Release strategy: ZZ

Release codes: Z1, Z2

2. Take a look at the Customizing settings for the release procedure for purchase requisitions (with classification).

On the basis of which criteria was **release strategy ZZ** assigned to the requisition items?

Continued on next page

Which release point can signify approval without a prerequisite for release?

Which prerequisite must be fulfilled before release point **Z2** can release a purchase requisition item?

What is the status of a requisition item after just Z1 has effected release?

Continued on next page

- a) *SAP Menu* → *Tools* → *Customizing* → *IMG* → *Execute Project*

Choose *SAP Reference IMG*.

SAP Customizing Implementation Guide → *Materials Management*
→ *Purchasing* → *Purchase Requisition* → *Release Procedure* →
Procedure with Classification → *Set Up Procedure With Classification*

Choose *Release Strategies*.

Select the entry for release strategy *ZZ* and access the detailed data for that strategy via *Goto* → *Details*.

- b) The criteria on the basis of which a requisition item is blocked are shown under *Classification*. According to strategy *ZZ*, a requisition is blocked if the following criteria are satisfied:

Account assignment category	blank
Material group	SCM520
Plant	1000
Purchasing group	Z##
Requirement tracking number	SCM520
Total value of item	> 1000 EUR
Document type	NB (purchase requisition)

- c) The release prerequisites for release points *Z1* and *Z2* can be seen under *Release Prerequisites*. The table shows that there are no prerequisites for release with code *Z1*.

There is one prerequisite for release with code *Z2*. *Z1* must have effected release before *Z2* is able to do so.

- d) The possible release statuses of a requisition item can be seen under *Release Statuses*. A requisition item that has been released with code *Z1* has the release status *A* (fixed, RFQ).

3. Approve all blocked purchase requisition items with release code **Z1**.

Use the collective release function for requisitions and enter the number of your purchasing group **Z##** as a selection criterion on the initial screen.

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* → *Purchase Requisition* → *Release* → *Collective Release*

Select all requisitions and choose *List* → *Save Release*.

Continued on next page

4. After release has been effected, check whether the release indicator and the release status of your requisition items have changed. Use a suitable list display for purchase requisitions.
 - a) *SAP Menu → Logistics → Materials Management → Purchasing → Purchase Requisition → List Displays → General*

The requisition items that have been released with code Z1 have the release indicator A (Fixed, RFQ).
5. Now release the requisition items assigned to purchasing group **Z##** for the issue of POs. Use code Z2 to effect release. What is the release status of the items after their release?
 - a) *SAP Menu → Logistics → Materials Management → Purchasing → Purchase Requisition → Release → Collective Release*

After the release has been saved, the items have the release status B (fixed, RFQ/PO).

Task 2:

Generate POs automatically and release them.

1. Some of the released requisition items have already been assigned to a source of supply. You wish to convert the requisition items into purchase orders automatically.

Use a suitable list display to determine the following data:

How many open, released, and assigned requisition items exist for your purchasing group Z##? _____

Which materials are requested for which plants in these items?

Which vendors have been assigned to the items?

Continued on next page

-
- a) *SAP Menu → Logistics → Materials Management → Purchasing → Purchase Requisition → List Displays → General*

Set the *Released requisitions only* indicator on the initial screen and choose *Goto → Assignment overview* in the list display.

There should be at least three already assigned purchase requisition items. Material T-M520E## is requested for plant 1000 in all three requisition items.

Vendors T-K520A## and T-K520B## are assigned to the items.

2. For the requisition items from step 1 to be automatically converted into POs, the *Automatic Purchase Order* indicator must have been set in the vendor **and** material master records. Change the relevant master records by setting the indicator for automatic PO generation.

- a) *SAP Menu → Logistics → Materials Management → Material Master → Material → Change → Immediately*

The *Automatic Purchase Order* indicator is located among the plant-specific purchasing data.

- b) *SAP Menu → Logistics → Materials Management → Purchasing → Master Data → Vendor → Purchasing → Change (Current)*

The *Automatic Purchase Order* indicator is located among the purchasing data of the vendor master record.

3. Have your released and assigned purchase requisitions automatically converted into POs.

Run the program after selecting via your purchasing group **Z##** and the relevant vendor numbers.

- a) *SAP Menu → Logistics → Materials Management → Purchasing → Purchase Order → Create → Automatically via Purchase Requisitions*

On the initial screen, enter your purchasing group **Z##** and the relevant vendors, and then choose *Execute*.

4. Purchase orders generated and any other purchase orders you have created must be approved if their total value is greater than 2,000 euros. Check in the purchase order header to see if a release is necessary.

If a purchase order is blocked, call the release function for purchase orders and release all blocked POs for purchasing group **Z##** with release code **Z3**.

Which release strategy has been assigned to these POs?

Continued on next page

Is it possible to check the print preview of the purchase order for correctness prior to releasing the PO?

- a) *SAP Menu → Logistics → Materials Management → Purchasing → Purchase Order → Release → Collective Release*

Choose *Goto → Release strategy*. The POs are subject to release strategy *ZY*.

It is possible to check the print preview prior to releasing the PO. A message record is generated for blocked POs for this purpose. However, the message cannot be transmitted to the vendor until the PO has been released.

Release all purchase orders.



Hint: Using the BEST_ALV list scope will provide you with a more user friendly interface for this transaction.

Task 3:

Optional: Create new release procedure.

- In your enterprise, users must enter requirement tracking numbers when creating purchase requisitions. For requisitions created with the requirement tracking number **SCM520-##**, you need a new release strategy and a new release code.

You must therefore define a new release strategy for requisitions.

First define your own **release code ##** for release group 01.

Then define the new release strategy **##** with the short description **Strategy ##**. This should likewise be assigned to release group 01.

Assign **release code ##** to your release strategy. Confirm the release prerequisites and statuses proposed by the system.

Define the criteria for your release strategy as follows:

Account assignment category	blank
Material group	SCM520
Plant	1000
Purchasing group	Z##

Continued on next page

Requirement tracking number	SCM520-##
Total value of item	> 1000 EUR
Document type	NB (purchase requisition)

Save your release strategy.

- a) *SAP Menu* → *Tools* → *Customizing* → *IMG* → *Execute Project*

Choose *SAP Reference IMG*.

SAP Customizing Implementation Guide → *Materials Management*
→ *Purchasing* → *Purchase Requisition* → *Release Procedure* →
Procedure with Classification → *Set Up Procedure with Classification*

Under *Release Codes*, choose *New Entries* to create the release code ## with the description Group ## for release group 01.

Choose *New Entries* under *Release Strategies*. Enter release group **01** and release strategy ## (**strategy-##**).

You need only a release point with the release code ##.

Go to the *Release Prerequisites* and *Release Statuses* and confirm all system proposals.

Then choose *Classification* to assign the appropriate values to the characteristics.

Navigate back until you can save your data.

2. Create a requisition for **100 pc** of your material **T-M520E##** to test your new release strategy. Use requirement tracking number **SCM520-##**.

Has the item been blocked? If so, which strategy was assigned?

- a) *SAP Menu* → *Logistics* → *Materials Management* → *Purchasing* →
Purchase Requisition → *Create*

The item should have been blocked with strategy ##.



Lesson Summary

You should now be able to:

- Describe the function of and steps in a release procedure
- Release requisitions and purchase orders
- Set up your own release procedures in Customizing



Unit Summary

You should now be able to:

- Describe the function of and steps in a release procedure
- Release requisitions and purchase orders
- Set up your own release procedures in Customizing



Test Your Knowledge

1. Where in Customizing can you maintain release strategies for Purchasing?

Choose the correct answer(s).

- A For all document types.
- B For requisitions and purchasing documents separately according to document type.
- C For requisitions and purchase orders regardless of the document type and for all other purchasing documents only with the appropriate document type.
- D For requisitions with the document type purchase order and for purchase documents with all types of purchasing document, as these are all stored in the same table.

2. What is the maximum number of release codes you can use in a release strategy?

Choose the correct answer(s).

- A 2
- B 5
- C 8
- D 10

3. No release procedure with classification is available for requisitions in your system. For which document data can you set up a release procedure without classification?

Choose the correct answer(s).

- A Item category
- B Account assignment category
- C Plant
- D Purchasing group

4. What can you not do with a purchase order that has not been released?

Choose the correct answer(s).

- A Output it
- B Change it
- C Call the print view.
- D Add another item to the purchase order.



Answers

1. Where in Customizing can you maintain release strategies for Purchasing?

Answer: B, D

Purchasing documents only have one table for release strategy. Distinction can be made by purchasing document type if this is a component part of the release strategy.

2. What is the maximum number of release codes you can use in a release strategy?

Answer: C

3. No release procedure with classification is available for requisitions in your system. For which document data can you set up a release procedure without classification?

Answer: B, C

See also the documentation for the IMG activity "Setting up procedure without classification".

4. What can you not do with a purchase order that has not been released?

Answer: A

The purchase order can be changed at any time before the release is started (answer B). After the release process has started it depends on the settings in the release indicator assigned to the release step as to whether it can be changed or not.

Unit 5



Basic Invoice Verification Procedure



For more information, see the Instructor Guide for the course SCM515 in the Corporate Portal.

Unit Overview

This unit introduces the basics of Logistics Invoice Verification. To make the topics easier to understand, the beginning of the course covers the integration of Logistics Invoice Verification into Materials Management, and therefore into the process of external procurement. It also deals with account movements at goods receipt and invoice receipt, and price control using both moving average prices and standard prices. Other topics in this unit include use of the invoice entry transaction and invoice entry itself. Participants will learn about invoice entry with taxes, discounts and account assignments, as well as document parking.



Unit Objectives

After completing this unit, you will be able to:

- Demonstrate where the Logistics Invoice Verification component is located in the SAP system
- List the tasks performed using this component
- Explain which updates occur as a result of an invoice being posted
- List the account movements that occur as a result of posting a simple invoice
- Enter an invoice referencing a purchase order
- Post a simple invoice
- List the special features of goods-receipt-based invoice verification
- Hold or park an invoice
- Specify which updates take place during document parking
- Process a parked document further
- Enter or change tax information
- Enter or change cash discount information

- Post both gross or net of cash discounts
- Enter invoices in a foreign currency
- Enter invoices for a purchase order with account assignment and change the planned account assignments
- Enter invoices relating to a blanket purchase order
- Trace the resulting account movements

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Lesson: Introduction to Invoice Verification



Lesson Duration: 40 Minutes

Lesson Overview

This lesson covers the integration of Logistics Invoice Verification into Materials Management, and the environment surrounding invoice verification. The lesson uses simple examples to explain the material valuation procedure and the account movements that occur during the procurement process.



Lesson Objectives

After completing this lesson, you will be able to:

- Demonstrate where the Logistics Invoice Verification component is located in the SAP system
- List the tasks performed using this component
- Explain which updates occur as a result of an invoice being posted
- List the account movements that occur as a result of posting a simple invoice



For more information, see the Instructor Guide in SAPNet.

Business Example

Your company receives a large volume of vendor invoices every day. The invoice data is based on the purchase orders for stock or non-stock materials requested and shipped to your company. You want to review the type of information that the vendors send.

Invoice Verification Environment

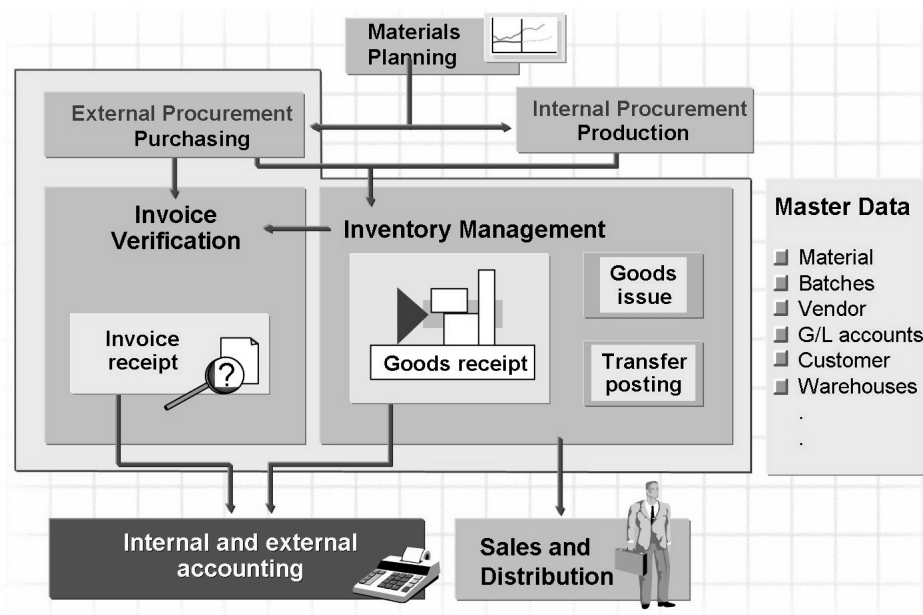


Figure 60: MM Overview

Logistics Invoice Verification is part of Materials Management. At the end of the logistics chain comprising Purchasing, Inventory Management, and Invoice Verification, Logistics Invoice Verification checks incoming invoices for accuracy with regards to content, price, and accounting.

The main task of Logistics Invoice Verification is to complete the procedure of materials procurement by posting the vendor invoice and to pass on information concerning the invoice to Financial Accounting and subsequent applications.

Logistics Invoice Verification can also process invoices that do not originate in materials procurement.

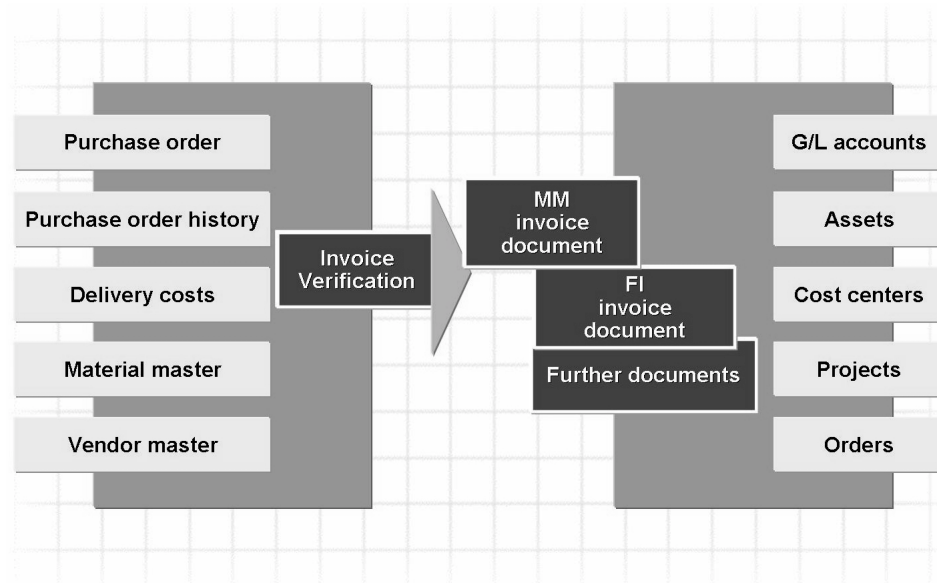


Figure 61: Invoice Verification Environment

Logistics Invoice Verification is not an isolated component within SAP R/3. It operates in conjunction with the Purchasing and Inventory Management components. Logistics Invoice Verification accesses data located in preceding application areas.

For each incoming invoice, Logistics Invoice Verification creates an MM invoice document and an FI invoice document.

The invoice documents update data in:

- Materials Management
- Financial Accounting

In addition, further documents can be created automatically in application areas that follow.

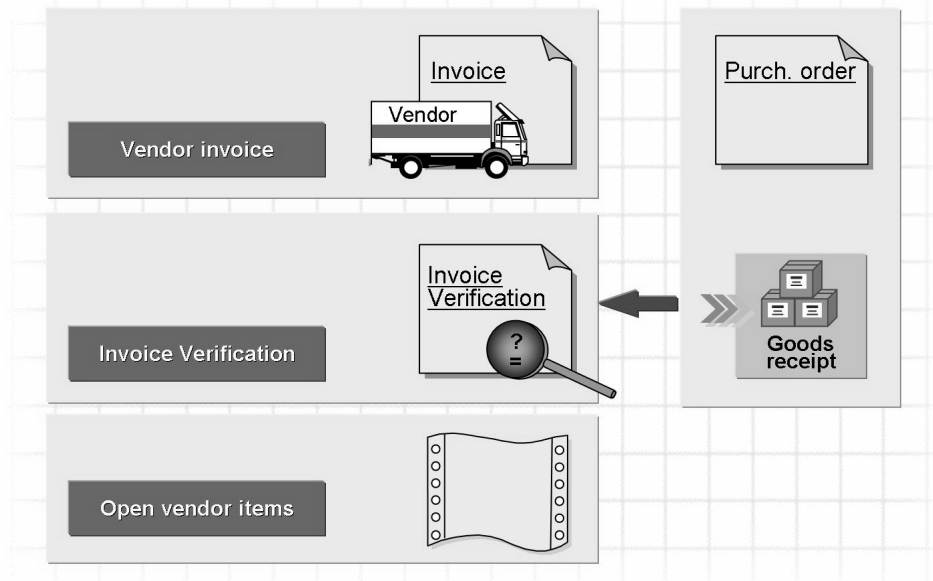


Figure 62: Invoice Verification

You can post an incoming invoice with reference to a purchase order, a service, or a goods receipt.

The system suggests the invoice items according to the reference entered; the corresponding account postings are carried out automatically.

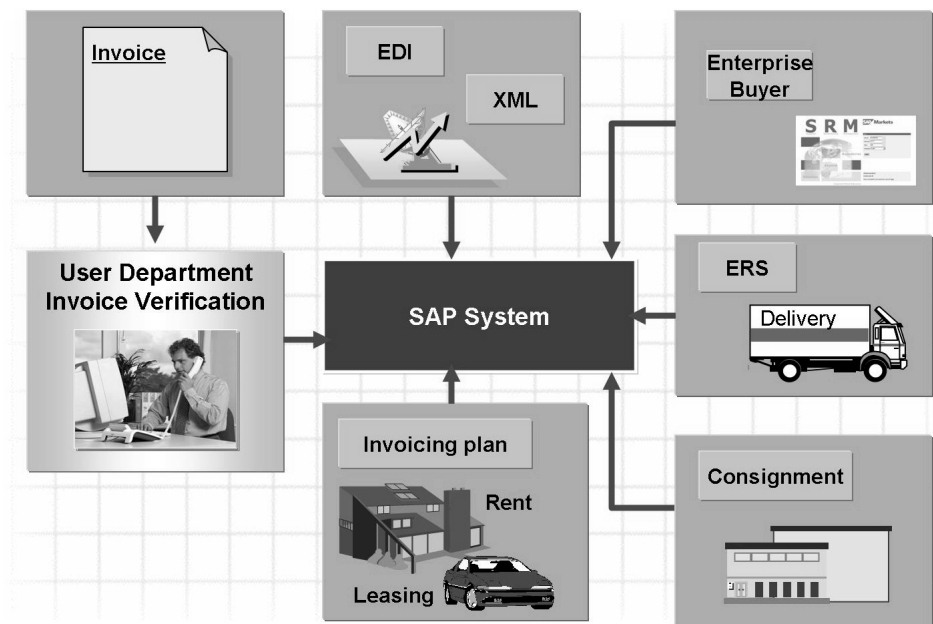


Figure 63: Invoice Receipt

Invoices can be posted in the R/3 System in several different ways:

- The company receives invoices by post, then an employee enters and posts them.
- Invoices can be transmitted electronically using the Internet in IDoc (Intermediate Document) format, via EDI (Electronic Data Interchange), or in XML format. They can then be posted automatically. When using XML, you need to perform some additional mapping of the formats.
- The system creates invoices using settlement programs that run at regular intervals (evaluated receipt settlement, invoicing plan, and consignment settlement).
- If you are using Enterprise Buyer, you can enter invoices there. You can then transmit them to the SAP system.

Account Movements and Price Control

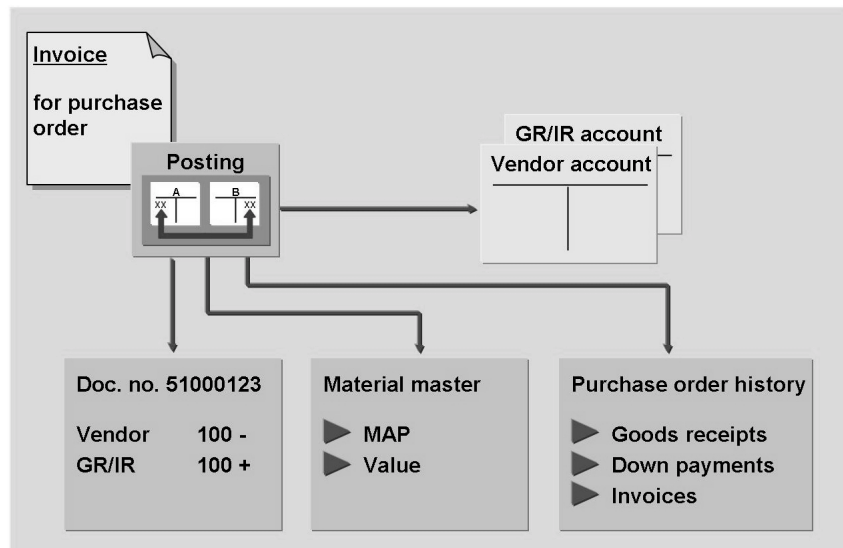


Figure 64: Posting an Invoice

When an invoice is posted, the following occurs:

- The system posts the amounts for the individual items to the appropriate accounts.
- The system creates an MM invoice document and an FI document.
- The system updates the purchase order history.
- The system updates the material master, if necessary.

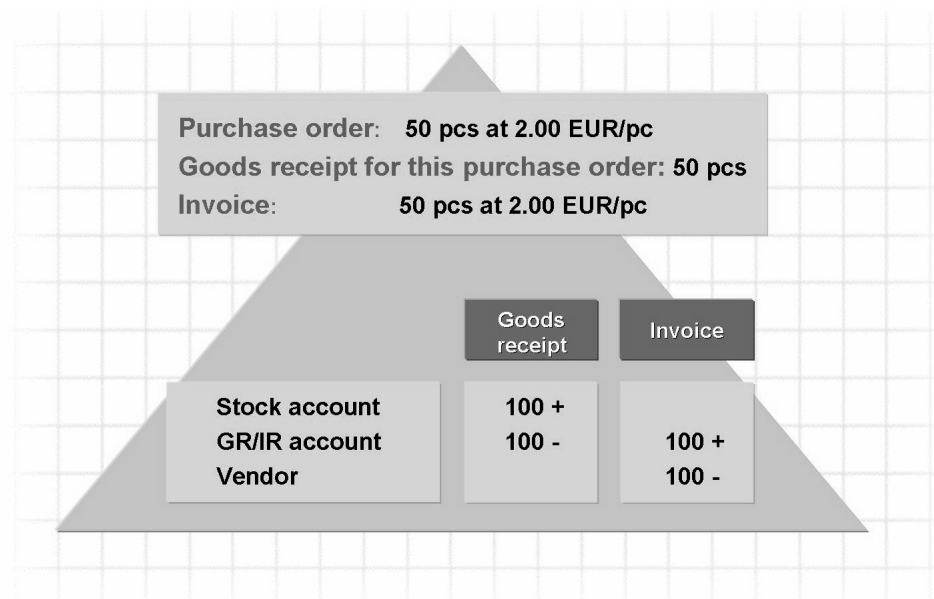


Figure 65: Account Movements

When goods are received, the system debits the stock account and posts the offsetting entry to the GR/IR clearing account.

- In the case of material with a moving average price, the stock account is posted with the value of the net order price multiplied by the quantity of goods received.
- In the case of material with a standard price, the stock account is posted with the value of the standard price multiplied by the quantity of goods received. The system posts the difference to an account for *Expenses or Revenue from Price Differences*.

When the invoice is posted, the GR/IR clearing account is cleared and the vendor account is credited.



Figure 66: Price Control

There are two types of price control:

- Standard price
- Moving average price

You specify the price control used for the material when you create the material master record from a Financial Accounting viewpoint. To do this, you enter the indicator *S* to value materials in accordance with the standard price procedure or the indicator *V* to value materials in accordance with the moving average price procedure in the *Price Control* field.

The two types of price control differ in the way they handle price differences that may arise from goods receipts or invoice receipts:

- When a material is valued at a moving average price, the price changes in line with the delivered costs. If the purchase order price or the invoice price varies from the price in the material master record, the difference is posted to the stock account if there is stock coverage for the invoice quantity. As a result, the total value and therefore the valuation price of the material change.
- When a material is valued at a standard price, differences between the purchase order price or invoice price and the price in the material master record are posted to a price difference account. As a result, the price in the material master record remains constant.



Facilitated Discussion

Discussion Questions

Use the following questions to engage the participants in the discussion. Feel free to use your own additional questions.

Your company receives a large volume of vendor invoices every day. The invoice data is based on the purchase orders for stock or non-stock materials requested and shipped to your company. You want to review the type of information that the vendors send.



Lesson Summary

You should now be able to:

- Demonstrate where the Logistics Invoice Verification component is located in the SAP system
- List the tasks performed using this component
- Explain which updates occur as a result of an invoice being posted
- List the account movements that occur as a result of posting a simple invoice

Lesson: Basic Invoice Verification Procedure



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Lesson Duration: 90 Minutes

Lesson Overview

This lesson explains how to use the invoice entry transaction MIRO. This lesson covers the screen structure, the various allocation options to preceding documents, and the individual functions of MIRO. The differences between goods-receipt-based invoice verification and purchase-order-based invoice verification are also covered.



Lesson Objectives

After completing this lesson, you will be able to:

- Enter an invoice referencing a purchase order
- Post a simple invoice
- List the special features of goods-receipt-based invoice verification



For more information, see the Instructor Guide in SAPNet.

Business Example

Your company recently implemented SAP and must define the standard procedure for invoice verification. You also want to decide whether to implement purchase-order-based or goods-receipt-based invoice verification.

Function of Logistics Invoice Verification

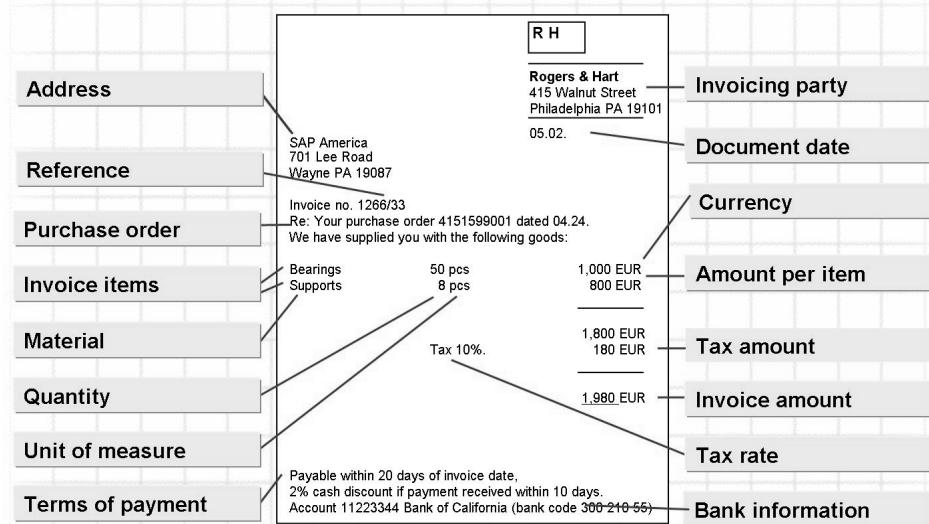


Figure 67: Information in an Invoice

When entering an invoice, the user has to input various data from the vendor invoice.

- Document date, purchase order number
- Invoice amount, tax amount, terms of payment (if necessary)

Some data is automatically copied over from the purchase order:

- Vendor, terms of payment (if defined there), currency
- Invoice items

The system derives the quantity and amount from the purchase order history.

According to the system settings, the system proposes the tax record for entering the tax. You can change this manually.

The bank information is stored in the vendor master record.

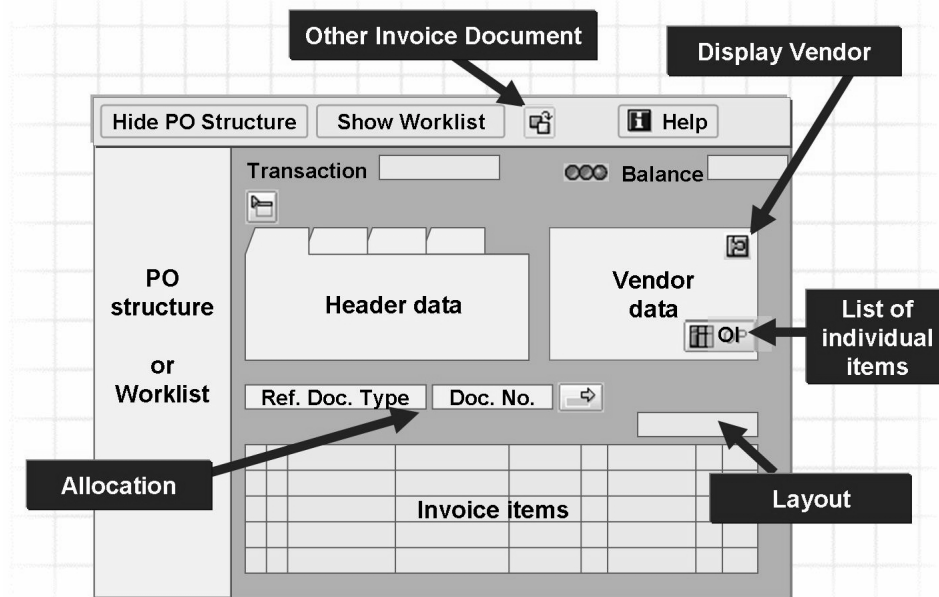


Figure 68: Logistics Invoice Verification: Initial Screen

To enter an incoming invoice, from the SAP Easy Access screen, choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*. This transaction is a single-screen transaction. It is divided into the following screen areas:

- In the **Transaction** area, you define whether you want to enter an invoice, a credit memo, or a subsequent credit or debit.
- The **Header** area is divided into various tab pages. For example, you can enter the document date, the invoice amount, and the tax information here.
- In the **Allocation** area, you enter the number of the document that the invoice refers to (such as a purchase order number or a delivery note number). This enables you to control which PO items are displayed for processing in the item list.
- In the **Item List** area, the system suggests the invoice items in accordance with the allocation. You can change the columns displayed, and their sequence, using **layouts**.
- In the **Vendor data** area, the system displays the name, address, and bank information for the vendor, once you have matched up the invoice. You can change and display the data from this screen.
- In the **Balance** area, the system displays the current balance. It shows whether the invoice amount equals the total from the invoice items, the tax amounts, and the unplanned delivery costs. A traffic light icon indicates whether the invoice can be posted or not.
- In the **PO structure** area, the system displays the purchase order history for the allocation entered. You can hide this screen area, if you do not need it.

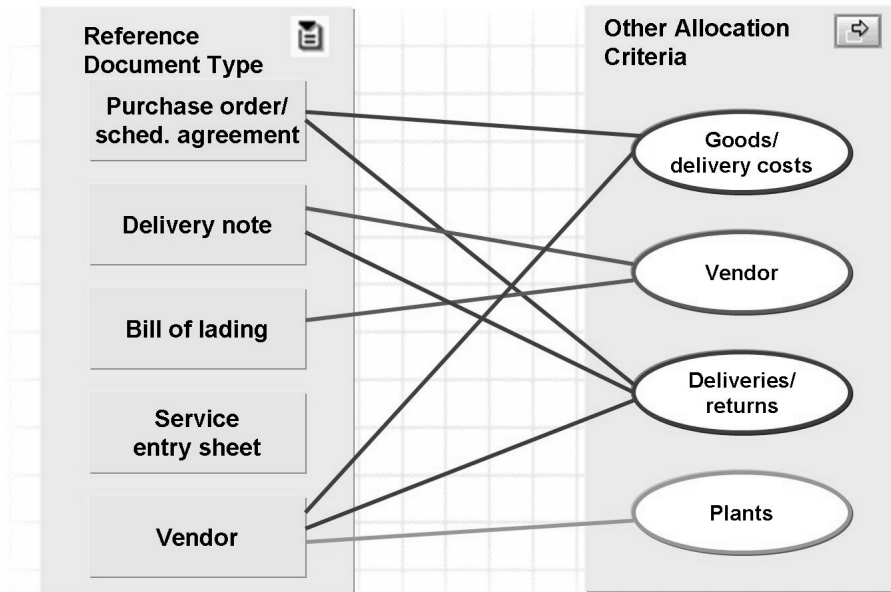


Figure 69: Basic Invoice Verification Procedure: Allocation

An invoice can refer to various objects, such as a purchase order or a delivery note.

An invoice for delivery costs can refer to a bill of lading.

An invoice for a service can refer to a service entry sheet.

All deliveries or services provided by a vendor can be settled in a single invoice.

Choose *Other Selection Criteria* to produce the allocation to more than one document, according to the reference document type you have selected.



Purchase order		Layout Purchase order				
Pur. order	Item	Material	Quantity	Amount	Tax	PO price
<input checked="" type="checkbox"/>	4151599002	0010	CF499d	40	1000	10% 25
<input checked="" type="checkbox"/>	4151599002	0020	RP433a	10	600	10% 60
<input type="checkbox"/>	4151599002	0030	AC123c			18
<input checked="" type="checkbox"/>	4151599002	0040	CC487d	40	1000	10% 25
<input type="checkbox"/>	4151599005	0010	EG801j			35.50
<input checked="" type="checkbox"/>	4151599005	0020	CP093e	20	440	10% 22

Figure 70: Basic Invoice Verification Procedure: Item List

On the item list, the system suggests all purchase order items that match the allocation and that are ready to be settled. All invoice items for which a goods receipt has been posted, but that have not yet been completely settled, are selected as a default. Only the selected invoice items are copied into the document when you post the invoice. If invoice items were selected as a default but do not exist in the invoice, you must delete these selections. If invoice items are not selected but are contained in the invoice, you must select these items and enter a quantity and amount. If the vendor invoice includes items that do not appear in the invoice items, you must make an additional allocation.

There are various layouts for the item list, which enable you to see the relevant item data. You can define new layouts in Customizing for Invoice Verification.

You can sort the item list on a particular column.

You can search for particular terms in the item list.

To make the item list easier to read, you can delete the items that are not selected.



Ref. Doc. Type		Doc. No.		Layout		All Information	
Item	Amnt	Qty	UoM	Pur. order	Pu	PO Text	Tax Code

Ref. Doc. Type		Doc. No.		Layout		Account Assignment-Cost Center	
I	PO Text	Qty	UoM	Amnt	G/L account	Cost center	Tot

Figure 71: Layouts for the Item List

In the item list, the system proposes all PO items that fulfill the relevant allocation criteria.

During processing of the invoice items, you can switch the layout and therefore choose a suitable layout for the transaction.

You can create your own layouts for the the item list, in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Incoming Invoice* → *Maintain Variants for Item List*.

You can aggregate several invoice items from an invoice. In other words, the invoice items are summarized based on the aggregation criteria, and are displayed on a single line. You can use a specific aggregation variant for this. By aggregating an invoice, you can reduce the effort needed to verify the invoice and simplify the search for variances. You can create aggregation variants in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Incoming Invoice* → *Aggregation* → *Maintain Variants for Aggregation List*. You must also set criteria for the aggregation itself.

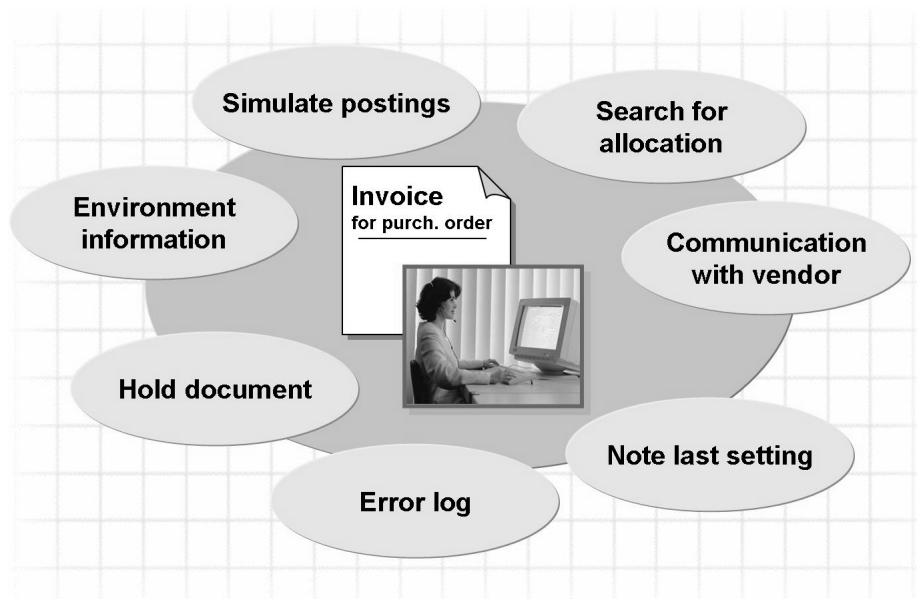


Figure 72: Other Functions

Before posting the invoice, you can simulate the account movements to be made.

If the wrong reference is given in the invoice, you can search for possible matches using the F4 possible entries help (purchase orders by vendor and so on).

You can display various information about the environment for the current session, for example, the purchase order history, purchase order, processors to date for the purchasing transactions, vendor information, or material data.

You can communicate directly with the vendor while entering the invoice.

You can “hold” the data entered for an invoice in a temporary MM document. You can change and post a held document at a later time.

The system collects error messages in a log.

The system notes the last control data used and suggests them again the next time that the user logs on. This includes: the transaction, the header tab page that you were last working on, the reference document type, the layout of the item list, and the visible or hidden PO structure.

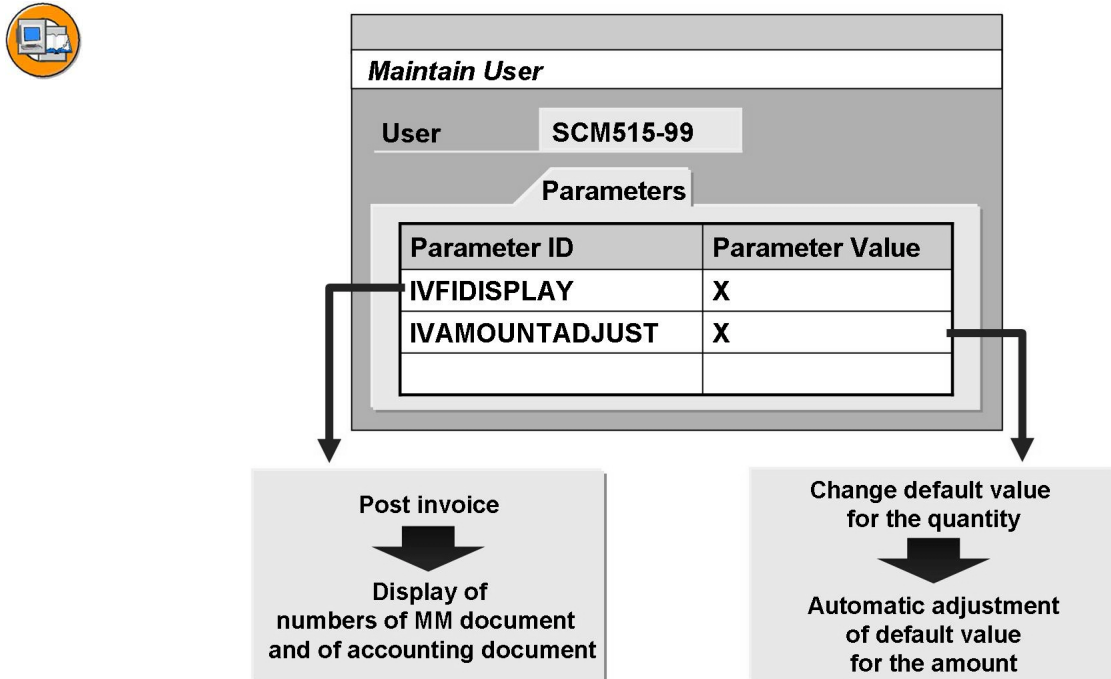


Figure 73: User Parameters

Parameter IVFIDISPLAY

When posting an invoice in Logistics Invoice Verification, the system displays only the number of the MM invoice document in the status bar. As of SAP R/3 Enterprise (previously using SAP Note 216935), you can also display the numbers of any FI documents in the status bar. You can make this setting for each user using the parameter **IVFIDISPLAY** with the value "X".

For the following transactions, you can display the numbers of documents created in the status bar.

- Enter Invoice (MIRO)
- Park Invoice (MIR7)
- Cancel Invoice (MR8M)
- Invoice Overview (MIR6)

For the following transactions, you can display the numbers of documents created in the output list.

- Evaluated Receipt Settlement (MRRL)
- Revaluation (MRNB)
- Invoicing Plan (MIRS)
- Invoice Verification in the Background (RMBABG00)

Parameter IVAMOUNTADJUST

If you have entered the parameter **IVAMOUNTADJUST** with the value “X” in the user master record and the quantity of an invoice item changes, the amount of this item is automatically adapted. The system calculates the new default value for the item amount on the basis of the quantity * purchase order price. As soon as you overwrite the default value for the amount manually, the amount is no longer adapted automatically.

Types of Invoice Verification

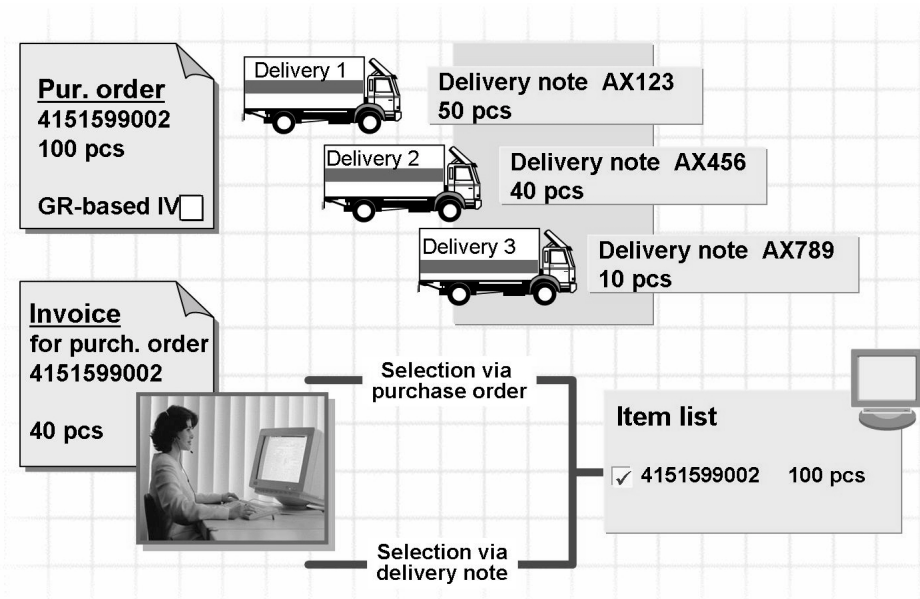


Figure 74: Purchase-Order-Based Invoice Verification

For purchase-order-based invoice verification, the system generates one invoice item in the item list for each PO item. The system proposes the quantity to settle as the difference between the total delivered quantity and the total invoice quantity. This means that partial deliveries for a PO item are not flagged as individual invoice items. It makes no difference whether you make the allocation using a purchase order or a delivery note. If you make the allocation with a delivery note, the system determines the relevant PO items with their total quantities to settle - in the same way as if there was a reference to a purchase order. The system does not only propose the quantity from the allocated delivery note.

If there are several goods receipts and invoices for a purchase order item, the purchase order history does not tell you which invoice came from which vendor.

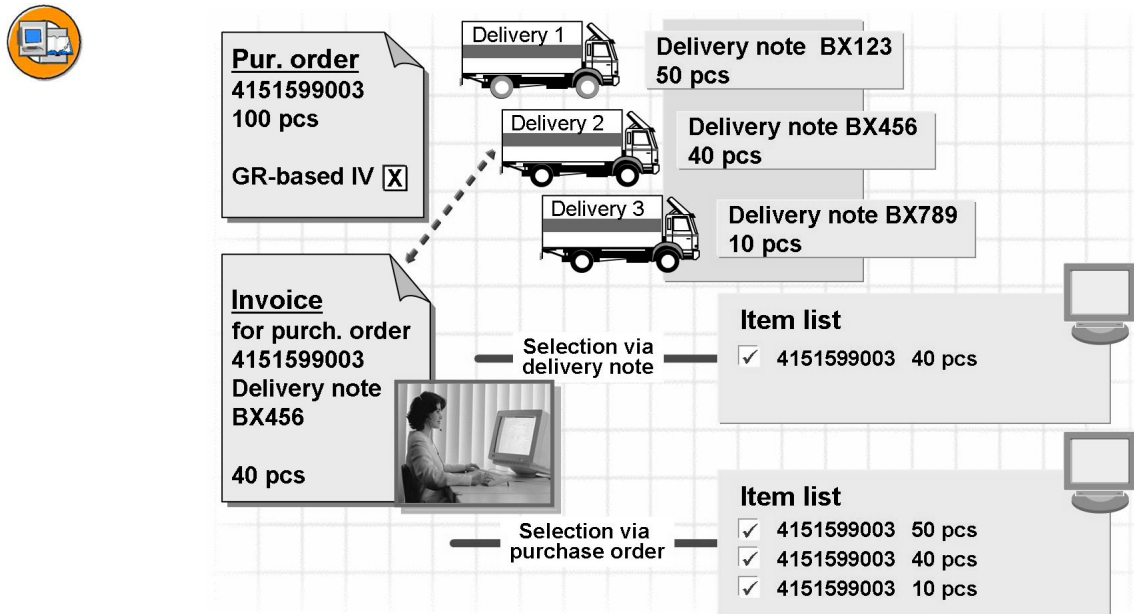


Figure 75: Goods-Receipt-Based Invoice Verification

Before you can use goods-receipt-based invoice verification, the following prerequisites must be fulfilled:

- In the purchase order, the indicator for goods-receipt-based invoice verification, *GR-based IV* must be set for the relevant item on the *Invoice* tab page. The indicator might have been set already in the vendor master record or the source of supply, so that the system copies it automatically as a default into the purchase order.
- Until you have posted at least one goods receipt, you cannot enter the invoice in the system.

In goods-receipt-based invoice verification, a separate invoice item is created for each delivered partial delivery. If you make the allocation with the purchase order, the system can propose more than one invoice item as a default if more than one partial delivery has been posted for a PO item. If you make the allocation using the delivery note, the system proposes exactly the PO items from this goods receipt, plus the quantities posted.

Using goods-receipt-based invoice verification, you can assign each invoice item uniquely to a goods receipt item. Goods receipts and invoices are matched up in the purchase order history.

In goods-receipt-based Invoice Verification, the invoice quantity should not be greater than the actual delivered quantity. However, it is possible to post a larger invoice amount. You cannot “reassign” invoices from one goods receipt to another.



Exercise 10: Basic Invoice Verification Procedure

Exercise Duration: 30 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Post a simple invoice in Logistics Invoice Verification
- Compare goods-receipt-based invoice verification with purchase-order-based invoice verification

Business Example

Your company wants to learn about entering invoices in Logistics Invoice Verification. The company also wants to decide whether to implement goods-receipt-based invoice verification.

Task 1: Basic Invoice Verification Procedure

You receive the following invoice from Sapsota Company Limited. Enter this invoice in Logistics Invoice Verification.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	2003##		
This invoice refers to your purchase order number 41515031##			
T-M15A##	Slugs for cast iron spiral casing	100 pcs	1000 EUR
T-M15C##	Packing gaskets	100 pcs	2000 EUR
Tax: 10 %			300 EUR
Invoice amount:			<u>3300 EUR</u>

Figure 76: Invoice 2003##

1. Enter the basic data and allocate the invoice.

Continued on next page

2. In the item list, the system proposes a number of items with quantities and values. Display the PO structure to analyze the purchase order history for the individual item. Why does the system only propose the first and third PO items for settlement in the item list?

3. Simulate the postings that will take place. Fill in the table.

Position	Account	Amount
001		
002		
003		
004		

Post the document.

Invoice number: _____

Continued on next page

Task 2: Purchase-Order-Based Invoice Verification

You receive the following invoice from Sapsota Company Limited. Enter this invoice in Logistics Invoice Verification.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	2004##		
This invoice refers to your delivery note 58E4##			
T-M15C##	Packing gaskets	20 pcs	400 EUR
<hr/>			
	Tax: 10 %		40 EUR
	Invoice amount:		<u>440 EUR</u>

Figure 77: Invoice 2004##

1. Enter the basic data. Choose the allocation *Delivery Note* and then enter the delivery note number.
2. In the item list, the system proposes an item with a quantity and value to settle. Go to the purchase order for the item and display the purchase order history. How many goods receipts have been posted for the PO item? Why does the item list for the invoice not propose only the partial goods receipt for delivery note number 58E4## for settlement?

3. Correct the default values in the item list for the invoice according to the information in the vendor invoice. Post the document.

Invoice number: _____

Continued on next page

Task 3: Goods-Receipt-Based Invoice Verification

The following invoice also refers to one delivery note. Enter this invoice in Logistics Invoice Verification.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	3001##		
This invoice refers to your delivery note 30R3##			
T-M15A##	Slugs for cast iron spiral casing	10 pcs	100 EUR
T-M15B##	Flat gaskets	20 pcs	1000 EUR
			1100 EUR
Tax: 10 %			<u>110 EUR</u>
Invoice amount:			1210 EUR

Figure 78: Invoice 3001##

1. Enter the basic data. Choose the allocation *Delivery Note* and enter your delivery note number.
2. In the item list, the system proposes two items with quantities and values to settle. Go to the purchase order and display the PO histories for the items. How many goods receipts have been posted for the PO items? Why does the item list for the invoice not propose all goods receipts for settlement?

3. Post the invoice.

Invoice number: _____

Solution 10: Basic Invoice Verification Procedure

Task 1: Basic Invoice Verification Procedure

You receive the following invoice from Sapsota Company Limited. Enter this invoice in Logistics Invoice Verification.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	2003##		
This invoice refers to your purchase order number 41515031##			
T-M15A##	Slugs for cast iron spiral casing	100 pcs	1000 EUR
T-M15C##	Packing gaskets	100 pcs	2000 EUR
Tax: 10 %			300 EUR
Invoice amount:			<u>3300 EUR</u>

Figure 79: Invoice 2003##

1. Enter the basic data and allocate the invoice.
 - a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
 - b) Enter the following data on the *Basic Data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	2003##
Amount	3300
Tax amount	300

- c) Enter the purchase order number as the allocation:

Continued on next page

Field name or data type	Values
Purchase order/scheduling agreement	41515031##

2. In the item list, the system proposes a number of items with quantities and values. Display the PO structure to analyze the purchase order history for the individual item. Why does the system only propose the first and third PO items for settlement in the item list?

Answer: The R/3 System proposes the purchase order items with the quantities and values to be invoiced. Choose Show PO Structure to display which processes have already been posted for the purchase order items.

The system does not select the second PO item, and therefore does not propose it for settlement, because the item has been completely delivered and was also completely settled.

The fourth item is not proposed for settlement because the material has not yet been delivered, and therefore no invoice is yet expected for this PO item.


3. Simulate the postings that will take place. Fill in the table.

Position	Account	Amount
001		
002		
003		
004		


Post the document.

Continued on next page

Invoice number: _____

- a) Choose  *Simulate*. A dialog box appears in which you see the account movements that will take place when the invoice is posted.

Position	Account	Amount
001	Vendor account	3,300.00
002	GR/IR clearing account	1,000.00
003	GR/IR clearing account	2,000.00
004	Tax account	300.00

- b) Choose  *Post*. A message appears in which the document number is displayed.

Continued on next page

Task 2: Purchase-Order-Based Invoice Verification

You receive the following invoice from Sapsota Company Limited. Enter this invoice in Logistics Invoice Verification.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	2004##		
This invoice refers to your delivery note 58E4##			
T-M15C##	Packing gaskets	20 pcs	400 EUR
Tax: 10 %			40 EUR
Invoice amount:			<u>440 EUR</u>

Figure 80: Invoice 2004##

1. Enter the basic data. Choose the allocation *Delivery Note* and then enter the delivery note number.
 - a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
 - b) Enter the following data on the *Basic Data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	2004##
Amount	440
Tax amount	40

- c) Enter the delivery note number as the allocation:

Field name or data type	Values
Delivery note	58E4##

Continued on next page

2. In the item list, the system proposes an item with a quantity and value to settle. Go to the purchase order for the item and display the purchase order history. How many goods receipts have been posted for the PO item? Why does the item list for the invoice not propose only the partial goods receipt for delivery note number 58E4## for settlement?



Answer: The system proposes a purchase order item with the quantity and value to be invoiced. Double-click on the PO number in the item list. Go to the purchase order in the item detail on the *PO history* tab page.

Two goods receipts have been posted for the PO item. Choose the *Invoice* tab page. The *GR-based IV* indicator is not set for this PO item.

For purchase-order-based invoice verification, the system generates one invoice item in the item list for each PO item. The system always proposes the quantity to settle as the difference between the total delivered quantity and the total invoice quantity.

3. Correct the default values in the item list for the invoice according to the information in the vendor invoice. Post the document.

Invoice number: _____

- a) To return to invoice verification from the purchase order, choose  *Back*.
- b) Correct the default values in the item list, so that the values match those in the vendor invoice.
- c) Choose  *Post*. A message appears displaying the document number.

Task 3: Goods-Receipt-Based Invoice Verification

The following invoice also refers to one delivery note. Enter this invoice in Logistics Invoice Verification.

Continued on next page

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	3001##		
This invoice refers to your delivery note 30R3##			
T-M15A##	Slugs for cast iron spiral casing	10 pcs	100 EUR
T-M15B##	Flat gaskets	20 pcs	1000 EUR
			1100 EUR
Tax: 10 %			110 EUR
Invoice amount:			1210 EUR

Figure 81: Invoice 3001##

1. Enter the basic data. Choose the allocation *Delivery Note* and enter your delivery note number.
 - a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
 - b) Enter the following data on the *Basic Data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	3001##
Amount	1210
Tax amount	110

- c) Enter the delivery note number as the allocation:

Field name or data type	Values
Delivery note	30R3##

Continued on next page

2. In the item list, the system proposes two items with quantities and values to settle. Go to the purchase order and display the PO histories for the items. How many goods receipts have been posted for the PO items? Why does the item list for the invoice not propose all goods receipts for settlement?



Answer: The system proposes two items in the item list with the quantities and values to be invoiced. Double-click on the PO number in the item list. In the item detail of the purchase order, go to the *PO history* tab page and analyze the PO history for both PO items.

Two goods receipts have been posted for each of the PO items. One of the goods receipts for each item was posted with reference to delivery note number 30R3##. Choose the *Invoice* tab page. The *GR-based IV* indicator is set for both PO items.

If you use GR-based invoice verification, and you make the allocation using the delivery note, the system proposes exactly the PO items from this goods receipt, plus the quantities posted.

3. Post the invoice.

Invoice number: _____

- a) To return to invoice verification from the purchase order, choose  *Back*.
- b) Choose  *Post*. A message appears displaying the document number.



Lesson Summary

You should now be able to:

- Enter an invoice referencing a purchase order
- Post a simple invoice
- List the special features of goods-receipt-based invoice verification

Lesson: Document Parking

245

Lesson Duration: 45 Minutes

Lesson Overview

In the SAP system, as well as entering and immediately posting invoices, you can also park them before you actually post them. This lesson introduces the various statuses for document parking.

**Lesson Objectives**

After completing this lesson, you will be able to:

- Hold or park an invoice
- Specify which updates take place during document parking
- Process a parked document further



For more information, see the Instructor Guide in SAPNet.

Business Example

Because your company receives a large volume of incoming invoices, you have temporary personnel who park invoice information in the system without checking it. In your company, invoices whose amounts exceed a certain value are required to be approved. For this reason, you want to use document parking with workflow.

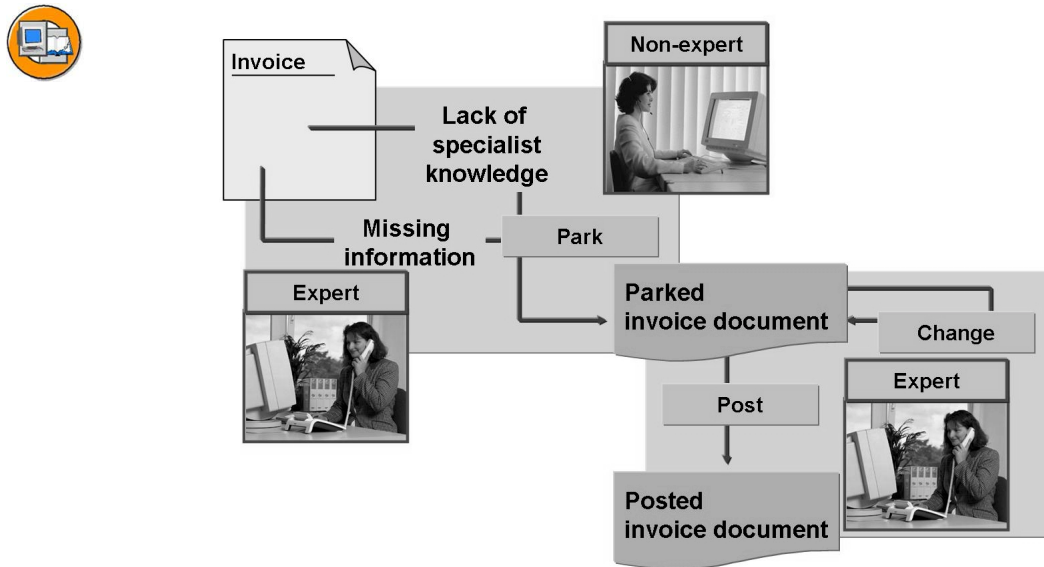


Figure 82: Document Parking

In Logistics Invoice Verification document parking, you can park invoices, credit memos, and subsequent debits/credits. This means that you enter data in the system, save it in a document, but do not post it.

In Logistics Invoice Verification, you can park invoices in the following situations:

- An experienced invoice verification clerk wants to process an invoice, but is missing some of the information needed to post the invoice (for example, account assignment information). He or she parks the invoice. As soon as he or she receives the missing information, he or she changes the parked document and posts it.
- A less experienced employee enters the invoice data without checking it. The expert then checks the parked document, makes any necessary changes, and posts it.
- There is a significant price variance in an invoice. To prevent the system changing the moving average price of the invoiced material to an unrealistic figure, you park the invoice.

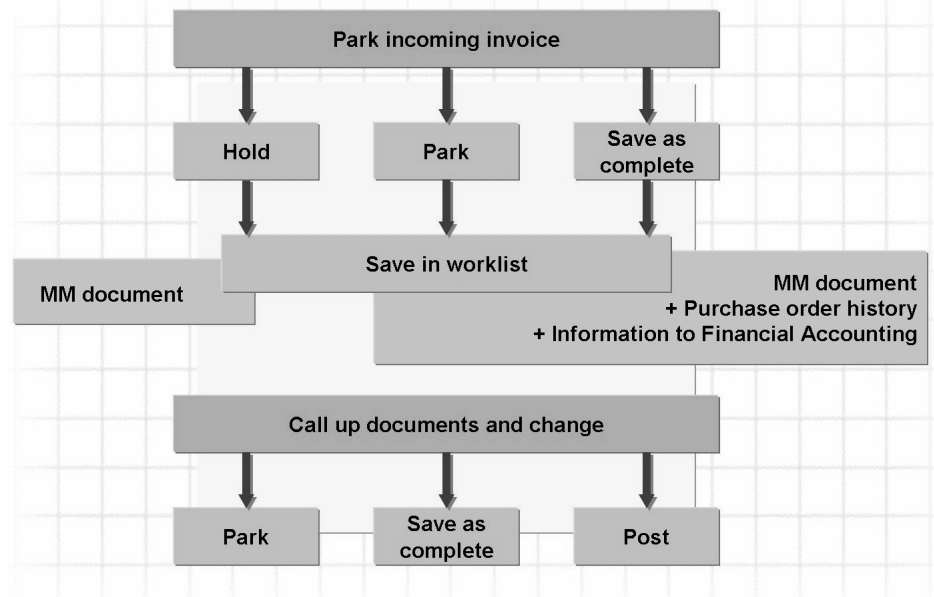


Figure 83: Document Parking: Document Status

Hold document: You use this function if you want to save the document in its current state. When you hold a document, the system only performs minimal checks (such as the existence of the company code, vendor, and company code). An MM invoice document is created. No information is transferred yet to Financial Accounting, and no updates are made to the purchase order history.

Park document: You park a document if you are missing information required for posting the document, and you do not want to have to enter the data again. The balance does not have to be zero. An MM invoice document is created, and the purchase order history is updated. Information is transmitted to Financial Accounting. The document is listed as an open, parked, vendor item. An FI document number is assigned. If you have made the relevant settings for the vendor, the system performs a check for duplicate invoices.

Save document as complete: You use this option if you do not want to make any more changes to the document, but do not want to post the document yet. You must be able to post the document, meaning that the balance must be zero or fall within the tolerance for small differences or the vendor-specific tolerances. The same checks are carried out as for parking documents. The system also checks the account assignment data. The same updates are carried out as for parking documents. The purchase order commitments are also canceled out.

You can use the **worklist** to call up your held, parked, and saved as complete documents for further processing. Use the *Invoice Overview* transaction to select held, parked, and saved as complete documents, and process them further from there.

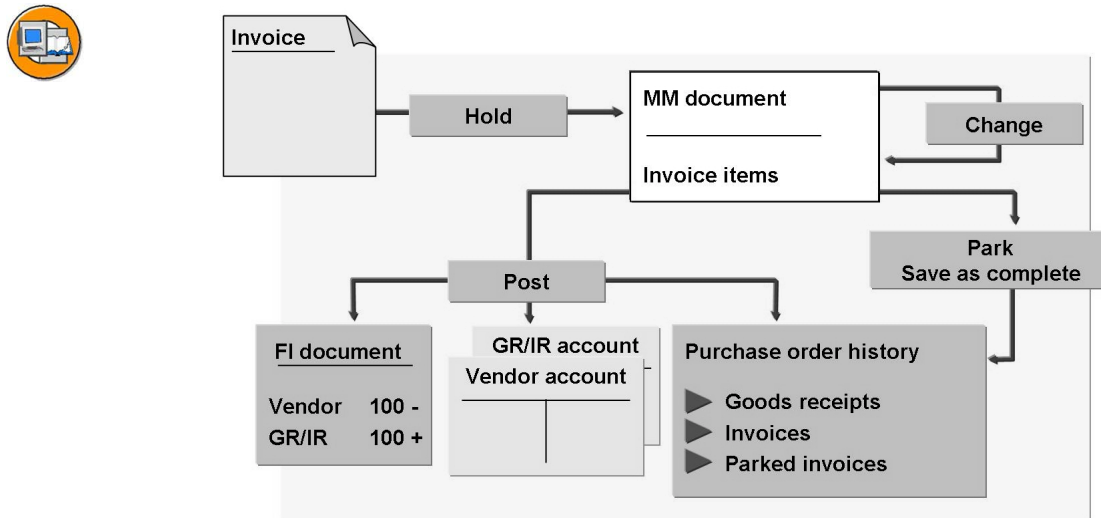


Figure 84: Hold Document

When you hold an invoice, the data is saved but no postings are made. A MM invoice document is created. You can hold a document directly from invoice entry. Choose *Hold*.

You can change or add information to a held document as often as you like. You can also delete held documents. The number of the deleted MM document is not reassigned. When you delete a document, the document header remains in the system as evidence of what the document number was issued for. The line items are deleted from the database.

Held documents are not updated in the purchase order history.

Held documents can be parked, saved as complete, or posted. Account postings are made when you post a document.

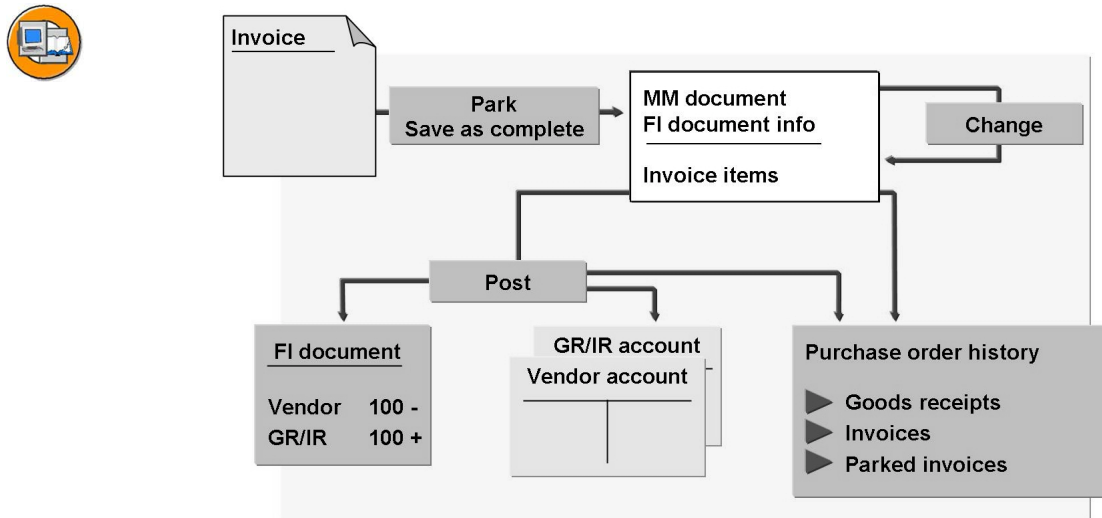


Figure 85: Document Parking and Saving as Complete

When you park an invoice or save it as complete, the data is saved but no postings are made. An MM invoice document is generated and initial information is sent to FI. An FI document number is assigned. Parked documents and saved as complete documents are updated in the PO history. Account postings are made when you post a document.

To park a document, from the *SAP Easy Access* menu, choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Park Invoice*. From the invoice entry screen, you can also choose *Edit* → *Switch to Document Parking* to go directly to document parking.

You can change or add information to a parked or saved as complete document as often as you like. You can also delete these documents. The numbers of the deleted documents (both MM and FI) are not reassigned. When you delete a document, the document header remains in the system as evidence of what the document numbers were issued for. The line items are deleted from the database.

Report RFPUMS00 enables you to take into account parked and saved as complete documents for advance tax returns. To do this, from the *SAP Easy Access* menu, choose *Accounting* → *Financial Accounting* → *General Ledger* → *Reporting* → *Tax Reports* → *General* → *Input Tax from Parked Documents*.

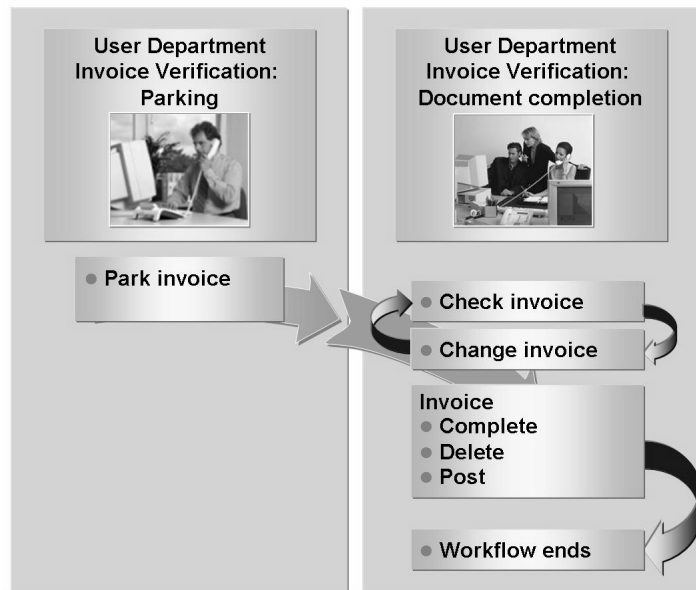


Figure 86: Document Parking: Complete

When different processor groups park and complete invoice documents, you can use this workflow that is predefined in the standard system. Use workflow template WS20001003. In Customizing for *Materials Management* under *Logistics Invoice Verification* → *Document Parking* → *Activate Workflow Template for Document Completion*, you can configure the workflow.

All users authorized to complete parked documents receive a work item in their inbox. The work item can be used to change parked documents. The work item appears in the inbox of this employee until the parked invoice document has been completed, or until the invoice document is completed, deleted, or posted outside the workflow.

The workflow ends when a user in the "completion" processor group

- Saves the invoice as complete
- Deletes the invoice
- Posts the invoice

For more information, see the SAP Library under *SAP ERP Central Component (or SAP R/3 Enterprise Application Components)* → *Scenarios in Applications* → *SAP Business Workflow* → *MM – Materials Management: Workflow Scenarios* → *Parking: Complete Invoice (MM-IV-LIV)*.

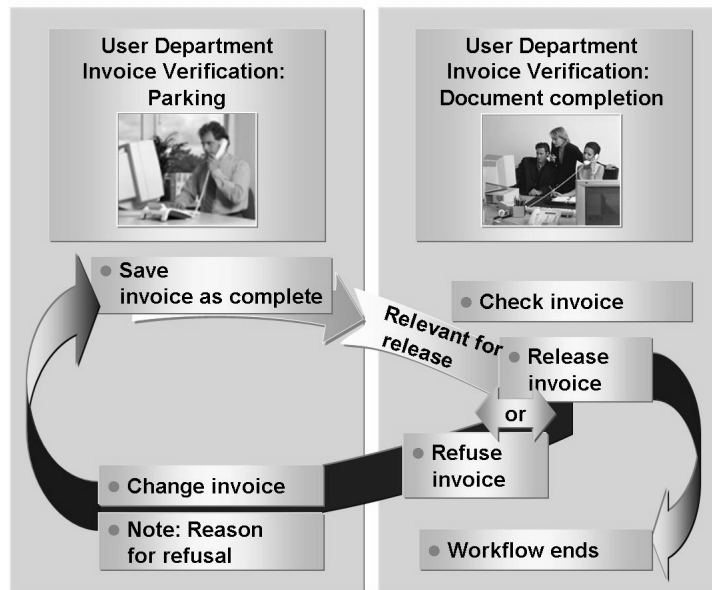


Figure 87: Document Parking: Release and Post

In Logistics Invoice Verification, you can control the document parking process using a workflow. This is useful where invoices exceeding certain release criteria must be approved by an employee responsible for release before the invoice documents are posted. Use the workflow template WS20001004, which is predefined in the standard system. In Customizing for *Materials Management* under *Logistics Invoice Verification* → *Document Parking* → *Activate Workflow Template for Release for Posting*, you can configure the workflow. In Customizing for Logistics Invoice Verification, you can choose *Document Parking* → *Define Release Criteria* to specify for which company code, which vendors, and as of which amount a release should take place.

In the release procedure, the person responsible for release decides whether the invoice document should be released. If the processor decides to release the invoice, the document is released in the background and is then posted. If he or she refuses the release, the document, including a note detailing the reason for the refusal, is passed to the invoice verification clerks responsible for completing documents for them to make changes. When the changed invoice document is saved as complete, then the person responsible for release receives a new work item in his or her inbox for processing.

The workflow ends when the invoice document is released or deleted.

For more information, see the SAP Library under *SAP ERP Central Component* (or *SAP R/3 Enterprise Application Components*) → *Scenarios in Applications* → *SAP Business Workflow* → *MM – Materials Management: Workflow Scenarios* → *Parking: Release of Invoices Completed for Posting* (MM-IV-LIV).



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Exercise 11: Document Parking

Exercise Duration: 15 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Park an invoice
- Change and post a parked invoice

Business Example

Your company parks invoices when invoice information is missing.

Task:

The vendor sent you the following invoice.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	1602##		
This invoice refers to your purchase order number 41515162##			
Flat gaskets	100 pcs	5000 EUR	
Packing gaskets	100 pcs	2000 EUR	
			40 EUR
			7040 EUR
Tax: 10 %			<u>704 EUR</u>
Invoice amount:			7744 EUR

Figure 88: Invoice 1602##

1. Your job is to post this invoice. While entering the invoice, you notice that you are missing information about how to post the processing charges for the changes to the contract. You then switch to document parking and save the parked document.

Continued on next page

Document number _____

- 2. Display your worklist. Go to the document display and display the document you just entered.

How can you tell from the document display that the document is parked?
Branch to the purchase order history. Is the parked document listed here?

- 3. After consulting with the vendor, you now need to post the charges as unplanned delivery costs. Complete the parked document and then post it.

- 4. Display the posted document. Which changes have occurred since exercise 2?

Solution 11: Document Parking

Task:

The vendor sent you the following invoice.

Invoice		
Sapsota Company Limited (Vendor T-K515A##)		
Invoice date:	[Current date]	
Invoice:	1602##	
This invoice refers to your purchase order number 41515162##		
Flat gaskets	100 pcs	5000 EUR
Packing gaskets	100 pcs	2000 EUR
		40 EUR
		7040 EUR
Tax: 10 %		704 EUR
Invoice amount:		7744 EUR

Figure 89: Invoice 1602##

1. Your job is to post this invoice. While entering the invoice, you notice that you are missing information about how to post the processing charges for the changes to the contract. You then switch to document parking and save the parked document.

Continued on next page

Document number _____

- a) *Logistics* → *Materials Management* → *Logistics Invoice Verification*
→ *Document Entry* → *Enter Invoice*
- b) You enter the following data on the *Basic data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	1602##
Amount	7744
Tax amount	704

- c) Enter the purchase order number as the allocation:

Field name or data type	Values
Purchase order/scheduling agreement	41515162##

- d) Check the invoice items with reference.

Because you do not know how the processing charges for changes to the contract are to be posted, choose *Edit* → *Switch to Document Parking*.

- e) Choose  *Save Parked Document*.

2. Display your worklist. Go to the document display and display the document you just entered.

How can you tell from the document display that the document is parked?
Branch to the purchase order history. Is the parked document listed here?

Answer: Choose *Worklist on* to see the documents you have parked in the left screen area. Open the area containing the parked documents. Double-click the document you have entered. The *Change Parked Document* screen appears.


You can see from the title that the document has been parked. The parked document appears in the purchase order history marked with a special indicator.

Continued on next page

3. After consulting with the vendor, you now need to post the charges as unplanned delivery costs. Complete the parked document and then post it.

- a) Enter the following data on the *Details* tab page:

Field name or data type	Values
Unplanned delivery costs	40

- b) Choose  *Post*.
4. Display the posted document. Which changes have occurred since exercise 2?

Answer: Choose *Invoice Document* → *Display*. The system shows you the last posted document.

To display the FI document, choose *Follow-On Documents...* and double-click the accounting document.

To go to the purchase order, double-click on the PO number in the item list. In the item detail of the purchase order, go to the *Purchase order history* tab page. The purchase order history is changed by posting the document. From the transaction, you can see that the invoice is no longer parked, but has been posted.



Lesson Summary

You should now be able to:

- Hold or park an invoice
- Specify which updates take place during document parking
- Process a parked document further

Lesson: Taxes, Cash Discounts, and Foreign Currency



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Lesson Duration: 90 Minutes

Lesson Overview

This lesson will teach participants how to enter taxes in invoice verification, and how to enter invoices in foreign currencies. The lesson also covers terms of payment and gross and net posting for an invoice.



Lesson Objectives

After completing this lesson, you will be able to:

- Enter or change tax information
- Enter or change cash discount information
- Post both gross or net of cash discounts
- Enter invoices in a foreign currency



For more information, see the Instructor Guide in SAPNet.

Business Example

Most of the invoices received by your company are taxable. It is your job to check whether the tax data is correct. You must also take account of the terms of payment when you enter an invoice.

Occasionally, the invoice currency varies from your local currency.

Tax

The value added to goods results from the difference between the purchase price and the sales price. An example of value-added tax, more commonly referred to in the USA as sales tax, would be the amount the State adds on top of the sales price.

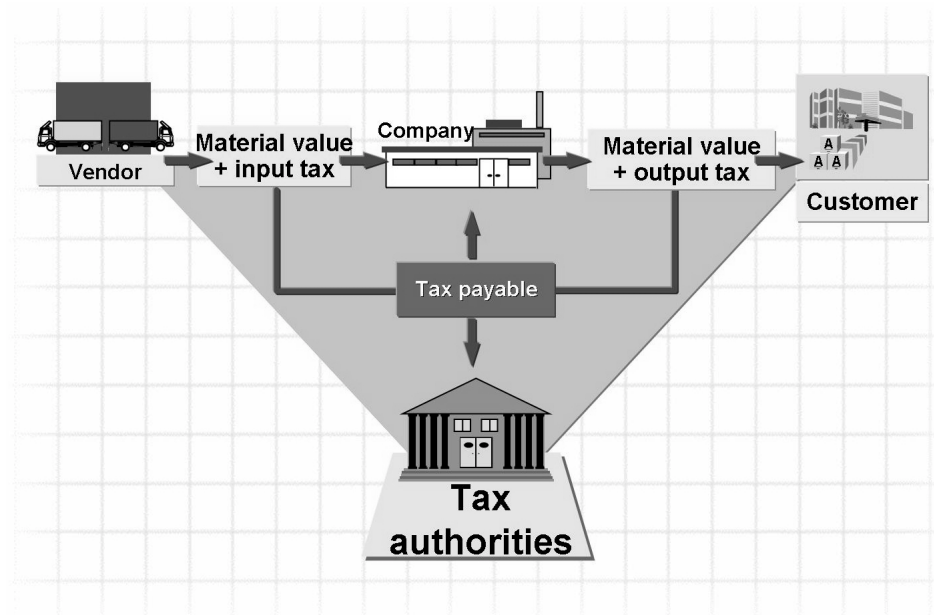


Figure 90: Sales Tax

For sales tax, we distinguish between input tax and sales tax from sales. The input tax is the tax that is invoiced by the vendor. It represents a demand to the tax authorities. The sales tax from sales is the tax that is invoiced to the customer at all production and trade levels. This represents a tax debt to the tax authorities.

Each company only needs to pay the sales tax from its value-added tax to the tax authorities. This is the actual payment the company is required to make. The payment requirement is a result of the difference between the sales tax from sales and the input tax.

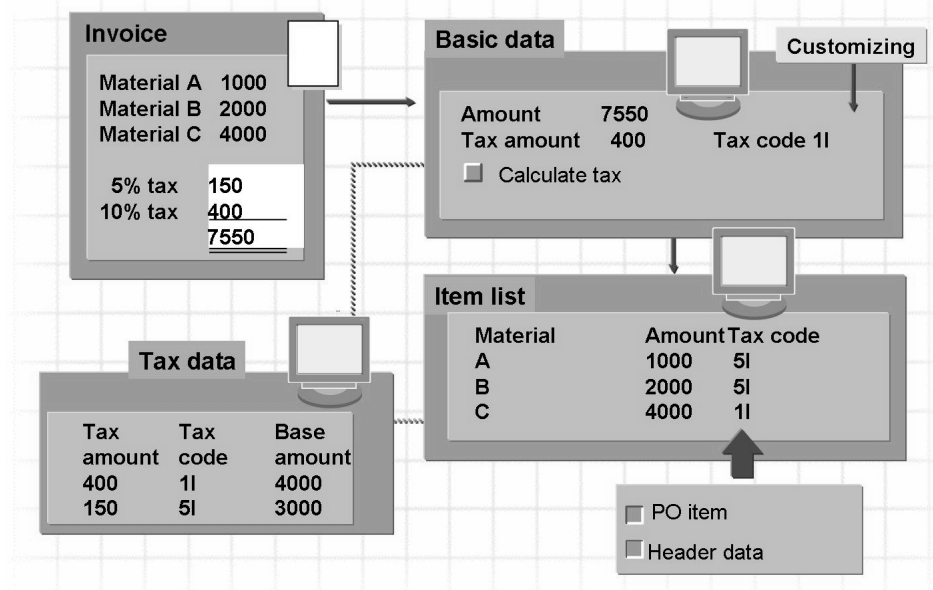


Figure 91: Entering Tax Data

A tax code must be defined for each tax rate in Customizing for Financial Accounting. This tax code defines how the system calculates the tax and how the system is to post the tax.

You enter the tax rates and tax amounts specified in the invoice in the header screen area when you enter the invoice. If the vendor invoice only contains one tax rate, you can maintain the tax data on the *Basic data* tab page. If the vendor invoice contains more than one tax rate, you enter the tax data on the *Tax* tab page. If the tax amounts are not specified in the invoice, you select *Calculate tax*. The system then calculates the tax amounts automatically.

Each tax-relevant item is allocated a tax code. The item tax codes are displayed in the item list and can be changed there, if necessary. The system reads this for each item from the purchase order. If the system cannot determine a tax code for an item, the system uses the tax code from the header data in transaction MIRO. If the tax code is changed later in the header, the tax codes are not updated at item level.

The system calculates the tax base for each tax code from the amounts and tax codes of the individual items. The system verifies the tax data when you simulate or post an invoice.

Terms of Payment

To define when an invoice must be paid, you can agree on terms of payment with your vendor. The terms of payment contain the terms you have agreed with the business partner with regards to the financial compensation due for deliveries and services rendered. Terms of payment can have three levels, for example, if

you pay within 5 days there is a 3% discount, within 10 days a 2% discount, and within 20 days you pay the net price. The discount guaranteed by the vendor therefore reduces the cost price.

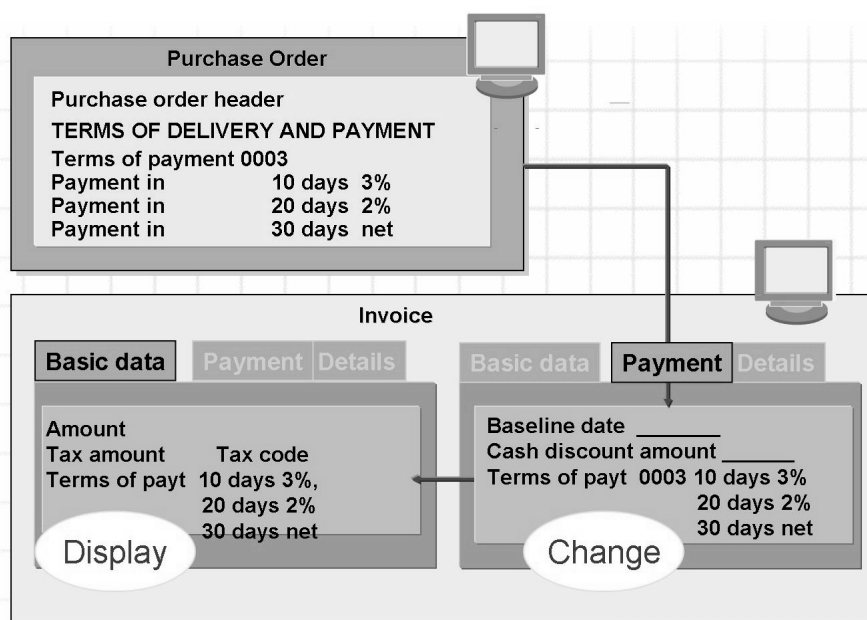


Figure 92: Terms of Payment

For terms of payment that you use on a regular basis, you can define terms of payment keys in Customizing for Financial Accounting. This means that you only need to enter the key in Purchasing or Logistics Invoice Verification. In the terms of payment key, you can also specify a baseline date as of which the payment deadlines are valid.

When the invoice is entered, the terms of payment are proposed from the purchase order. You can, however, change these default values. On the *Basic data* tab page in the invoice header, the system displays the terms of payment copied from the purchase order. You can change them on the *Payment* tab page. In Invoice Verification, you can enter terms of payment or a fixed cash discount amount. If an invoice refers to more than one purchase order, the system proposes the terms from the first purchase order.

You can also define installment conditions in Customizing for Financial Accounting. If you enter an installment condition in Invoice Verification, the system creates a separate vendor line in the accounting document for each installment at the time of posting.

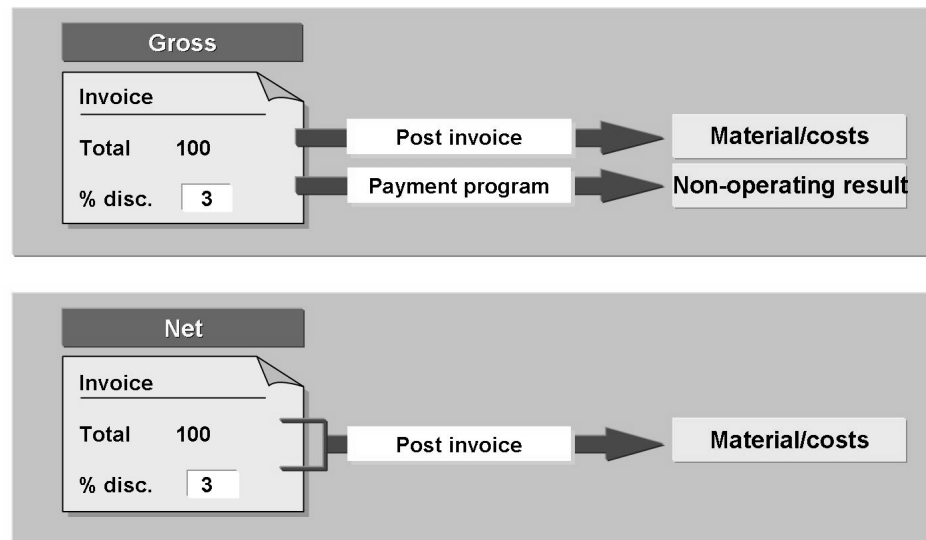


Figure 93: Posting Gross/Net

There are two ways of posting the cash discount amount: gross posting and net posting.

- **Gross**
If you post the gross amount of an invoice, the system ignores the cash discount amount when you enter the invoice; it posts the cash discount amount to a *Cash Discount* account at the time of payment. Therefore, the cash discount amount is not credited to the stock or cost account.
- **Net**
If you post the net amount of an invoice, the system posts the cash discount amount from a cash discount clearing account to the stock or cost account. This means the system only posts the amount reduced by the cash discount amount to the stock account/costs account. The cash discount clearing account is cleared at the time of payment.

Whether an invoice is posted gross or net depends on the document type.

You define the document types in Customizing for Logistics Invoice Verification. For each document type, you indicate whether postings should be made gross or net. You also set the type of document that the system suggests when an invoice is entered.

You can change the document type during invoice entry on the *Detail* tab page.



	Goods receipt	Invoice	FI payment
Purchase order: 5 pcs at 20.00 EUR/pc			
Goods receipt for this purchase order: 5 pcs			
Invoice: 5 pcs at 20.00 EUR/pc		= 100.00 EUR	
10% Tax		= 10.00 EUR	
		= 110.00 EUR	
less 5% cash discount		= 5.50 EUR	
		<u>104.50 EUR</u>	
Stock account	100 +		
GR/IR account	100 -		
Vendor account		100 +	
Input tax		110 -	
Bank		10 +	
Non-operating result			110 +
			0.50 -
			104.50 -
			5 -

Figure 94: Account Movements: Gross Posting

The system ignores the cash discount amount when gross posting the invoice. The cash discount amount is posted at the time of payment:

- The cash discount amount for the net invoice value is posted as a non-operating result.
- When the invoice is posted, the system first posts a tax amount that is too high, since the tax does not take account of the cash discount. When the payment is made, the input tax posting is automatically corrected, and the tax amount for the cash discount is credited to the input tax account.



	Goods receipt	Invoice	FI payment
Purchase order: 5 pcs at 20.00 EUR/pc			
Goods receipt for this purchase order: 5 pcs			
Invoice: 5 pcs at 20.00 EUR/pc		= 100.00 EUR	
10% Tax			= 10.00 EUR
		= 110.00 EUR	
less 5% cash discount		= 5.50 EUR	
		<u>104.50 EUR</u>	
Stock account	100 +	5 -	
GR/IR account	100 -	100 +	
Vendor account		110 -	110 +
Input tax		10 +	0.50 -
Bank			104.50 -
Cash discount clearing account		5 +	5 -

Figure 95: Account Movements: Net Posting

The cash discount amount is already taken into account when the invoice is net posted.

The cash discount amount is posted to a cash discount clearing account; this is cleared at the time of payment.

The offsetting posting to the cash discount clearing account is dependent on the price control of the material:

- If the material is managed with a standard price, the cash discount is credited to the price difference account.
- If the material is managed with a moving average price, the cash discount is credited to the stock account. If there is no stock coverage, then only a part, for which the stock coverage exists, is posted to the stock account. It posts the remainder to the price difference account.

When the payment is made, the input tax posted in the invoice is corrected.

Invoices in a Foreign Currency

There is an invoice in a foreign currency if the currency used to show the invoice amount is different from the local currency defined for the company code.

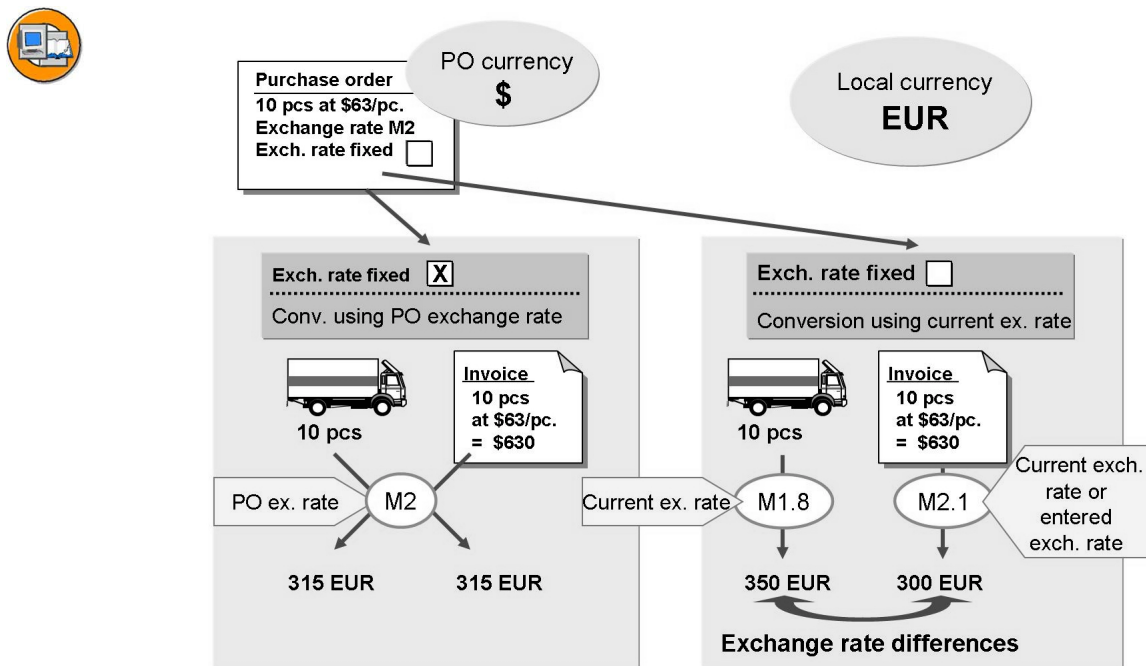


Figure 96: Invoices in a Foreign Currency

If you enter an invoice in a foreign currency, the following settings must have been made in the system:

- You must have defined the currency you are using to enter the invoice.
- You must have configured an exchange rate for the given currency and the local currency in Customizing. You can define different exchange rates for different time periods.

For a purchase order in a foreign currency, the buyer can decide whether the rate is fixed or not. The buyer set the relevant indicator in the purchase order header, on the *Delivery/Invoice* tab page.

- If this rate is fixed, the system uses the exchange rate from the purchase order to convert the foreign currency to the local currency at goods receipt and at invoice receipt.
- If the exchange rate is not fixed, the system uses the current exchange rate to convert the foreign currency to the local currency at goods receipt. In Invoice Verification, the system also suggests the current exchange rate as the exchange factor, but you can change it.

If the exchange rate is not fixed, exchange rate differences can occur as a result of using different exchange rates. Exchange rate differences are actually the same as price differences. The way that the system posts exchange rate differences depends on the settings that have been made in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Incoming Invoice* → *Configure How Exchange Rate Differences Are Treated*.



Exercise 12: Taxes, Cash Discounts, and Foreign Currency

Exercise Duration: 30 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Enter and change tax data
- Enter and change cash discount information
- Post gross or net of cash discounts
- Post an invoice in foreign currency

Business Example

There are several factors that affect the total amount of an invoice.

Your company must follow local tax regulations. You often have to enter tax codes if they were not entered in the purchase order.

Your company would like to deduct cash discounts whenever possible. You can enter or change the vendor early-payment discount.

Task 1: Entering Taxes

You receive the following invoice containing several tax rates.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	4001##		
This invoice refers to your purchase order number 41515041##			
T-M15A##	Slugs for cast iron spiral casing	100 pcs	1000 EUR
T-M15B##	Flat gaskets	20 pcs	1000 EUR
T-M15C##	Packing gaskets	150 pcs	3000 EUR
			5000 EUR
Tax:	10 % 1, 3		400 EUR
Tax:	5 % 2		50 EUR
Invoice amount:			5450 EUR

Figure 97: Invoice 4001##

1. Enter this invoice in Logistics Invoice Verification.
2. Did the system propose tax codes for the invoice?

3. Display the purchase order. Were tax codes defined for each item?

4. If required, correct the tax rates on the item list.
5. Simulate the postings that will take place. Fill in the table.

Continued on next page

Item	Account	Amount
001		
002		
003		
004		
005		
006		

Post the document.

Invoice number: _____

Task 2: Net Invoice Receipt

The following invoice arrived with different payment terms than usual for the supplier. You would like to post the document **net** to take advantage of the discount immediately.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	4002##		
This invoice refers to your purchase order number 41515042##			
T-M15A##	Slugs for cast iron spiral casing	20 pcs	200 EUR
T-M15B##	Flat gaskets	30 pcs	1500 EUR
T-M15E##	HD brake system	10 pcs	600 EUR
			2300 EUR
Tax:	10 %		230 EUR
Invoice amount:			2530 EUR
Payable within 14 days with 3% cash discount, payable within 30 days with 2% cash discount, payable net within 45 days			

Figure 98: Invoice 4002##

1. Enter this invoice **net** in Logistics Invoice Verification. Check the default document type and change it to *Net invoice receipt*, if necessary.
2. Check the terms of payment and change them, if necessary.

Continued on next page

3. Before you simulate the postings, answer the following questions: How does the system post the cash discounts? Does the valuation of the material affect the postings?

4. Which discount percentage does the system use in the calculation?

5. Simulate the postings that will take place.

Fill in the table.

Item	Account	Amount
001		
002		
003		
004		
005		
006		
007		
008		
009		

Post the document.

Invoice number: _____

Continued on next page

Task 3: Invoices in a Foreign Currency

This invoice refers to a purchase order in foreign currency. You want to post the document gross.

Invoice			
ECD, Forster City	(Vendor T-K515D##)		
Invoice date:	[Today's date]		
Invoice number:	4003##		
Invoice for your purchase order 41515043##			
T-M15A##	Slug for spiral casing	20 pcs	120 USD
T-M15B##	Flat gasket	10 pcs	200 USD
Invoice amount			320 USD
Tax: not subject to tax			

Figure 99: Invoice 4003##

1. Enter this invoice in Logistics Invoice Verification. Leave the *Currency* field blank. Which currency does the system propose once you have allocated the invoice?

2. Which exchange rate is specified in the purchase order?

3. Can you change the exchange rate in Invoice Verification?

4. Simulate the document. Display the document simulation in the local currency and the document currency.

Continued on next page

Item	Account	Amount EUR	Document currency
001			
002			
003			
004			
005			

Post the document.

Invoice number: _____

Solution 12: Taxes, Cash Discounts, and Foreign Currency

Task 1: Entering Taxes

You receive the following invoice containing several tax rates.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	4001##		
This invoice refers to your purchase order number 41515041##			
T-M15A##	Slugs for cast iron spiral casing	100 pcs	1000 EUR
T-M15B##	Flat gaskets	20 pcs	1000 EUR
T-M15C##	Packing gaskets	150 pcs	3000 EUR
			5000 EUR
Tax:	10 % 1, 3		400 EUR
Tax:	5 % 2		50 EUR
Invoice amount:			5450 EUR

Figure 100: Invoice 4001##

1. Enter this invoice in Logistics Invoice Verification.
 - a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
 - b) Enter the following data on the *Basic Data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	4001##
Amount	5450

- c) Choose the *Tax* tab page and enter the tax information:

Continued on next page

Field name or data type	Values
Tax amount	400
Tax code	10% input tax
Tax amount	50
Tax code	5 % input tax

- d) Choose *Purchase Order/Scheduling Agreement* as the allocation and enter the PO number:

Field name or data type	Values
Purchase order/scheduling agreement	41515041##

You check the items that the system proposes on the item list.


2. Did the system propose tax codes for the invoice?

Answer: On the *Basic data* tab page, the system proposes the tax code defined in Customizing.

On the item list, the system proposes 10% input tax for all items.

3. Display the purchase order. Were tax codes defined for each item?

Answer: Double-click on the PO number in the item list. Go to the display of the purchase order. In the item detail on the *Invoice* tab page, you can see which tax code was preplanned. Ten percent input tax was planned in all the items.

Choose  *Back*. The invoice verification transaction appears.

4. If required, correct the tax rates on the item list.

- a) Change the tax code for the second item to 5% input tax on the item list.


5. Simulate the postings that will take place. Fill in the table.

Continued on next page

Item	Account	Amount
001		
002		
003		
004		
005		
006		

Post the document.

Invoice number: _____

- a) Choose  *Simulate*. A dialog box appears in which you see the account movements that will take place when the invoice is posted.

Item	Account	Amount
001	Vendor account	5,450.00 -
002	GR/IR clearing account	1,000.00
003	GR/IR clearing account	1,000.00
004	GR/IR clearing account	3,000.00
005	Tax account	400.00
006	Tax account	50.00

- b) Choose  *Post*. A message appears displaying the document number.

Task 2: Net Invoice Receipt

The following invoice arrived with different payment terms than usual for the supplier. You would like to post the document **net** to take advantage of the discount immediately.

Continued on next page

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	4002##		
This invoice refers to your purchase order number 41515042##			
T-M15A##	Slugs for cast iron spiral casing	20 pcs	200 EUR
T-M15B##	Flat gaskets	30 pcs	1500 EUR
T-M15E##	HD brake system	10 pcs	600 EUR
			2300 EUR
Tax:	10 %		230 EUR
Invoice amount:			2530 EUR
Payable within 14 days with 3% cash discount, payable within 30 days with 2% cash discount, payable net within 45 days			

Figure 101: Invoice 4002##

1. Enter this invoice **net** in Logistics Invoice Verification. Check the default document type and change it to *Net invoice receipt*, if necessary.
 - a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
 - b) Enter the following data on the *Basic Data* tab page:



Field name or data type	Values
Document date	<Today's date>
Reference	4002##
Amount	2530
Tax amount	230

- c) Enter the purchase order number as the allocation:

Field name or data type	Values
Purchase order/scheduling agreement	41515042##

- d) On the *Details* tab page, you verify the document type and change it to *Net Invoice Receipt*, if necessary.

Continued on next page

2. Check the terms of payment and change them, if necessary.
 - a) The system displays the terms of payment on the *Basic data* tab page. To change this, choose the *Payment* tab page. Choose the appropriate terms of payment key, or enter the days and percentages listed in the invoice.
 - b) Confirm the change and choose  *Enter*. Choose  again to confirm the warning message that is displayed.

3. Before you simulate the postings, answer the following questions: How does the system post the cash discounts? Does the valuation of the material affect the postings?

Answer: If the material in an item is subject to valuation at a moving average price, the system credits the stock account for the material with the amount of the cash discount revenue for the item. This changes the moving average price of the material.

4. Which discount percentage does the system use in the calculation?

Answer: The system uses the first percentage rate to calculate the cash discount.

5. Simulate the postings that will take place.


Fill in the table.

Item	Account	Amount
001		
002		
003		
004		
005		
006		
007		
008		
009		

Post the document.

Continued on next page

Invoice number: _____

- a) When you choose  *Simulate*, a dialog box appears in which you see the account movements that will take place when the invoice is posted.

Item	Account	Amount
001	Vendor account	2,530.00 -
002	GR/IR clearing account	200.00
003	Stock account	6.00 -
004	GR/IR clearing account	1,500.00
005	Stock account	45.00 -
006	GR/IR clearing account	600.00
007	Price difference account	18.00 -
008	Tax account	230.00
009	Cash discount clearing account	69.00

The system credits the stock account for the first two materials (materials with a moving average price). It posts the amount of the cash discount to a price differences account for the third material (material with standard price), which is subject to valuation at a standard price.

- b) Choose  *Post*. A message appears displaying the document number.

Task 3: Invoices in a Foreign Currency

This invoice refers to a purchase order in foreign currency. You want to post the document gross.

Continued on next page

Invoice			
ECD, Forster City	(Vendor T-K515D##)		
Invoice date:	[Today's date]		
Invoice number:	4003##		
Invoice for your purchase order 41515043##			
T-M15A##	Slug for spiral casing	20 pcs	120 USD
T-M15B##	Flat gasket	10 pcs	200 USD
Invoice amount			320 USD
Tax: not subject to tax			

Figure 102: Invoice 4003##

1. Enter this invoice in Logistics Invoice Verification. Leave the *Currency* field blank. Which currency does the system propose once you have allocated the invoice?
 - a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
 - b) Enter the following data on the *Basic Data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	4003##
Amount	320
Tax code	0I

- c) Enter the purchase order number as the allocation:

Field name or data type	Values
Purchase order/scheduling agreement	41515043##


- d) The system proposes the currency planned in the purchase order: USD.

Continued on next page

2. Which exchange rate is specified in the purchase order?

Answer: Double-click on the PO number in the item list. Go to the display of the purchase order.

In the order header, on the *Delivery/Invoice* tab page, you can see that the planned exchange rate 1.8875 is not fixed.

Choose  *Back*. The invoice verification transaction appears.

3. Can you change the exchange rate in Invoice Verification?

Answer: The exchange rate is displayed on the *Details* tab page. You can only change the exchange rate before you have made the allocation, and if the rate is not fixed in the PO header.



4. Simulate the document. Display the document simulation in the local currency and the document currency.

Item	Account	Amount EUR	Document currency
001			
002			
003			
004			
005			

Post the document.

Continued on next page

Invoice number: _____

- a) Choose  *Simulate*. A dialog box appears in which you see the account movements that will take place when the invoice is posted.
- b) To switch between the local currency and the purchase order currency, choose  *Display Currency* and then choose the required currency in the *Select Display Currency* dialog box.

Item	Account	Amount EUR	Document currency
001	Vendor account	Dependent on exchange rate	320.00 -
002	GR/IR clearing account	Dependent on exchange rate	120.00
003	Stock account	Dependent on exchange rate	0.00
004	GR/IR clearing account	Dependent on exchange rate	200.00
005	Stock account	Dependent on exchange rate	0.00

- c) Choose  *Post*. A message appears displaying the document number.



Lesson Summary

You should now be able to:

- Enter or change tax information
- Enter or change cash discount information
- Post both gross or net of cash discounts
- Enter invoices in a foreign currency

Lesson: Invoices for POs with Account Assignment



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Lesson Duration: 60 Minutes

Lesson Overview

In the purchase order, you can assign the goods to procure directly to an account assignment object. In this case, the materials are posted straight to consumption and not into storage. This lesson discusses how to enter invoices that refer to purchase orders with account assignments. In this context, this lesson discusses the circumstances in which account assignments can be changed during invoice entry.



Lesson Objectives

After completing this lesson, you will be able to:

- Enter invoices for a purchase order with account assignment and change the planned account assignments
- Enter invoices relating to a blanket purchase order
- Trace the resulting account movements



For more information, see the Instructor Guide in SAPNet.

Business Example

Your company orders various materials for direct consumption, for example, for cost centers, plant maintenance, assets, and projects. You want to verify that the account assignments for the costs in the invoice are correct.

Account Assignment and Invoice Verification

When you create a purchase order in Purchasing, you can make an account assignment for each PO item if the material or service is being procured for consumption.

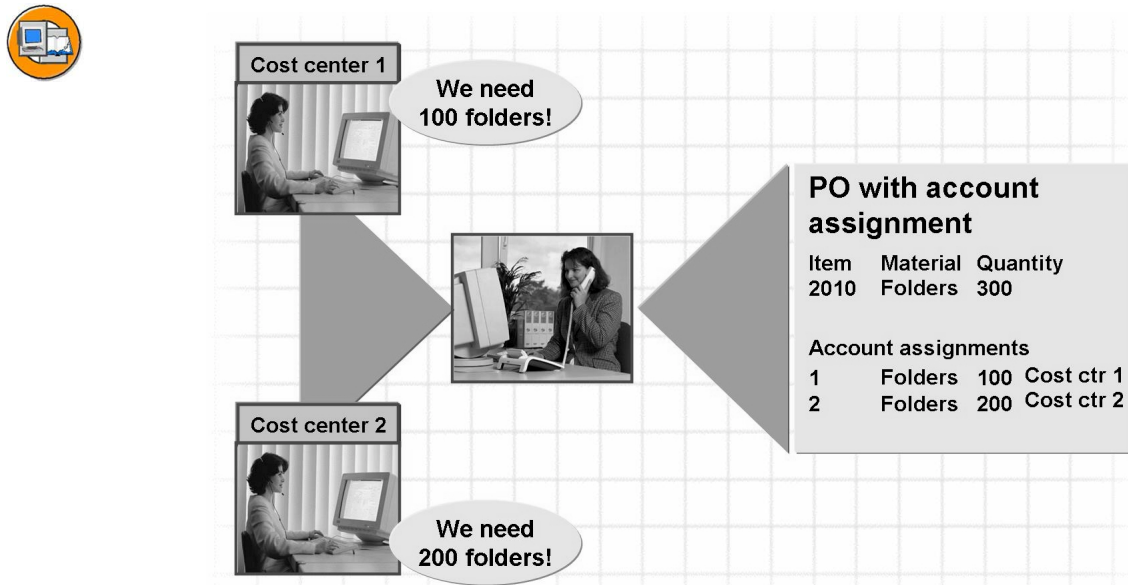


Figure 103: Purchase Orders with Account Assignment

For example, you must make account assignments for a purchase order if:

- You order a material that is not planned for inventory management, and that will therefore go directly for consumption
- You order an external service

The quantity of a purchase order item can be distributed to more than one account assignment objects (multiple account assignment). If this is the case, the buyer must also specify how the PO quantity should be distributed between the various account assignment objects.

You cannot normally see from the invoice whether it refers to a purchase order with account assignment. You can see this in the item list in Logistics Invoice Verification, where the *Account assignment* column shows you whether the purchase order has an account assignment. You can display the account assignment information, and can change it in certain circumstances.

There are suitable layouts for the item list available when you enter an invoice for a purchase order with account assignment.

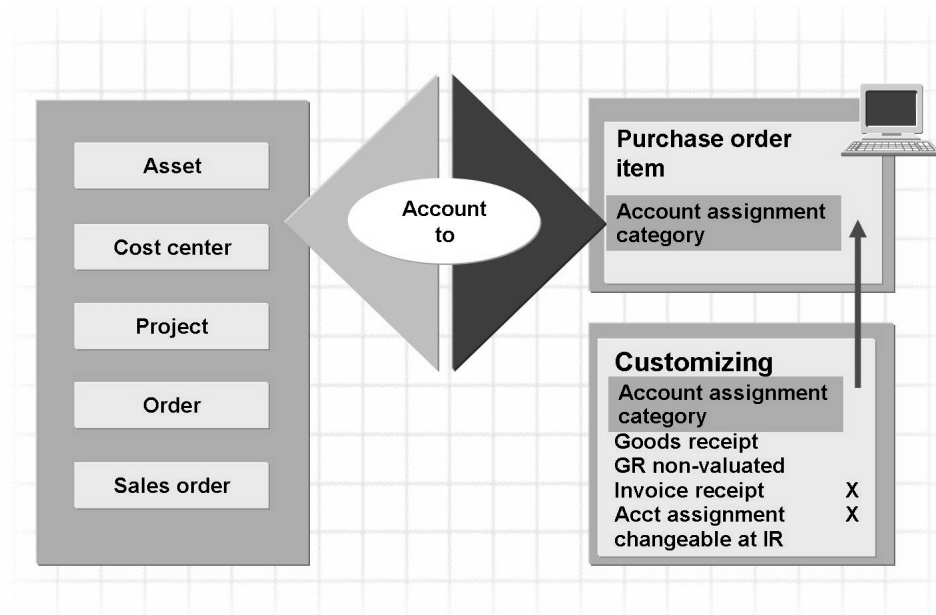


Figure 104: Types of Account Assignment

You can create an account assignment for a purchase order to various objects. You use the account assignment category to define the type of account assignment. The account assignment category controls:

- If you can post a goods receipt
- If you can post an invoice receipt

If you cannot post a goods receipt, the system suggests the difference between the purchase order quantity and the invoiced quantity in Invoice Verification.

To change the account assignment in Invoice Verification, the following prerequisites must be fulfilled:

- In Customizing for *Purchasing* under *Account Assignment* → *Maintain Account Assignment Categories*, you must have made the appropriate settings so that the account assignment can be changed in Invoice Verification for the account assignment category.
- There must be either a planned non-valuation goods receipt, or no expected goods receipt for the PO item.

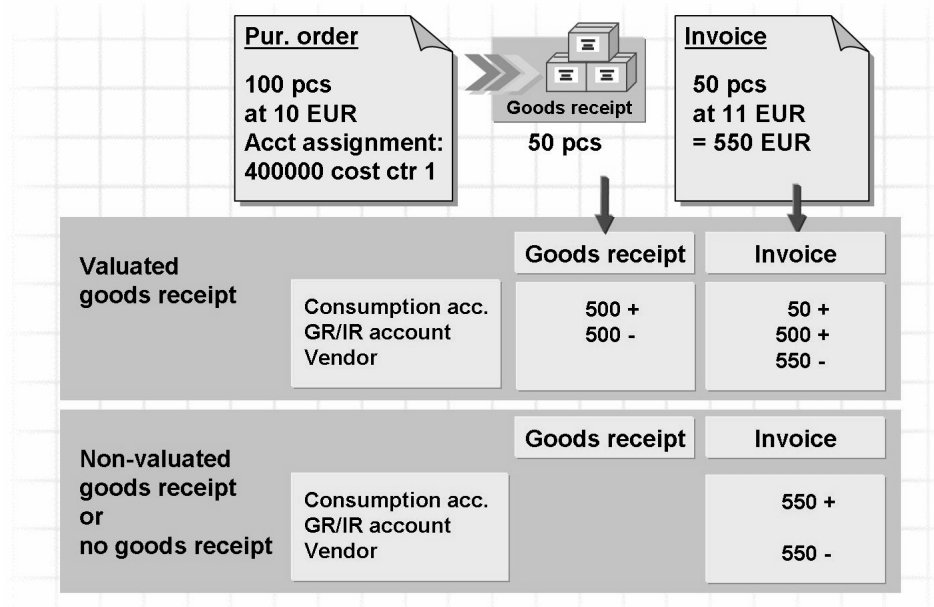


Figure 105: Account Movements for POs with Account Assignment

If a valuated goods receipt is defined for a purchase order with account assignment, the system debits the consumption account at goods receipt. The offsetting entry is made to the GR/IR clearing account and cleared by the invoice. The system debits or credits price variances to the consumption account.

If no goods receipt or only a non-valuated goods receipt is defined for a purchase order with account assignment, the posting to the consumption account occurs directly when the invoice is posted.



Multiple account assignment for line item					
	Amount	Quantity	Cost center	G/L account	
	10.00	2,000	1000	...	
	15.00	3,000	1100	...	
	25.00	5,000	1200	...	
Total amount		50.00	40.00	Total quantity	10,000
					20,000

Change total amount or total quantity

+ Check

	Amount	Quantity	Cost center	G/L account
	8.00	4,000	1000	...
	12.00	6,000	1100	...
	20.00	10,000	1200	...
Total amount		40.00	Total quantity	20,000

Figure 106: Multiple Account Assignment in MIRO

As of SAP R/3 Enterprise, you can enter varying amounts and quantities on the multiple account assignment screen. You do not have to manually calculate and enter amounts, meaning that you can avoid data entry and copying errors.

- **Change the total amount and the total quantity**

If you change the total amount or total quantity and choose *Check* or *Back*, then the new value is automatically distributed to the selected account assignment objects according to the distribution schema.

- **Change the quantities and amounts in the account assignment lines**

If you change these amounts or quantities in the account assignment lines, then after you choose *Check* the system adds the total amounts and/or quantities. Newly entered total amounts and quantities are overwritten by the calculated amounts and quantities. The system issues an error message that you can configure in Customizing.

The values calculated automatically are used as default values and can be changed until you save the invoice.

Invoices for Blanket Purchase Orders

The processing time for individual purchase orders is not often viable for office materials, screws and small parts, cleaning work or lesser services that are required during the course of the year. In such cases, you can use blanket purchase orders to procure various consumable materials or services from a vendor, up to a fixed value limit.

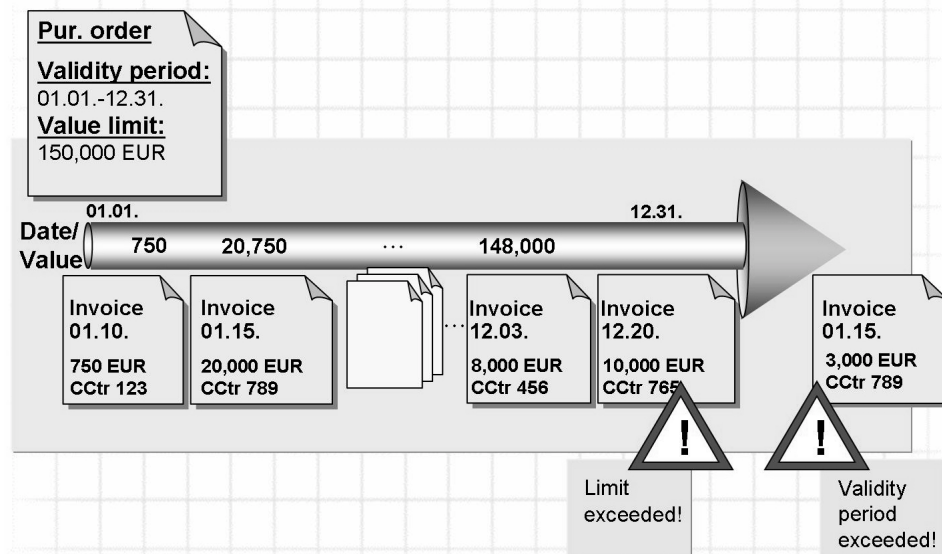


Figure 107: Invoices for Blanket Purchase Orders

A blanket purchase order contains a validity period and a value limit. This means that you can specify a validity period instead of a delivery date. Invoices can be posted against this blanket purchase order within the validity period. The total invoiced value must not exceed the value limit. A blanket purchase order only contains a short text. It does not contain materials or services. For blanket purchase orders, use item category B and document type FO.

You cannot enter a goods receipt, enter services, or accept services for blanket purchase orders.

The system does not need to know the account assignments for the individual requirements at the time of the purchase order. You can enter them during invoice verification. If account assignment data has already been maintained in the purchase order, you can change these during invoice verification. When you enter an invoice for a blanket purchase order, you can enter as many account assignments as you require, along with the relevant amounts.

In *Customizing for Materials Management* under *Logistics Invoice Verification* → *Invoice Block* → *Set Tolerance Limits*, you can specify tolerances for the limit and the validity period. If the invoice exceeds the upper tolerance limit for the value, the system blocks the invoice due to price variance. If the invoice exceeds the upper tolerance limit for the validity period, the system blocks the invoice due to schedule variance.



Exercise 13: Invoices for POs with Account Assignment

Exercise Duration: 20 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Enter an invoice for a purchase order with account assignment, and change the postings
- Enter the invoice item accounts and invoice amounts for a blanket purchase order for office supplies

Business Example

Many items are intended for departmental use or charged to projects, production orders, or plant maintenance. How can you trace the account assignments?

A goods receipt is not required for non-stock materials. The system matches data from the purchase order and invoice only.

Task 1: Invoices with Simple Account Assignment

You received the following invoice for items without material numbers. The purchase order has an account assignment to a cost center. Post the invoice in Logistics Invoice Verification.

Invoice		
Sapsota Company Limited (Vendor T-K515A##)		
Invoice date:	[Current date]	
Invoice:	7001##	
This invoice refers to your purchase order number 41515081##		
A4 folders	40 pcs	80 EUR
Pencils	100 pcs	50 EUR
Documentation	1 pcs	40 EUR
		170 EUR
Tax: 10 %		17 EUR
Invoice amount:		187 EUR

Figure 108: Invoice 7001##

1. Enter the basic data and allocate the invoice.
The materials have been procured for cost centers. Select a suitable layout.

2. Can you change the cost centers? Which ones? Why?

3. Simulate the document. Fill in the table.

Continued on next page

Item	Account	Amount
001		
002		
003		
004		
005		

Post the invoice.

Invoice number: _____

4. Display the document.

Task 2: Invoices with Multiple Account Assignment

You received the following partial invoice for 50 of the 100 folders that have already been delivered. The invoice amount should be distributed proportionately between the cost centers. Post the invoice in Logistics Invoice Verification.

Invoice		
Sapsota Company Limited (Vendor T-K515A##)		
Invoice date:	[Current date]	
Invoice:	7002##	
This invoice refers to your purchase order number 41515135##		
Folders	50 pcs	100 EUR
<hr/>		
Tax: 10 %		<u>10 EUR</u>
Invoice amount:		110 EUR

Figure 109: Invoice 7002##

1. Enter the basic data and allocate the invoice. The folders have been procured for cost centers. Select a suitable layout and allocate the invoice to the purchase order.
2. Which values are proposed in the item list of the invoice for the purchase order?

Continued on next page

Purchase order item	Quantity	Amount
10		

3. On the *Multiple Account Assignment* screen, change the default values for the total quantity and total value according to the vendor invoice. Once you have changed the total values, choose *Check*. Confirm the warning message. How does the system distribute the values you entered between the cost centers?

Cost center	Amount	Quantity
1000		
1200		
4400		

Post the invoice.

Invoice number: _____

Task 3: Invoices for Blanket Purchase Orders

You have a blanket purchase order that is used for office supplies. An invoice for last month's supplies arrives.

Invoice	
Sapsota Company Limited (Vendor T-K515A##)	
Invoice date:	[Current date]
Invoice:	7003##
This invoice refers to your purchase order number 41515082##	
Office supplies - miscellaneous	1400 EUR
Copy paper - cases	2400 EUR
<hr/>	
	3800 EUR
Tax: 10 %	<u>380 EUR</u>
Invoice amount:	4180 EUR

Figure 110: Invoice 7003##

1. Enter the basic data and allocate the invoice.
2. The invoice amount from the first item is distributed as follows:

Continued on next page

Amount	G/L account	Cost center
700	476000	1000
700	476000	4200

Enter the tax code 1I for both items.

The entire invoice amount for the second item is posted to cost center 1000 and G/L account 477000.

3. Simulate the document. Fill in the table.

Item	Account	Amount
001		
002		
003		
004		
005		

Post the invoice when the balance is zero.

Invoice number: _____

4. **OPTIONAL:** Display the blanket purchase order. How much has been invoiced for each item?

First item: _____

Second item: _____

Solution 13: Invoices for POs with Account Assignment

Task 1: Invoices with Simple Account Assignment

You received the following invoice for items without material numbers. The purchase order has an account assignment to a cost center. Post the invoice in Logistics Invoice Verification.

Invoice		
Sapsota Company Limited (Vendor T-K515A##)		
Invoice date:	[Current date]	
Invoice:	7001##	
This invoice refers to your purchase order number 41515081##		
A4 folders	40 pcs	80 EUR
Pencils	100 pcs	50 EUR
Documentation	1 pcs	40 EUR
		170 EUR
Tax: 10 %		<u>17 EUR</u>
Invoice amount:		187 EUR

Figure 111: Invoice 7001##

1. Enter the basic data and allocate the invoice.

Continued on next page

The materials have been procured for cost centers. Select a suitable layout.

- a) *Logistics* → *Materials Management* → *Logistics Invoice Verification*
→ *Document Entry* → *Enter Invoice*
- b) Enter the following data on the *Basic Data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	7001##
Amount	187
Tax amount	17

- c) Enter the purchase order number as the allocation:

Field name or data type	Values
Purchase order/scheduling agreement	41515081##

- d) Because the purchase order has an account assignment to a cost center, you switch the layout to *Account assignment – Cost center*.

2. Can you change the cost centers? Which ones? Why?

Answer: You can only change the account assignment if no valuated goods receipts are defined for the purchase order, and you have specified in Customizing that you are allowed to change the account assignment for the account assignment category.

You can change the account assignment for the first item, because although a goods receipt has been posted, the goods receipt itself was not valuated. You can change the account assignment of the third item, because the *Goods receipt* indicator is not set in the purchase order, and therefore no goods receipt is expected.


3. Simulate the document. Fill in the table.

Continued on next page

Item	Account	Amount
001		
002		
003		
004		
005		

Post the invoice.

Invoice number: _____

- a) Choose  *Simulate*. A dialog box appears in which you see the account movements that will take place when the invoice is posted.

Item	Account	Amount
001	Vendor account	187.00
002	Consumption account	80.00
003	GR/IR clearing account	50.00
004	Consumption account	40.00
005	Tax account	17.00


- b) Choose  *Post*. A message appears displaying the document number.

4. Display the document.

- a) To display the invoice document you can

either choose:

*Logistics → Materials Management → Logistics Invoice Verification
→ Further Processing → Display Invoice Document*

Choose  *Display document* to see the last posted document.

or choose:

*Logistics → Materials Management → Logistics Invoice Verification
→ Document Entry → Enter Invoice*

Choose *Invoice Document → Display* to see the last posted document.

Continued on next page

Task 2: Invoices with Multiple Account Assignment

You received the following partial invoice for 50 of the 100 folders that have already been delivered. The invoice amount should be distributed proportionately between the cost centers. Post the invoice in Logistics Invoice Verification.

Invoice		
Sapsota Company Limited (Vendor T-K515A##)		
Invoice date:	[Current date]	
Invoice:	7002##	
This invoice refers to your purchase order number 41515135##		
Folders	50 pcs	100 EUR
<hr/>		
Tax: 10 %		<u>10 EUR</u>
Invoice amount:		110 EUR

Figure 112: Invoice 7002##

1. Enter the basic data and allocate the invoice. The folders have been procured for cost centers. Select a suitable layout and allocate the invoice to the purchase order.
 - a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
 - b) Enter the following data on the *Basic data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	7002##
Amount	110
Tax amount	10

- c) Enter the purchase order number as the allocation:

Field name or data type	Values
Purchase order/scheduling agreement	41515135##

Continued on next page

2. Which values are proposed in the item list of the invoice for the purchase order?

Purchase order item	Quantity	Amount
10		

- a) The system proposes the following values in the item list:

Purchase order item	Quantity	Amount
10	100	200




3. On the *Multiple Account Assignment* screen, change the default values for the total quantity and total value according to the vendor invoice. Once you have changed the total values, choose *Check*. Confirm the warning message. How does the system distribute the values you entered between the cost centers?

Cost center	Amount	Quantity
1000		
1200		
4400		

Post the invoice.

Continued on next page

Invoice number: _____

- a) Choose  *Multiple Account Assignment* to access the screen for multiple account assignment. Here you can change the default values for the total quantity and total amount according to the data in the vendor invoice. Once you have overwritten the total values, choose  *Check*. Confirm the warning message with  *Continue (Enter)*. The system automatically distributes the values that you enter, according to the previous distribution schema to the selected account assignment objects. You do not to manually calculate and enter amounts, meaning that you can avoid data entry and copying errors.

Cost center	Amount	Quantity
1000	50	25
1200	30	15
4400	20	10

- b) Choose Back and post the invoice.

Continued on next page

Task 3: Invoices for Blanket Purchase Orders

You have a blanket purchase order that is used for office supplies. An invoice for last month's supplies arrives.

Invoice	
Sapsota Company Limited (Vendor T-K515A##)	
Invoice date:	[Current date]
Invoice:	7003##
This invoice refers to your purchase order number 41515082##	
Office supplies - miscellaneous	1400 EUR
Copy paper - cases	2400 EUR
<hr/>	
	3800 EUR
Tax: 10 %	<u>380 EUR</u>
Invoice amount:	4180 EUR

Figure 113: Invoice 7003##

1. Enter the basic data and allocate the invoice.
 - a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
 - b) Enter the following data on the *Basic Data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	7003##
Amount	4180
Tax amount	380

- c) Enter the purchase order number as the allocation:

Field name or data type	Values
Purchase order/scheduling agreement	41515082##


2. The invoice amount from the first item is distributed as follows:

Continued on next page

Amount	G/L account	Cost center
700	476000	1000
700	476000	4200

Enter the tax code 1I for both items.


The entire invoice amount for the second item is posted to cost center 1000 and G/L account 477000.

- a) On the item list, choose  *Multiple account assignment* for item 10. A window appears in which you can enter the account assignment. Enter the following values for the first line:

Field name or data type	Values
Amount	700
G/L account	476000
Cost center	1000

Select the second line and enter the following values:

Field name or data type	Values
Amount	700
G/L account	476000
Cost center	4200
Tax code	1I

- b) Choose *Back*.
- c) On the item list, choose  *Multiple account assignment* for item 20. A window appears in which you can enter the account assignment. You enter the following data:

Field name or data type	Values
Amount	2400
G/L account	477000
Cost center	1000

- d) Choose *Back*.


Continued on next page

3. Simulate the document. Fill in the table.

Item	Account	Amount
001		
002		
003		
004		
005		

Post the invoice when the balance is zero.

Invoice number: _____

- a) Choose  *Simulate*. A dialog box appears in which you see the account movements that will take place when the invoice is posted.

Item	Account	Amount
001	Vendor account	4,180.00 -
002	Consumption account	700.00
003	Consumption account	700.00
004	Consumption account	2,400.00
005	Tax account	380.00

- b) Choose  *Post*. A message appears displaying the document number.

4. **OPTIONAL:** Display the blanket purchase order. How much has been invoiced for each item?

First item: _____

Second item: _____

- a) From the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Display* to display the purchase order.

Choose *Purchase Order* → *Other Purch. Order* and enter the purchase order number. Confirm your entries and choose *Other Document*.

In the item detail on the *Limits* tab page, you can see the Actual Value field contains the calculated total value.



Lesson Summary

You should now be able to:

- Enter invoices for a purchase order with account assignment and change the planned account assignments
- Enter invoices relating to a blanket purchase order
- Trace the resulting account movements



Unit Summary

You should now be able to:

- Demonstrate where the Logistics Invoice Verification component is located in the SAP system
- List the tasks performed using this component
- Explain which updates occur as a result of an invoice being posted
- List the account movements that occur as a result of posting a simple invoice
- Enter an invoice referencing a purchase order
- Post a simple invoice
- List the special features of goods-receipt-based invoice verification
- Hold or park an invoice
- Specify which updates take place during document parking
- Process a parked document further
- Enter or change tax information
- Enter or change cash discount information
- Post both gross or net of cash discounts
- Enter invoices in a foreign currency
- Enter invoices for a purchase order with account assignment and change the planned account assignments
- Enter invoices relating to a blanket purchase order
- Trace the resulting account movements

Unit 6



Variations and Invoice Blocks



For more information, see the Instructor Guide for the course SCM515 in the Corporate Portal.

Unit Overview

This unit covers variations between the expected invoice values and the values in the vendor invoice. The system can automatically block invoices with variations for payment. For this reason you can configure tolerance limits in Customizing. You can also reduce invoices by a specific difference amount, or accept small variations based on totals. Before a blocked invoice can be paid, you must release it in a separate step.



Unit Objectives

After completing this unit, you will be able to:

- Enter invoices with variations and explain the circumstances under which the system blocks invoices
- Compare the postings for standard and moving average priced stock materials
- Reduce invoices by posting an invoice and a credit memo at the same time
- Identify which account movements are made when you reduce invoices
- Post invoices when there is a difference between the item total that the system expects and the actual invoice total within acceptable tolerance limits
- Reduce invoices in Logistics Invoice Verification without reference to an item
- Release invoices manually at item or header level
- Release an invoice automatically

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Lesson: Variances and Blocking Reasons



304

Lesson Duration: 105 Minutes

Lesson Overview

This lesson introduces the various blocking reasons for an invoice. The system can automatically block invoices, for example, if there is a price difference or when the invoice is selected for blocking at random. You can also block invoices manually. Automatic blocking utilizes the tolerance limits that you can set up in Customizing for Logistics Invoice Verification.



Lesson Objectives

After completing this lesson, you will be able to:

- Enter invoices with variances and explain the circumstances under which the system blocks invoices
- Compare the postings for standard and moving average priced stock materials



For more information, see the Instructor Guide in SAPNet.

Business Example

One of your vendors sometimes sends an invoice for a higher amount than that agreed upon in the purchase order. Sometimes, the vendor might include the entire quantity on an invoice, although you have not yet received all the goods. You need to test invoice blocking to ensure that you do not pay the vendor until these differences have been corrected.

You will also check which accounts the system makes postings to when there are variances.

Invoice Block Due to Variances

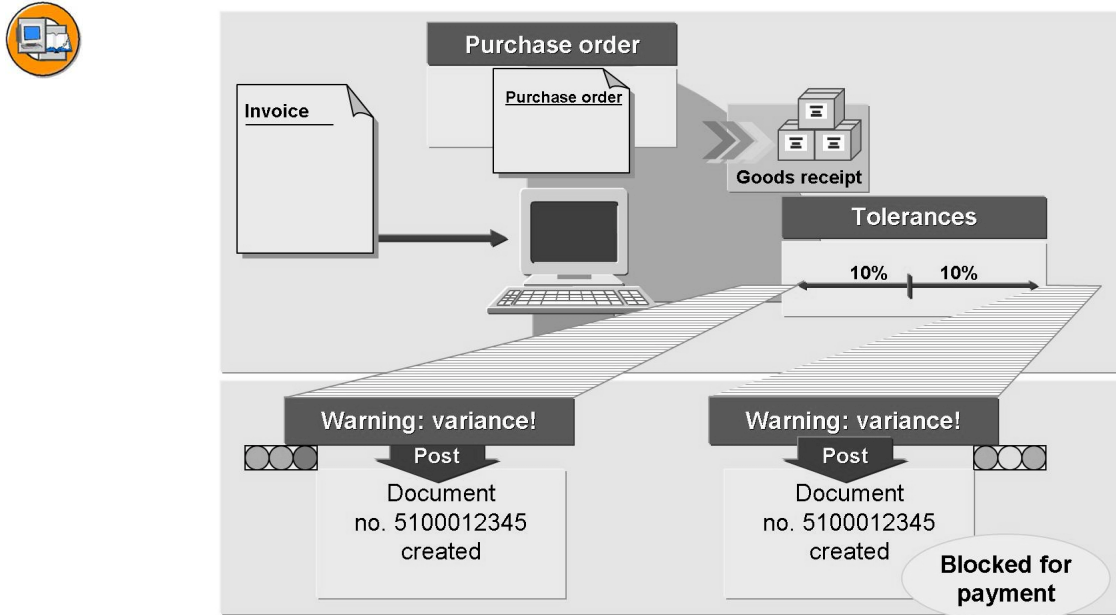


Figure 114: Invoices with Variances

When you enter an invoice, the system proposes specific values that come from the purchasing agreements or from the goods receipt. If an invoice item varies from the system default values, you must try and find the cause for the variances, for example, by talking to the Purchasing department, the goods receiving department, or even the vendor. For very small variances it is not worth performing extensive research. For this reason, you can set up tolerance limits for each variance type, in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Invoice Block* → *Set Tolerance Limits*. If you accept a variance in an invoice item and overwrite the default value, the system checks whether the variances are within the tolerance limits in Customizing. If this is the case, the system accepts the invoice without any further queries.

If the tolerance limit is not met, the system issues a relevant message. You can post the invoice and it is not blocked for payment.

If the tolerance limit is exceeded, the system issues a relevant message. You can still post the invoice in the system, but it is automatically blocked for payment.

The invoice block applies to all items in an invoice. Even if only one item in the invoice shows a variance, the entire invoice is blocked for payment.

You must release a blocked invoice in a separate step before it can be paid.

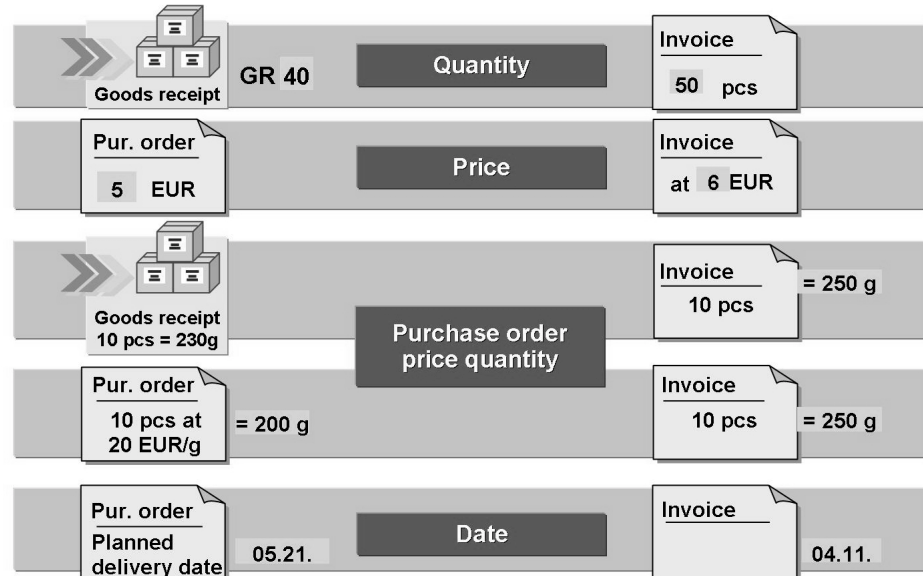


Figure 115: Variances

There are several blocking reasons for variances in invoice items.

Quantity variance: For a purchase order, the open quantity to invoice is a result of the delivered quantity and the quantity already invoiced. There is a quantity variance if the invoice quantity does not match this open quantity. At the absolute upper limit, the quantity variance is evaluated on the basis of the amount in the invoice item. This means that invoice items with a small amount result in a relatively large quantity variance, and that invoice items with a large amount result in a small variance. You can also define percentage limits for the quantity variance check, for which the system does not take account of the purchase order price.

Price variance: There is a price variance if the invoice price (invoice amount divided by the invoice quantity) is not the same as the PO net price. In cases where the price in the purchase order is flagged as an estimated price, you can set up special tolerances.

PO price quantity variance: There is a PO price quantity variance if the relationship between the PO price quantity and the PO quantity in the invoice is different than at goods receipt (or, if no goods receipt has been posted, different than agreed in the purchase order).

Date variance: For each item, the system creates the product from the amount * (planned delivery date - invoice entry date) and compares this product with the absolute upper limit you have defined. This means that invoice items with a small amount result in a relatively large date variance, and that invoice items with a large amount result in a small variance.

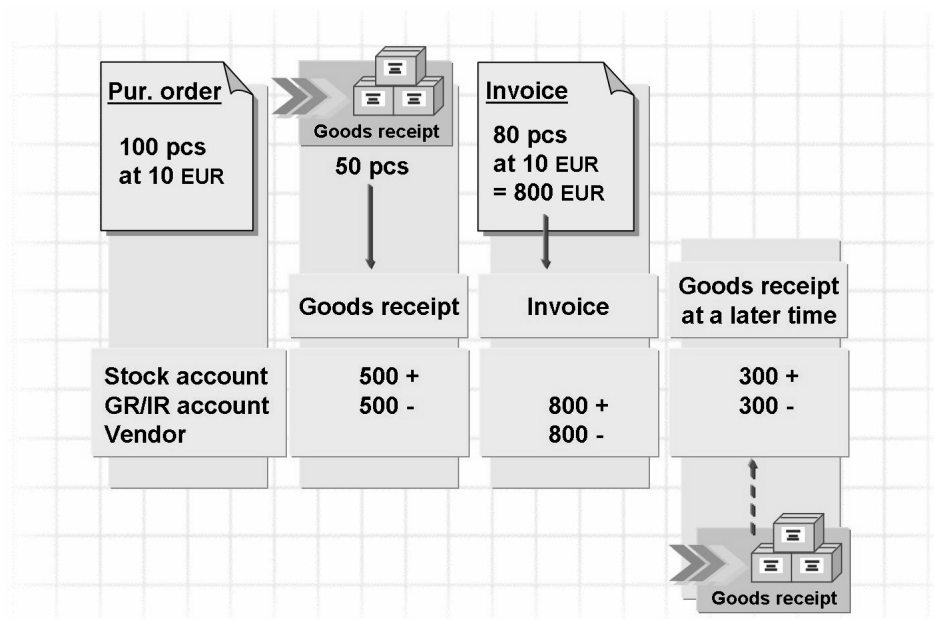


Figure 116: Quantity Variance

The invoice quantity is larger than the goods receipt quantity. When you post the invoice, a balance is created on the GR/IR clearing account.

You expect another goods receipt. The GR/IR clearing account is cleared when you post this goods receipt.

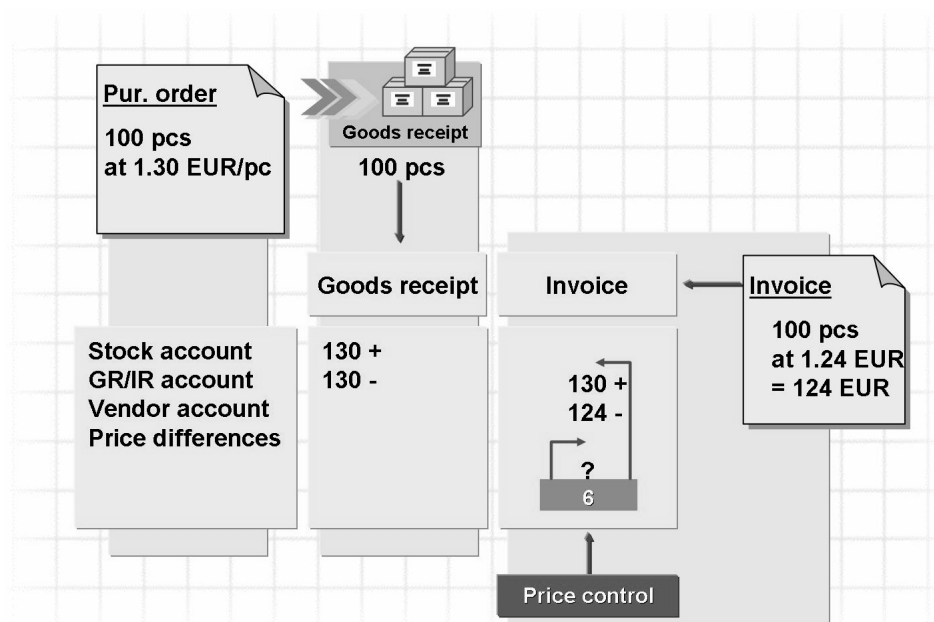


Figure 117: Price Variance

When price variances occur, the account movements differ depending on how the material is valuated.

There are two types of price control:

- Standard price
- Moving average price

If the invoice is received after the goods receipt, the following occurs, depending on the price control used:

- In the case of a material subject to standard price control, the system posts the price variance to a price difference account.
- In the case of a material subject to moving average price control, the system posts the price variance to the stock account if there is sufficient stock coverage. This changes the moving average price.

If the invoice is received before the goods receipt, the system posts the price variance to the GR/IR clearing account. The system only posts the price variance to the price difference account or stock account when the goods receipt is posted.

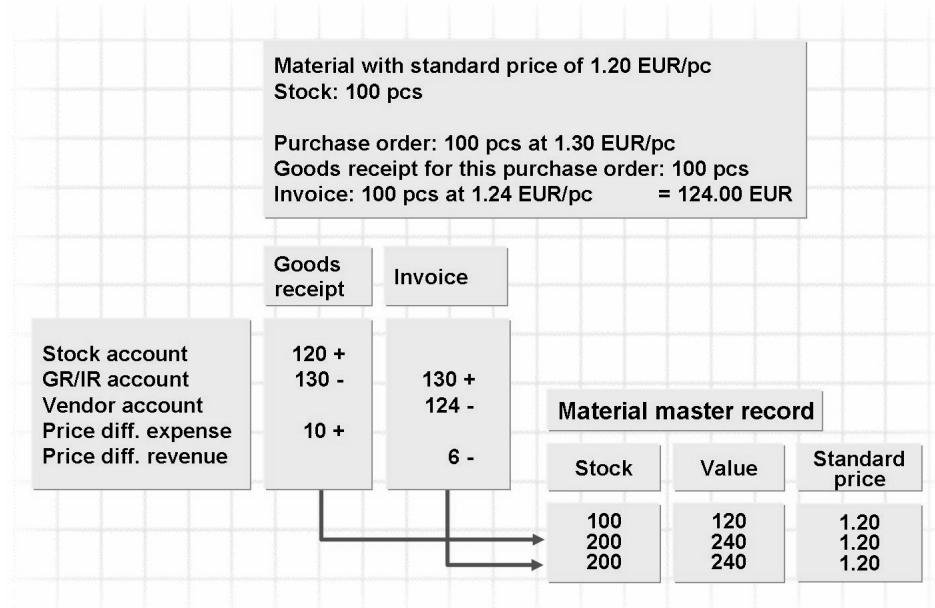


Figure 118: Price Variance: Material with Standard Price

The system posts the price variance to a price difference account.

The material price remains unchanged both at goods receipt and invoice receipt.

The moving average price, which is included in the material master record for statistical purposes, changes by the amount of the variance.

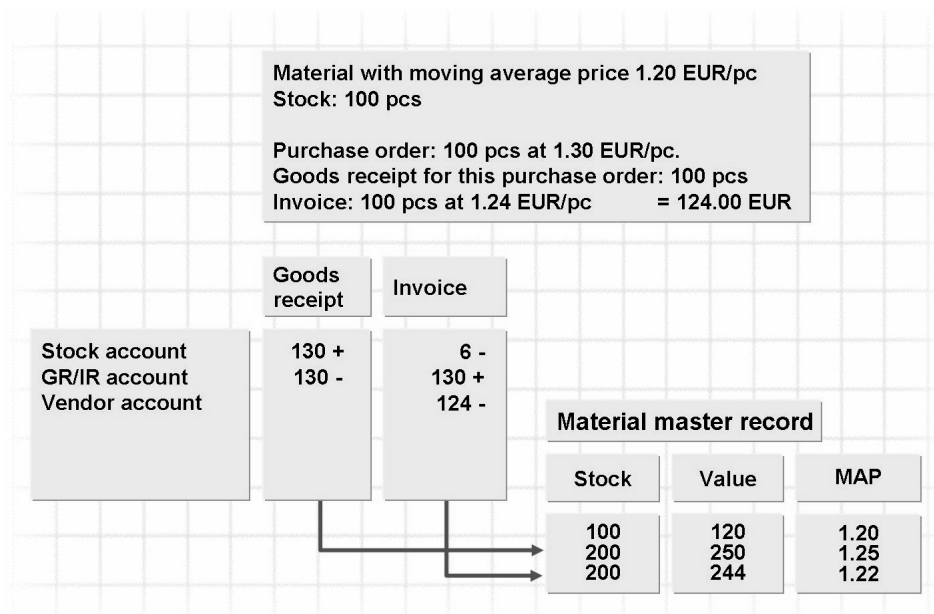


Figure 119: Price Variance: Material with Moving Average Price (MAP)

For moving average prices, the system posts the price variance to the stock account. If there is insufficient stock coverage for the invoice quantity, the system posts the price variance to a price difference account. If there is stock coverage for only part of the invoice quantity, the system distributes the price variance proportionally between the stock account and the price difference account.

If a posting is made to the stock account, the moving average price changes.

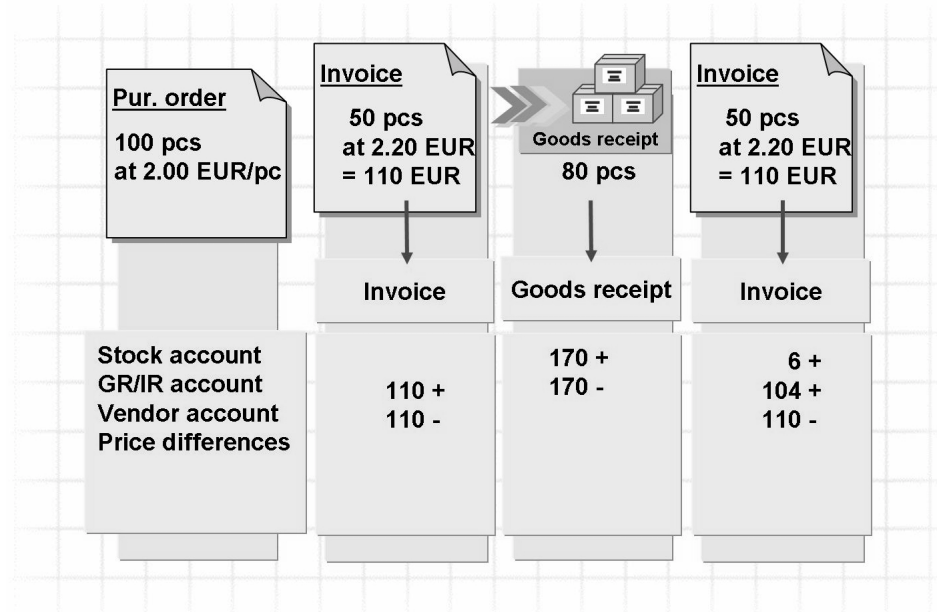



Figure 120: Quantity and Price Variance

If the invoice is posted before the goods receipt, the system posts the invoice value to the GR/IR clearing account. This is cleared at goods receipt, the system makes the offsetting entry to the stock account in the case of a material subject to moving average price control.

If the invoice is posted before the goods receipt and the goods receipt quantity is greater than the invoice quantity, the quantity that has already been invoiced is valued at the invoice price, the quantity that has not been invoiced is valued at the purchase order price.

If the quantity in an invoice is greater than the goods receipt quantity, the system clears the GR/IR clearing account for the part of the invoice quantity that has already been delivered and posts a price difference either to the stock account or to a price difference account, depending on the price control used. The system posts the invoice value for the part of the invoice quantity that has not been delivered to the GR/IR clearing account.

Tolerances for:			
Company code	1000 EUR		
Amounts			
Absolute lower limit	X		
Do not check			
Check limits			
Absolute upper limit	X		
Do not check			
Check limits		above	10.00
Percent. lower limit	X		
Do not check			
Check limits		above	20.00 %
Percent. upper limit	X		
Do not check			
Check limits		above	5.00 %

Figure 121: Tolerances

You define tolerances in Customizing for:

- Quantity variances
- Price variances
- Purchase order price quantity variances
- Date variances

You set tolerance limits for each variance type in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Invoice Block* → *Set Tolerance Limits*.

You can enter tolerances for lower and upper limits. There is a difference between limits for percentage and absolute variances. If one of these limits is exceeded, the system issues a warning message. If one of the upper limits is exceeded, the invoice is blocked for payment.

For each tolerance limit, you must decide whether the system should check for this variance. If you set all limits for a tolerance key to *Do not check*, the system does not perform a check. This means that the system accepts all variances without exception.

If you want to make sure that a certain variance is always blocked, set the value or percentage for the upper limit to zero and select *Check limit*.

Other Blocking Reasons

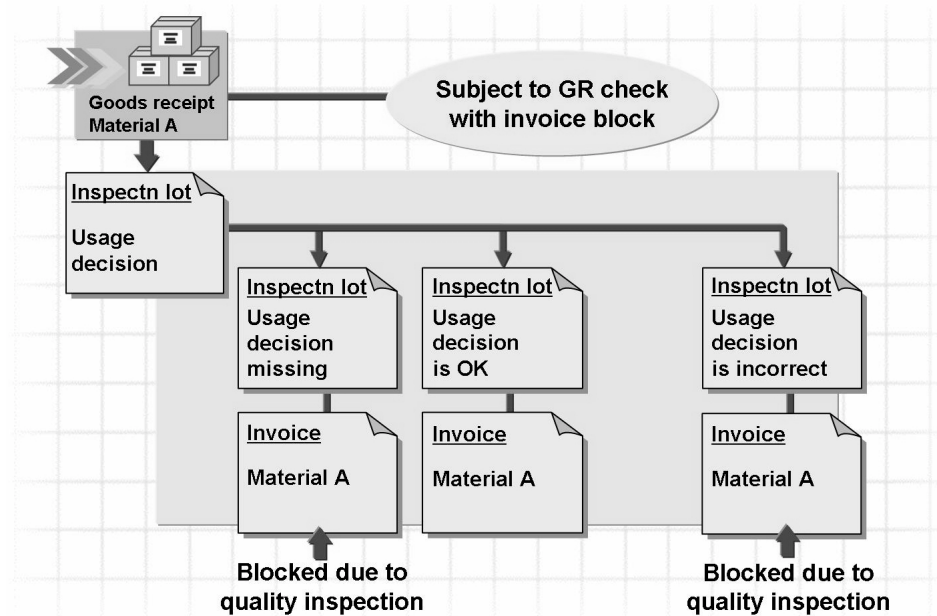


Figure 122: Blocking Due To Quality Inspection

An invoice can be blocked due to a quality inspection.

In the material master record of a material, you define:

- If a goods receipt for a material is subject to inspection.
In this case, an inspection lot is created for every goods receipt for this material.
- If an invoice should be blocked due to quality inspection.
In this case, an inspection lot without a usage decision or a rejected inspection lot leads to the system blocking the invoice.

The system sets blocking reason *Quality* for an item in the following cases:

- Goods-Receipt-Based Invoice Verification
The invoice is blocked if no usage decision has been made about the inspection lot for the goods receipt concerned or if the inspection lot has been rejected.
- No Goods-Receipt-Based Invoice Verification
The invoice is blocked if no usage decision has been made for any inspection lot for the purchase order item or if the inspection lot has been rejected.

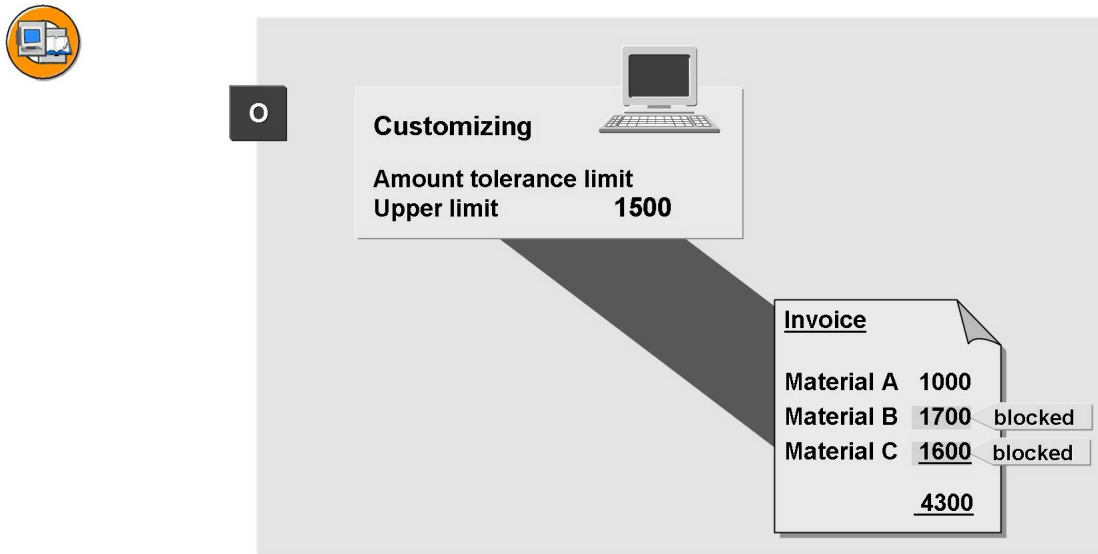


Figure 123: Blocking Due To Amount

If you enter an item with too large an amount, it often makes sense to block this invoice in order to check it.

In Customizing for *Materials Management* under *Logistics Invoice Verification* → *Invoice Block* → *Item Amount Check* → *Activate Item Amount Check* you can set for each company code whether the amount should be checked.

In addition, in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Invoice Block* → *Item Amount Check* → *Configure Item Amount Check* you can specify the purchase orders for which the amount in an invoice item is to be checked, dependent on the item category and the goods receipt indicator in the purchase order item.

For invoices without reference to a purchase order, and for those with reference to a purchase order, in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Invoice Block* → *Set Tolerance Limits*, you can maintain different tolerance limits for each company code.

If an invoice item exceeds the tolerance you set in Customizing, the item is given blocking reason *Other Variance*. The entire invoice is blocked for payment.

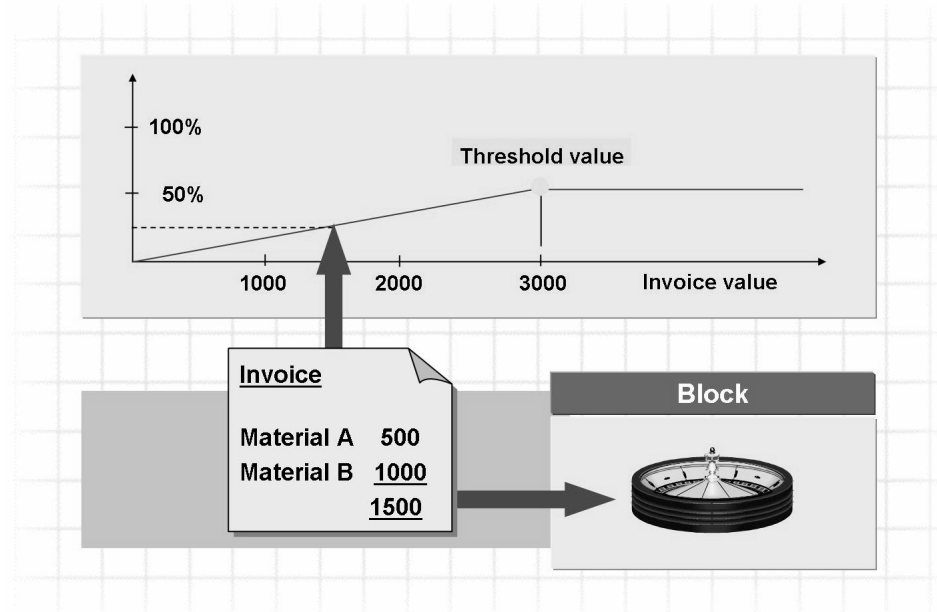


Figure 124: Stochastic Block

As well as the automatic blocking of invoices due to variances or the amount, you can also select invoices on a random basis and block them for checking. For this type of sample-based check, you can use the stochastic block.

You activate stochastic blocking in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Invoice Block* → *Stochastic Block* → *Activate Stochastic Block*.

In Customizing for *Materials Management* under *Logistics Invoice Verification* → *Invoice Block* → *Stochastic Block* → *Set Stochastic Block*, you specify how probable a block should be. To do this, you set a threshold value and a percentage.

- If the invoice value is larger than or equal to the threshold value, the probability that the invoice is blocked is the same as the given percentage.
- If the invoice value is smaller than the threshold value, the probability that the invoice will be blocked is proportional to the given percentage.

If the stochastic block is activated, when you post an invoice that does not have any other blocking reasons, the system decides whether the invoice should be blocked.

Stochastic blocks are valid for the entire invoice and not at item level.

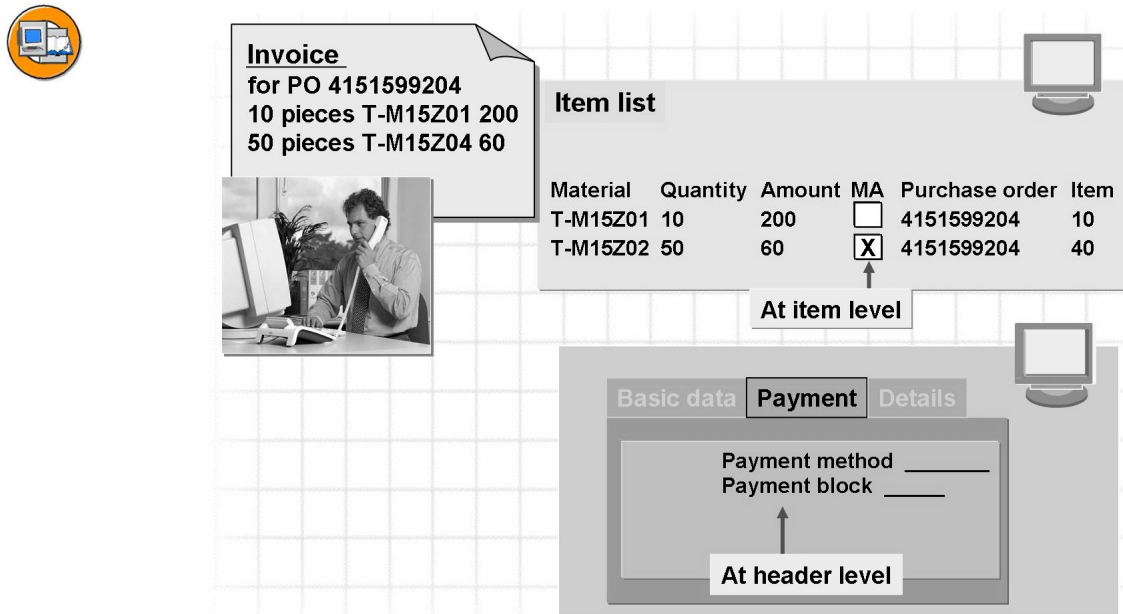


Figure 125: Manual Blocking

In addition to the blocks set automatically by the system, you can block invoices manually. To do this, you have the following options when entering an invoice:

- You block the invoice at header level in the basic data by entering *R* in the *Payment block* field on the *Payment* tab page.
- You block a single item in an invoice by manually selecting the *MA* (manual blocking reason) field on the item screen.

Regardless of whether you manually block a logistics invoice at header or item level, the system automatically sets the payment block in the vendor line of the FI document.



Exercise 14: Variances and Blocking Reasons

Exercise Duration: 25 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Enter invoices with variances
- Compare the postings for stock materials subject to standard price control and moving average price control

Business Example

One vendor sometimes sends an invoice for a higher amount than agreed upon in the purchase order. Although you have not yet received all the goods relating to one item, the vendor might include the entire quantity on the invoice. You need to test invoice blocking to be sure that the vendor is not paid until the differences have been corrected. You display the account movements to see which accounts the system posts to when there are variances.

Task 1: First Invoice with Quantity and Price Variances

You receive the following invoice from your supplier. Enter the invoice information and note the default values that the system suggests.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	5003##		
This invoice refers to your purchase order number 41515051##			
T-M15A##	Slugs for cast iron spiral casing	50 pcs	500 EUR
T-M15B##	Flat gaskets	50 pcs	1100 EUR
T-M15C##	Packing gaskets	50 pcs	1000 EUR
			2600 EUR
Tax:	10 %		260 EUR
Invoice amount:			2860 EUR

Figure 126: Invoice 5003##

1. Enter the invoice using Logistics Invoice Verification.
2. On the Item list screen change the items to match the invoice. As you change the suggested values, fill in the table. Display the relevant messages.

Invoice item	Quantity or price variance?	Message
1		
2		
3		

Continued on next page

3. Why is there no warning message during the quantity check for the third item?

4. How do you know that the invoice is blocked for payment?

5. Simulate the postings. Fill in the table.

Item	Account	Amount
001		
002		
003		
004		
005		
006		

Post the document.

Invoice number: _____

Continued on next page

6. Display the document. How can you tell if it is blocked? How can you find out which items are affected?

Task 2: Second Invoice with Quantity and Price Variances

A second invoice arrives for the purchase order. Which tolerance limits are exceeded?

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	5004##		
This invoice refers to your purchase order number 41515051##			
T-M15A##	Slugs for cast iron spiral casing	50 pcs	400 EUR
T-M15B##	Flat gaskets	50 pcs	1100 EUR
T-M15C##	Packing gaskets	100 pcs	2500 EUR
			4000 EUR
Tax:	10 %		400 EUR
Invoice amount:			4400 EUR

Figure 127: Invoice 5004##

1. Enter the invoice using Logistics Invoice Verification. Change the items to match the invoice. As you change the suggested values, fill in the table. Display the relevant messages.

Continued on next page

Invoice item	Quantity or price variance?	Message
1		
2		
3		

2. Simulate the document. Which postings are made? Can you explain the postings in posting lines 005 and 006? (The postings belong to the third purchase order item.)

Fill in the table.

Item	Account	Amount
001		
002		
003		
004		
005		
006		
007		

Post the document. Is it blocked for payment? _____

Invoice number: _____

Continued on next page

Task 3: Manual Payment Block

You receive an invoice in which the items match those that the system suggests. However, you realize that the invoice contains some materials for which there have recently been a lot of complaints.

1. How can you ensure that the invoice is nevertheless blocked for payment?

Solution 14: Variances and Blocking Reasons

Task 1: First Invoice with Quantity and Price Variances

You receive the following invoice from your supplier. Enter the invoice information and note the default values that the system suggests.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	5003##		
This invoice refers to your purchase order number 41515051##			
T-M15A##	Slugs for cast iron spiral casing	50 pcs	500 EUR
T-M15B##	Flat gaskets	50 pcs	1100 EUR
T-M15C##	Packing gaskets	50 pcs	1000 EUR
			2600 EUR
Tax:	10 %		260 EUR
Invoice amount:			2860 EUR

Figure 128: Invoice 5003##

1. Enter the invoice using Logistics Invoice Verification.
 - a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
 - b) Enter the following data on the *Basic Data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	5003##
Amount	2860
Tax amount	260



- c) Enter the purchase order number as the allocation:

Continued on next page

Field name or data type	Values
Purchase order/scheduling agreement	41515051##

2. On the Item list screen change the items to match the invoice. As you change the suggested values, fill in the table. Display the relevant messages.

Invoice item	Quantity or price variance?	Message
1		
2		
3		

- a) On the item list, change the suggested quantities and values to match the invoice.
- b) Choose  *Enter* to confirm your changes. The system performs the quantity and price check for each item. The system collects the messages in the error log.
- c) Choose  *Messages*. The following messages appear:

Invoice item	Quantity or price variance?	Message
1	Quantity	Delivered quantity is zero
2	Price	Price too low
3	Quantity	(No message)

3. Why is there no warning message during the quantity check for the third item?

Answer: Customizing is configured in such a way that the system does not check in the case of a quantity shortfall.

Continued on next page

4. How do you know that the invoice is blocked for payment?


Answer: The yellow traffic light indicates that the system will block the invoice for payment.

5. Simulate the postings. Fill in the table.

Item	Account	Amount
001		
002		
003		
004		
005		
006		

Post the document.

Invoice number: _____

- a) Choose  *Simulate*. A dialog box appears in which you see the account movements that will take place when the invoice is posted.

Item	Account	Amount
001	Vendor account	2,860.00 -
002	GR/IR clearing account	500.00
003	GR/IR clearing account	2,500.00
004	Stock account	1,400.00 -
005	GR/IR clearing account	1,000.00
006	Tax account	260.00

- b) Choose  *Post*. A message appears displaying the document number.


Continued on next page

6. Display the document. How can you tell if it is blocked? How can you find out which items are affected?

Answer: To display the invoice document you can

either choose:

Logistics → *Materials Management* → *Logistics Invoice Verification* → *Further Processing* → *Display Invoice Document*

Choose  *Display Doc.* to see the last posted document.

or choose:

Logistics → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*

Choose *Invoice Document* → *Display* to see the last posted document.

In the Materials Management invoice document, the item list shows you which items caused the block.

To display the FI document, choose *Follow-On Documents...* and double-click on the accounting document. The invoice block is noted in the vendor line of the accounting document. Double-click on the first line. The item data appears. You can see there that the field *Payment block* is filled.

Continued on next page

Task 2: Second Invoice with Quantity and Price Variances

A second invoice arrives for the purchase order. Which tolerance limits are exceeded?

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	5004##		
This invoice refers to your purchase order number 41515051##			
T-M15A##	Slugs for cast iron spiral casing	50 pcs	400 EUR
T-M15B##	Flat gaskets	50 pcs	1100 EUR
T-M15C##	Packing gaskets	100 pcs	2500 EUR
			4000 EUR
Tax:	10 %		400 EUR
Invoice amount:			4400 EUR

Figure 129: Invoice 5004##

- Enter the invoice using Logistics Invoice Verification. Change the items to match the invoice. As you change the suggested values, fill in the table. Display the relevant messages.

Invoice item	Quantity or price variance?	Message
1		
2		
3		


- Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
- Enter the following data on the *Basic Data* tab page:

Continued on next page

Field name or data type	Values
Document date	<Today's date>
Reference	5004##
Amount	4400
Tax amount	400

c) Enter the purchase order number as the allocation:

Field name or data type	Values
Purchase order/scheduling agreement	41515051##

d) On the item list, change the suggested quantities and values to match the invoice. Choose  Enter to confirm your changes. The system performs the quantity and price check for each item. The system collects the messages in the error log.

e) Choose  Messages. The following messages appear:

Invoice item	Quantity or price variance?	Message
1	Quantity and price	Delivered quantity is zero. Price too low
2	Price	Price too low
3	Quantity and price	Qty invoiced greater than GR qty. Price too high

2. Simulate the document. Which postings are made? Can you explain the postings in posting lines 005 and 006? (The postings belong to the third purchase order item.)

Fill in the table.


Continued on next page

Item	Account	Amount
001		
002		
003		
004		
005		
006		
007		

Post the document. Is it blocked for payment? _____

Continued on next page


Invoice number: _____

- a) Choose  *Simulate*. A dialog box appears in which you see the account movements that will take place when the invoice is posted.

Item	Account	Amount
001	Vendor account	4400,00 -
002	GR/IR clearing account	400,00
003	GR/IR clearing account	2500,00
004	Stock account	1400,00 -
005	GR/IR clearing account	2150,00
006	Stock account	350,00
007	Tax account	400,00

- b) The postings in lines 005 and 006 are for the invoice item for the packing gaskets. The system suggested 70 pieces for this item and you changed it to 100 pieces. The default value for 70 pieces was 1400 EUR. (This is the exact value to be cleared for 70 pieces in the GR/IR clearing account). You must post 750 EUR to the GR/IR clearing account for the 30 pieces that have not yet been delivered. Therefore, the system posts 1400 EUR + 750 EUR = 2150 EUR to the GR/IR clearing account.

You must debit the value-based stock for the 70 pieces that have been delivered, since the invoice contains a price increase (25 EUR/piece instead of 20 EUR/ piece). Therefore, the system posts 70 pieces x 5 EUR/piece = 350 EUR to the stock account.

- c) Choose  *Post*. A message appears displaying the document number. The system blocks the invoice for payment.

Continued on next page

Task 3: Manual Payment Block

You receive an invoice in which the items match those that the system suggests. However, you realize that the invoice contains some materials for which there have recently been a lot of complaints.

1. How can you ensure that the invoice is nevertheless blocked for payment?

Answer: There are two ways for you to block an invoice directly:

You can manually block the invoice at header level without reference to a specific invoice item. You can fill in the *Payment block* field directly on the *Payment* tab page.

You can block individual items manually. On the item list, you can select the column *Ma* (manual block) in one or more items. The items then receive a blocking indicator. (You may have to switch to the display variant *All information* to be able to select the column. If you want to regularly use this option for blocking, we recommend that you define a layout in which the column *Ma* is visible without you needing to scroll across.)

Both options mean that the invoice block *R* is set in the FI document, and the invoice is blocked for payment.



Lesson Summary

You should now be able to:

- Enter invoices with variances and explain the circumstances under which the system blocks invoices
- Compare the postings for standard and moving average priced stock materials

Lesson: Invoice Reduction



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Lesson Duration: 60 Minutes

Lesson Overview

This lesson covers manual invoice reduction, which allows you to reduce invoices with quantity and price variances by an appropriate difference amount. In this case, the system generates a credit memo for the difference amount as well as the invoice.



Lesson Objectives

After completing this lesson, you will be able to:

- Reduce invoices by posting an invoice and a credit memo at the same time
- Identify which account movements are made when you reduce invoices



For more information, see the Instructor Guide in SAPNet.

Business Example

Your company recently implemented SAP and must define the standard procedure for invoice verification. Occasionally, one of your company's vendors makes an obvious error. In such cases, you want to use the automatic invoice reduction function. You want to check the accounting documents that are created when this happens.

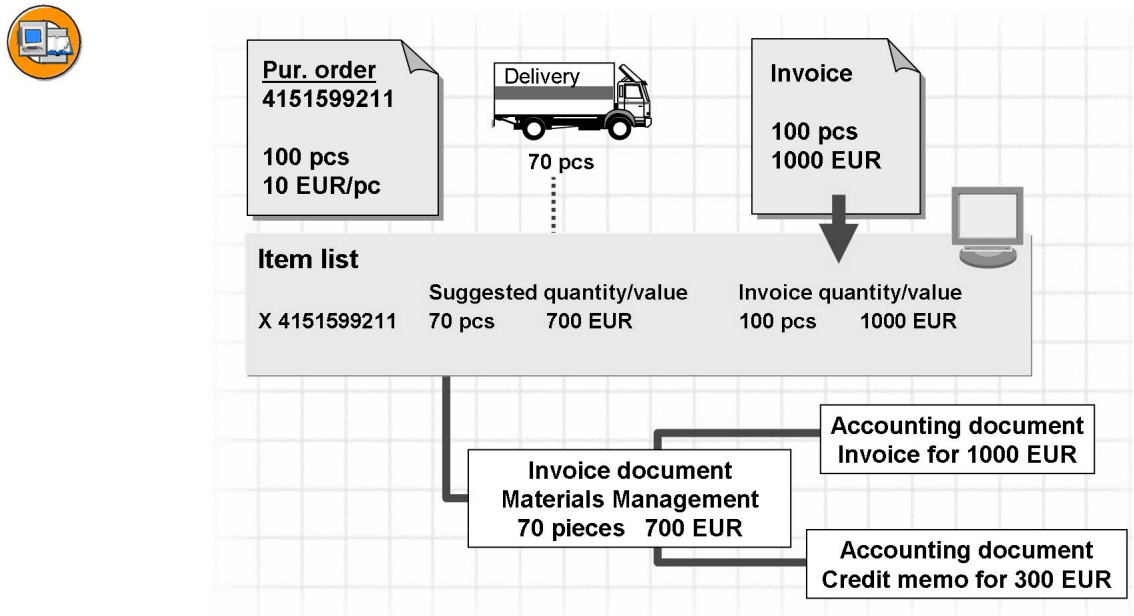


Figure 130: Reducing Invoices

If an invoice shows a variance when compared to the expected quantity or expected amount, and you do not accept this difference, you can reduce the invoice.

There is a special display variant in the item list for invoice reduction. You enter the invoice quantities or values that differ to the quantities or values suggested by the system separately into the item list. (You can only enter data in these fields when you have flagged the item as *Vendor error: reduce invoice*).

When you post a reduced invoice, the system creates two accounting documents. The first document contains the invoice postings with the actual quantities and values. The second document contains a credit memo for the difference between the actual quantities and values and the default quantities and values.

Therefore, with invoice reduction, you do not actually reduce an invoice. Instead, you also post a credit memo for the amount of the reduction. The amount payable to the vendor is the value of the invoice reduced by the credit memo amount.

The PO history is updated with the unchanged default values.

When you post an invoice reduction, the system creates a message record. You can use this to send a letter of complaint (notification of credit memo posting) to the vendor.



Purchase order: 100 pcs at 10 EUR/pc Goods receipt for this purchase order: 70 pcs			
Invoice: 100 pcs at 10 EUR/pc		=	1000 EUR
10% Tax		=	<u>100 EUR</u>
		=	<u><u>1100 EUR</u></u>

	Goods receipt	Invoice	Credit memo
Stock account	700 +		
GR/IR account	700 -	700 +	
Vendor account		1100 -	330 +
Input tax		100 +	30 -
Clearing account for Invoice reduction		300 +	300 -

Figure 131: Account Movements with Invoice Reduction

When you reduce invoices, the system creates an invoice and a credit memo simultaneously.

The item amount entered in the invoice that you create is distributed in the following way: The system only posts the amount shown in the suggested data to the GR/IR clearing account. It posts the remainder to a clearing account for vendor invoice reduction.

The creation of the credit memo clears the clearing account for vendor invoice reductions. The offsetting entry is made to the vendor account.

The system makes the tax posting in the invoice based on the item amount entered. The credit memo corrects the tax posting. In *Customizing for Materials Management* under *Logistics Invoice Verification* → *Incoming Invoice* → *Tax Treatment in Invoice Reduction*, you can define whether the taxes should be adjusted in the original document.

Together, the invoice and the credit memo create the liability, resulting from the suggested data.

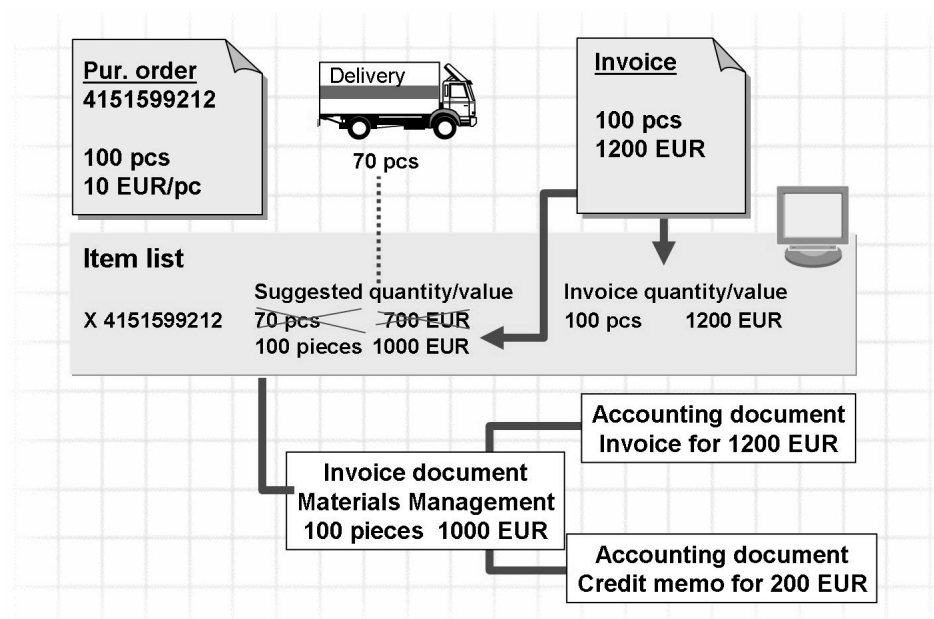


Figure 132: Partial Reduction: Price Variance

You can partially accept variances. In this case, you only reduce the part of the invoice that you have not accepted.

The above invoice contains a quantity variance and a price variance. If you accept the quantity variance, you must overwrite the suggested quantity with the actual quantity in the invoice. Accordingly, you must also overwrite the suggested amount with the correct amount for the quantity entered. You then reduce the invoice by the difference between the actual invoice value and the “default value” entered.



	Goods receipt	Invoice	Credit memo
Purchase order: 100 pcs at 100 EUR/pc			
Goods receipt for this purchase order: 70 pcs			
Invoice: 100 pcs at 12 EUR/pc		= 1200 EUR	
10% Tax		= 120 EUR	
		= 1320 EUR	
Stock account	700 +		
GR/IR account	700 -	1000 +	
Vendor account		1320 -	220 +
Input tax		120 +	20 -
Clearing account for Invoice reduction		200 +	200 -

Figure 133: Account Movements with Invoice Reduction

When you reduce invoices, the system creates an invoice and a credit memo simultaneously.

Since you have accepted the quantity variance, the system posts 1000 EUR to the GR/IR clearing account (the system expects another goods receipt for 30 pieces). The 200 EUR difference between this and the invoice amount is posted to a clearing account for vendor invoice reductions.

The creation of the credit memo clears the clearing account for vendor invoice reductions. The offsetting entry is made to the vendor account.

The tax posting in the invoice is based on the item amount entered. The credit memo corrects the tax posting. In *Customizing for Materials Management* under *Logistics Invoice Verification* → *Incoming Invoice* → *Tax Treatment in Invoice Reduction*, you can define whether the taxes should be adjusted in the original document.

Together, the invoice and the credit memo create the liability, resulting from the changes made to the data suggested by the system.

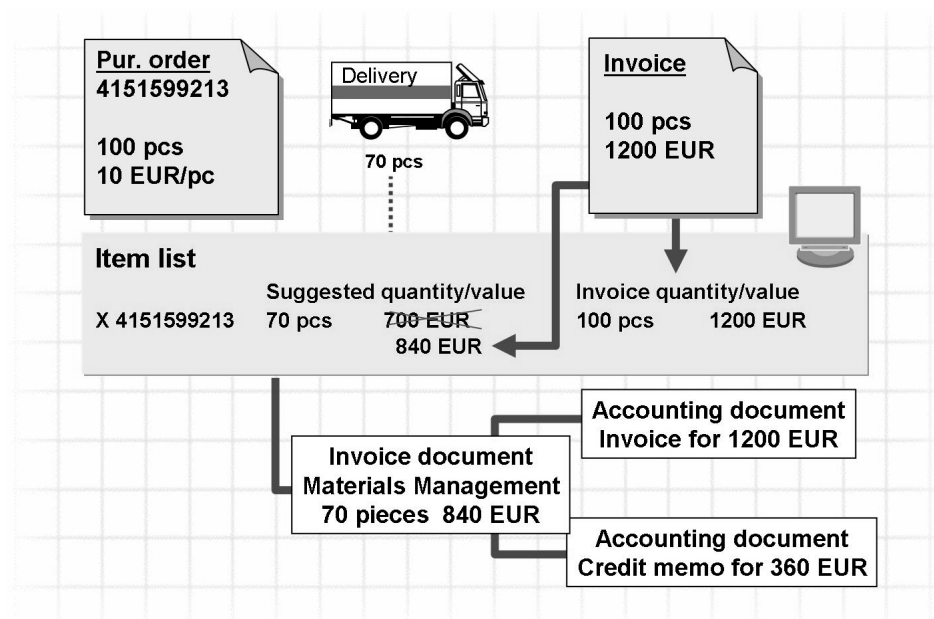


Figure 134: Partial Reduction: Quantity Variance

You can partially accept variances. In this case, you only reduce the part of the invoice that you have not accepted.

The above invoice contains a quantity variance and a price variance. If you accept the price variance, you must overwrite the suggested value with the sum of the suggested quantity x the actual invoice price. You then reduce the invoice by the difference between the actual invoice value and the “default value” entered.



	Goods receipt	Invoice	Credit memo
Purchase order: 100 pcs at 10 EUR/pc			
Goods receipt for this purchase order: 70 pcs			
Invoice: 100 pcs at 12 EUR/pc		= 1200 EUR	
10% Tax		= 120 EUR	
		= 1320 EUR	
Stock account	700 +	140 +	
GR/IR account	700 -	700 +	
Vendor account		1320 -	396 +
Input tax		120 +	36 -
Clearing account for Invoice reduction		360 +	360 -

Figure 135: Account Movements with Invoice Reduction

When you reduce invoices, the system creates an invoice and a credit memo simultaneously.

Since you have accepted the price variance, the GR/IR clearing account in the invoice is cleared and the price difference is debited to the stock account. The 360 EUR difference between these two amounts and the invoice amount is posted to a clearing account for vendor invoice reductions.

The creation of the credit memo clears the clearing account for vendor invoice reductions. The offsetting entry is made to the vendor account.

The tax posting in the invoice is based on the item amount entered. The credit memo corrects the tax posting.

Together, the invoice and the credit memo create the liability, resulting from the changes made to the data suggested by the system.



Exercise 15: Invoice Reduction

Exercise Duration: 15 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- “Reduce” the invoice automatically in the case of invoice variances, by posting an invoice and a credit memo at the same time

Business Example

For certain vendors, your company pays only the purchase order value when there are minor variances. Occasionally, when it’s an obvious vendor error, you need to reduce an item manually. You want to check the accounting documents that are created.

Task:

The vendor sent you the following invoice. Post the invoice in Logistics Invoice Verification. You noticed that there was an obvious data error, so you use invoice reduction to correct it.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	6001##		
This invoice refers to your purchase order number 41515061##			
T-M15A##	Slugs for cast iron spiral casing	10 pcs	100 EUR
T-M15B##	Flat gaskets	20 pcs	1060 EUR
T-M15C##	Packing gaskets	80 pcs	1640 EUR
T-M15D##	Locking ring	10 pcs	40 EUR
			2840 EUR
Tax:	10 %	284 EUR	
Invoice amount:			3124 EUR

Figure 136: Invoice 6001##

1. Enter the basic data and allocate the invoice.

Continued on next page

2. The invoice value is larger than expected in two items. Enter the invoice so that the system automatically reduces it when you post it. Change the item list display variant to do this.

Correct the fourth item where the vendor has invoiced only 40 EUR instead of the 50 EUR proposed by the system.

3. Simulate the document. Fill in the table.

Item	Account	Amount
001		
002		
003		
004		
005		
006		
007		
008		
009		
010		
011		

Post the document.

Invoice number: _____

4. Display the invoice, purchase order history, and accounting documents.

How does invoice reduction affect the purchase order history?

5. How many accounting documents are there?

Why?

Solution 15: Invoice Reduction

Task:

The vendor sent you the following invoice. Post the invoice in Logistics Invoice Verification. You noticed that there was an obvious data error, so you use invoice reduction to correct it.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	6001##		
This invoice refers to your purchase order number 41515061##			
T-M15A##	Slugs for cast iron spiral casing	10 pcs	100 EUR
T-M15B##	Flat gaskets	20 pcs	1060 EUR
T-M15C##	Packing gaskets	80 pcs	1640 EUR
T-M15D##	Locking ring	10 pcs	40 EUR
			2840 EUR
Tax:	10 %		284 EUR
Invoice amount:			3124 EUR

Figure 137: Invoice 6001##

1. Enter the basic data and allocate the invoice.
 - a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
 - b) You enter the following data on the *Basic data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	6001##
Amount	3124
Tax amount	284

- c) You enter the purchase order number as the allocation:

Continued on next page

Field name or data type	Values
Purchase order/scheduling agreement	41515061##

2. The invoice value is larger than expected in two items. Enter the invoice so that the system automatically reduces it when you post it. Change the item list display variant to do this.

Correct the fourth item where the vendor has invoiced only 40 EUR instead of the 50 EUR proposed by the system.

- a) On the item list, the system proposes lower values for the second and third items than specified in the invoice. Choose the *Invoice Reduction – Training* layout.
- b) You change the correction indicator for the second item to correct it.

Field name or data type	Values
Correction ID	Vendor error: reduce invoice

The system fills the columns *Invoice Quantity Acc. Vendor* and *Invoice Amount Acc. Vendor* with the same values as the fields *Quantity* and *Amount*. Change the invoice amount to match the vendor invoice.

Field name or data type	Values
Invoice amount according to vendor	1060

- c) Change the correction indicator for the third item to correct it.

Field name or data type	Values
Correction ID	Vendor error: reduce invoice



Change the third item:

Field name or data type	Values
Invoice amount according to vendor	1640

- d) In the fourth item, the invoice amount is smaller than the proposed value. Do not change the correction indicator here. Enter the variance directly in the *Amount* column.

Continued on next page

Field name or data type	Values
Amount	40


- e) Choose  *Enter* to confirm your changes.
- f) Choose  *Continue (Enter)* to confirm the information message.
3. Simulate the document. Fill in the table.

Item	Account	Amount
001		
002		
003		
004		
005		
006		
007		
008		
009		
010		
011		


Post the document.

Continued on next page

Invoice number: _____

- a) Choose  *Simulate*. A dialog box appears in which you see the account movements that will take place when the invoice is posted.

Item	Account	Amount
001	Vendor account	3,124.00 -
002	GR/IR clearing account	100.00
003	GR/IR clearing account	1,000.00
004	GR/IR clearing account	1,600.00
005	GR/IR clearing account	50.00
006	Stock account	10.00 -
007	Tax account	284.00
008	Clearing invoice reduction	100.00
009	Vendor account	110.00
010	Clearing invoice reduction	100.00 -
011	Tax account	10.00 -


- b) Choose  *Post*. A message appears displaying the document number.
4. Display the invoice, purchase order history, and accounting documents.
How does invoice reduction affect the purchase order history?

Continued on next page

-
- a) To display the invoice document you can

either choose:

*Logistics → Materials Management → Logistics Invoice Verification
→ Further Processing → Display Invoice Document*

Choose  *Display Doc.* to see the last posted document.

or choose:

*Logistics → Materials Management → Logistics Invoice Verification
→ Document Entry → Enter Invoice*

Choose *Invoice Document → Display* to see the last posted document.

- b) To go to the purchase order, double-click on the PO number in the item list. In the item detail of the purchase order, go to the *Purchase order history* tab page.

In purchase order items 20 and 30, in which you reduced the invoice, the system lists only the actual amount accepted. You cannot see that the vendor asked for a higher amount. The price variance entered in item 40 is visible.

- c) Choose  *Back* to return to invoice verification.

5. How many accounting documents are there?

Why?

- a) Choose *Follow-On Documents...* to display the FI document. The window listing the follow-on documents shows two accounting documents: one is an invoice document and one is a credit memo document. Double-click on the document number to go to the relevant accounting document.



Lesson Summary

You should now be able to:

- Reduce invoices by posting an invoice and a credit memo at the same time
- Identify which account movements are made when you reduce invoices

Lesson: Variances Without Reference to an Item



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Lesson Duration: 45 Minutes

Lesson Overview

This lesson covers total-based settlement of differences. This type of settlement is recommended if the variance between the planned and actual invoice amount is small.



Lesson Objectives

After completing this lesson, you will be able to:

- Post invoices when there is a difference between the item total that the system expects and the actual invoice total within acceptable tolerance limits
- Reduce invoices in Logistics Invoice Verification without reference to an item



For more information, see the Instructor Guide in SAPNet.

Business Example

In the case of invoices containing many items, it is too time-consuming to search for the items that contain minor variances. You want to find out how the system can react to such variances.

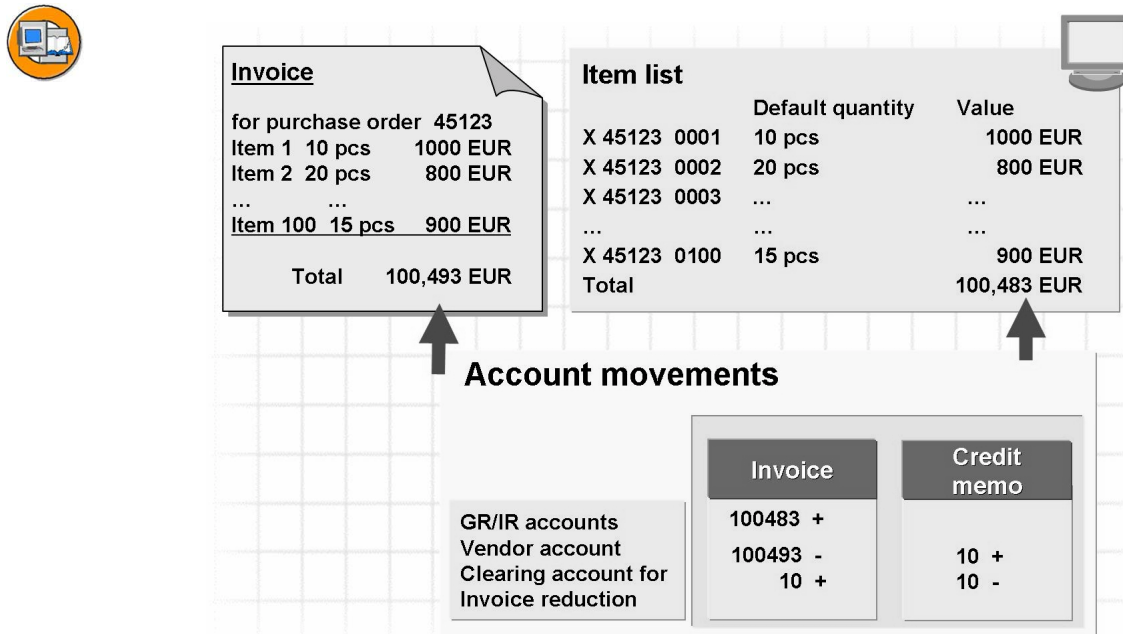


Figure 138: Total-Based Invoice Reduction

If a vendor often invoices a material with higher conditions than agreed in the purchase order, you can implement total-based invoice reduction. If Invoice Verification determines a difference between the net total of the invoice items and the invoice document (minus tax and unplanned delivery costs), for invoice with small differences it is often too much work to try and find the reason for the difference. Instead, the system can post the invoice if the difference falls within a predefined vendor-specific tolerance.

Automatic reduction of an invoice is dependent on whether you have assigned a tolerance group to the vendor in the vendor master record, and on the relevant Customizing settings for this tolerance group.

With total-based invoice reduction, the system creates two accounting documents when you post the invoice. The first document contains the invoice postings and an additional posting to a clearing account. The second document contains a credit memo, which creates the offsetting entry to the clearing account.

Therefore, with invoice reduction, you do not actually reduce an invoice. Instead, you also post a credit memo for the amount of the reduction. The amount payable to the vendor is the value of the invoice reduced by the credit memo amount.

When you post an invoice reduction, the system creates a message record. You can use this to send a letter of complaint (notification of credit memo posting) to the vendor. In contrast to manual invoice reduction, you cannot inform the vendor of the cause of the reduction, because the system does not actually determine this.

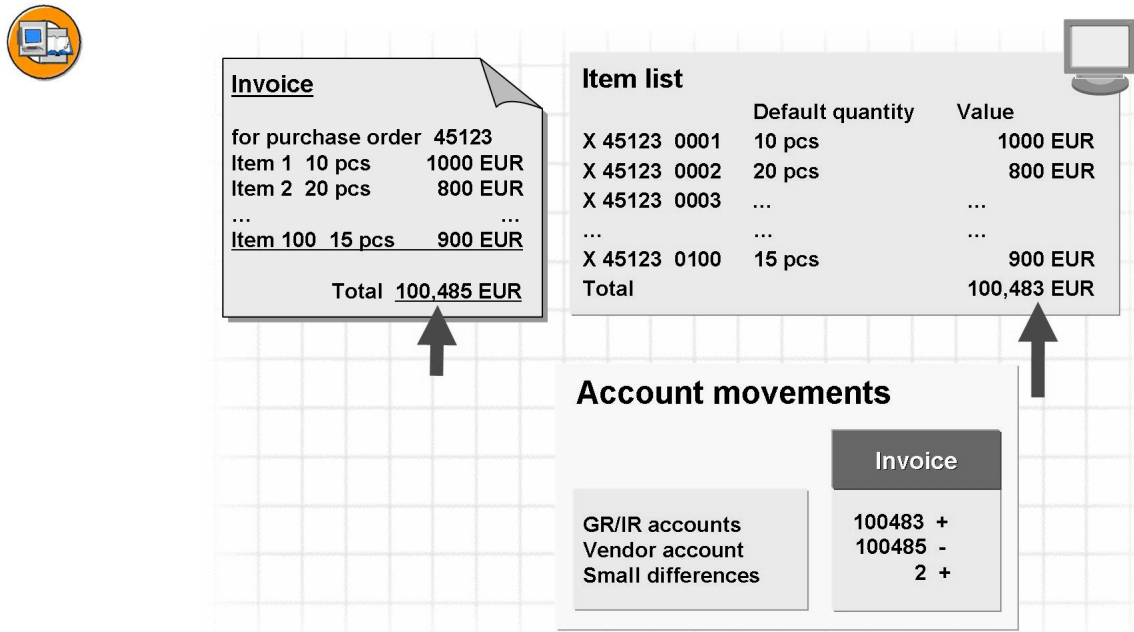


Figure 139: Total-Based Acceptance

In total-based acceptance, a difference in the invoice is assumed and is automatically posted to an expense or revenue account.

You can use total-based acceptance

- If the invoice is for less than expected
- If the increased invoice comes from a reliable vendor
- If it is not worth doing research of the reasons for the difference
- If the expected costs of research for invoice reduction are too high

The difference that can be accepted with total-based acceptance must fall within the vendor-specific tolerance for total-based acceptance that you have set in Customizing.

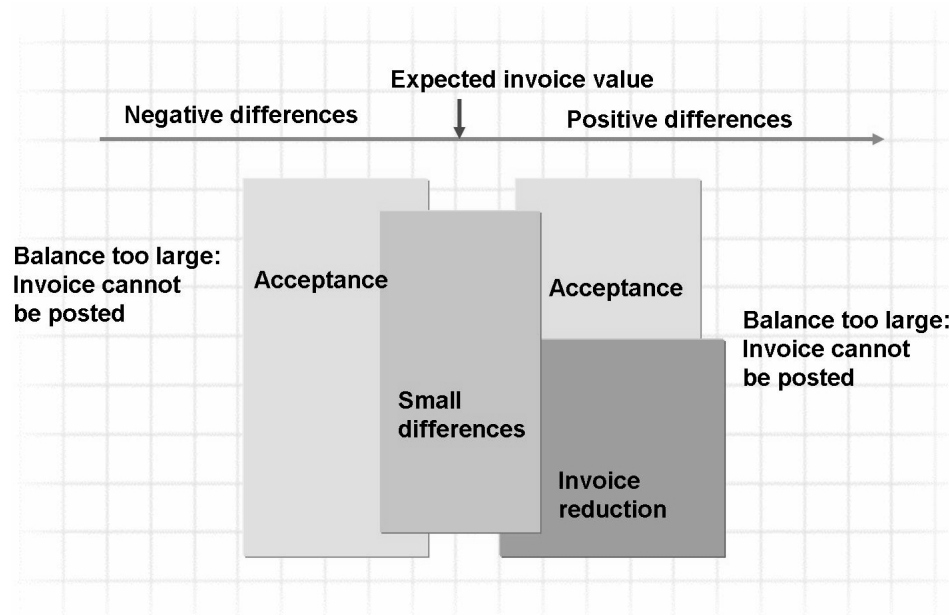


Figure 140: Vendor-Specific Tolerances

You maintain vendor-specific tolerances in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Incoming Invoice* → *Configure Vendor-Specific Tolerances*.

For each tolerance group you can configure various tolerances:

Negative differences: You can specify a tolerance for small differences, and for total-based acceptance in the invoice.

- If the negative difference falls within the configured tolerance limits for negative small differences, the system creates a posting to the relevant small differences account.
- If the negative difference is larger than the configured small difference, the system checks whether it falls within the tolerance area for total-based acceptance. If the difference falls within this tolerance area, the system posts the difference to the small differences account. If the difference is larger than the defined tolerance for total-based acceptance, the invoice cannot be posted.

Positive differences: You can specify a tolerance for small differences, a tolerance for total-based acceptance, and a tolerance for total-based invoice reduction.

- If the positive difference falls within the configured tolerance limits for positive small differences, the system creates a posting to the relevant small differences account.
- If the positive difference exceeds the small difference tolerance, the system checks whether it falls within the defined invoice reduction limit. If it falls within the tolerance for total-based invoice reduction, the system performs a total-based invoice reduction for the difference amount. If the invoice reduction limits are set to *Do not check*, the system compares the variance with the limits for total-based acceptance for positive small differences.

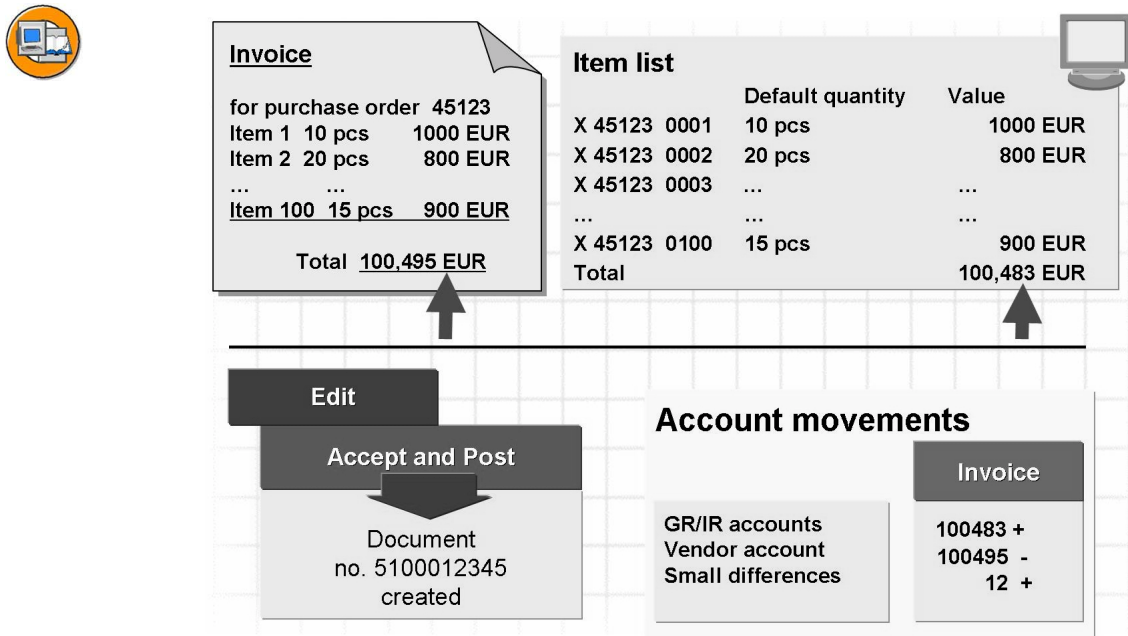


Figure 141: Manual Acceptance

When you enter an invoice, if the difference is larger than the defined tolerances, the system displays the balance and the traffic light is red.

Choose *Edit* → *Accept and Post* to post the document anyway. This means that you manually accept the difference, and it is posted to the defined small difference account.

The option of manually accepting small differences is linked to the authorization object M_RECH_AKZ.



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Exercise 16: Variances Without Reference to an Item

Exercise Duration: 30 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Post an invoice despite differences, because the difference lies within the vendor-specific tolerance limits set

Business Example

For certain vendors, your company pays only the purchase order value when there are variances in Invoice Verification. You want to check the accounting documents that are created.

Task:

Your vendor, Sapsota Company, accepts payment of invoices at the purchase order price if the difference is within a value of 50 EUR.

1. Change the vendor master record. Assign tolerance group **515** to the vendor.
2. The item amounts are missing in the following invoice. Enter the invoice in Logistics Invoice Verification.

Continued on next page

Invoice		
Sapsota Company Limited (Vendor T-K515A##)		
Invoice date:	[Current date]	
Invoice:	6002##	
This invoice refers to your purchase order number 41515071##		
T-M15A##	Slugs for cast iron spiral casing	10 pcs
T-M15B##	Flat gaskets	10 pcs
T-M15C##	Packing gaskets	10 pcs
T-M15D##	Locking ring	10 pcs
Total:		880 EUR
Tax:	10 %	<u>88 EUR</u>
Invoice amount:		968 EUR

Figure 142: Invoice 6002##

3. Leave the proposed values on the item list unchanged. How large is the difference? Can you save the invoice despite the difference?

4. Simulate the document. Fill in the table.

Continued on next page

Item	Account	Amount
001		
002		
003		
004		
005		
006		
007		
008		
009		
010		

Post the invoice.

Invoice number: _____

5. Display the invoice document, the purchase order history, and the accounting documents.

How does invoice reduction affect the purchase order history?

6. How many accounting documents are there?

Why?

Solution 16: Variances Without Reference to an Item

Task:


Your vendor, Sapsota Company, accepts payment of invoices at the purchase order price if the difference is within a value of 50 EUR.

1. Change the vendor master record. Assign tolerance group **515** to the vendor.
 - a) *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Vendor* → *Central* → *Change*

- b) Enter the following data:

Field name or data type	Values
Vendor	T-K515A##
Company code	1000

In the *Company code* data area, select *Payment transactions*.

- c) Choose  *Continue*. The *Payment Transactions* screen appears.
 - d) Enter the following value in the ***Invoice verification*** area:

Field name or data type	Values
Tolerance group	515

- e) You save your entry.

2. The item amounts are missing in the following invoice. Enter the invoice in Logistics Invoice Verification.

Continued on next page

Invoice		
Sapsota Company Limited (Vendor T-K515A##)		
Invoice date:	[Current date]	
Invoice:	6002##	
This invoice refers to your purchase order number 41515071##		
T-M15A##	Slugs for cast iron spiral casing	10 pcs
T-M15B##	Flat gaskets	10 pcs
T-M15C##	Packing gaskets	10 pcs
T-M15D##	Locking ring	10 pcs
Total:		880 EUR
Tax:	10 %	<u>88 EUR</u>
Invoice amount:		968 EUR

Figure 143: Invoice 6002##

- a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
- b) You enter the following data on the *Basic data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	6002##
Amount	968
Tax amount	88

- c) You enter the purchase order number as the allocation:

Field name or data type	Values
Purchase order/scheduling agreement	41515071##

Continued on next page

3. Leave the proposed values on the item list unchanged. How large is the difference? Can you save the invoice despite the difference?

Answer: After you have matched up the invoice, the R/3 System displays a balance of 30.00 EUR, however the traffic light icon is green, which means that you can post the invoice.

You have assigned the tolerance group 515 to the vendor in the vendor master record. In Customizing for Materials Management under *Logistics Invoice Verification* → *Incoming Invoice* → *Configure Vendor-Specific Tolerances*, you have specified that a positive difference of up to 50 EUR can be posted as a total-based invoice reduction for this tolerance group.


4. Simulate the document. Fill in the table.

Item	Account	Amount
001		
002		
003		
004		
005		
006		
007		
008		
009		
010		


Post the invoice.

Continued on next page

Invoice number: _____

- a) Choose  *Simulate*. A dialog box appears in which you see the account movements that will take place when the invoice is posted.

Item	Account	Amount
001	Vendor account	968.00 -
002	GR/IR clearing account	100.00
003	GR/IR clearing account	500.00
004	GR/IR clearing account	200.00
005	GR/IR clearing account	50.00
006	Tax account	88.00
007	Clearing invoice reduction	30.00
008	Vendor account	33.00
009	Clearing invoice reduction	30.00 -
010	Tax account	3.00 -

- b) Choose  *Post*. A message appears displaying the document number.
5. Display the invoice document, the purchase order history, and the accounting documents.


How does invoice reduction affect the purchase order history?

Continued on next page

-
- a) To display the invoice document you can

either choose:


*Logistics → Materials Management → Logistics Invoice Verification
→ Further Processing → Display Invoice Document*

Choose  *Display Doc.* to see the last posted document.

or choose:

*Logistics → Materials Management → Logistics Invoice Verification
→ Document Entry → Enter Invoice*

Choose *Invoice Document → Display* to see the last posted document.

- b) To go to the purchase order, double-click on the PO number in the item list. In the item detail of the purchase order, choose the *Purchase Order History* tab page. You cannot see the invoice reduction in the purchase order history.
- c) Choose  *Back* to return to invoice verification.

6. How many accounting documents are there?

Why?

- a) Choose *Follow-On Documents...* to display the FI document. The window listing the follow-on documents shows two accounting documents: one is an invoice document and one is a credit memo document. Double-click on the document number to go to the relevant accounting document.



Lesson Summary

You should now be able to:

- Post invoices when there is a difference between the item total that the system expects and the actual invoice total within acceptable tolerance limits
- Reduce invoices in Logistics Invoice Verification without reference to an item

Lesson: Releasing Blocked Invoices



Lesson Duration: 60 Minutes

Lesson Overview

If an invoice is blocked for payment, you must release the invoice in a separate step. The invoice cannot be paid before it is released. This lesson deals with the function for releasing blocked invoices. The release can be performed manually or automatically.



Lesson Objectives

After completing this lesson, you will be able to:

- Release invoices manually at item or header level
- Release an invoice automatically



For more information, see the Instructor Guide in SAPNet.

Business Example

Most blocked invoices are automatically released for payment when the balance of the goods is received or the purchase order price is adjusted. If the variances are justified, the supervisor can release the invoice for payment despite the variance.

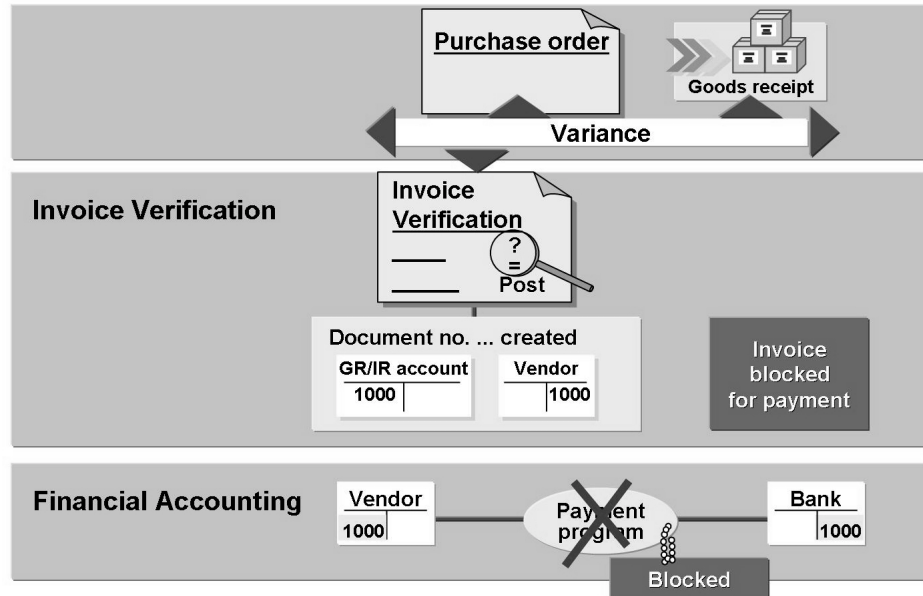


Figure 144: Blocking Invoices

If an invoice is blocked for payment when you post it, the Payment block indicator is selected in the vendor line item of the invoice document. Financial Accounting is then unable to pay the invoice automatically.

There are three reasons that an invoice is blocked:

- Due to variances in an item
- By manually entering a payment block
- By stochastic blocking

A blocked invoice must be released for payment in a separate step, possibly after consultation with the purchasing department or the vendor. This deletes the payment block.

Invoice selection

Company code _____ to _____

Invoice document _____ to _____

Vendor _____ to _____

Posting date _____ to _____

Due date _____ to _____

Purchasing group _____ to _____

User _____ to _____

Processing

Release manually Release automatically

Move cash discount days

Blocking procedure

Blocked due to variances

Manual payment block

Stochastically blocked

Figure 145: Releasing Blocked Invoices

Invoices blocked in Logistics Invoice Verification must be released in a special step. From the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Further Processing* → *Release Blocked Invoices*.

This transaction offers you various selection options in order to limit the release to specific invoices. In the *Selection* area, select the invoices that you wish to process. In the *Processing* area, specify whether you want to release invoices manually or automatically and whether the cash discount days in an invoice are to be moved during the release.

In the time between the blocking and releasing of an invoice, the cash discount period could expire. When you release an invoice, you can move the cash discount days in order to extend the payment period.

If you want to release invoices manually, in the *Blocking Procedure* area you can select the blocked invoices that the system should list:

- Invoices that are blocked due to variances
- Invoices in which a manual payment block has been set at header level
- Invoices that were blocked stochastically

Automatic release is only possible for the blocking procedure *Blocked due to variances*.

Automatic Release

For automatic release, the system checks each blocking reason to see whether it is still valid. This can occur for invoices that were automatically blocked due to quantity, price, or date variances, or due to quality checks. If a blocking reason is invalid, the system deletes it. If all blocking reasons for an invoice are deleted, the invoice is automatically released.

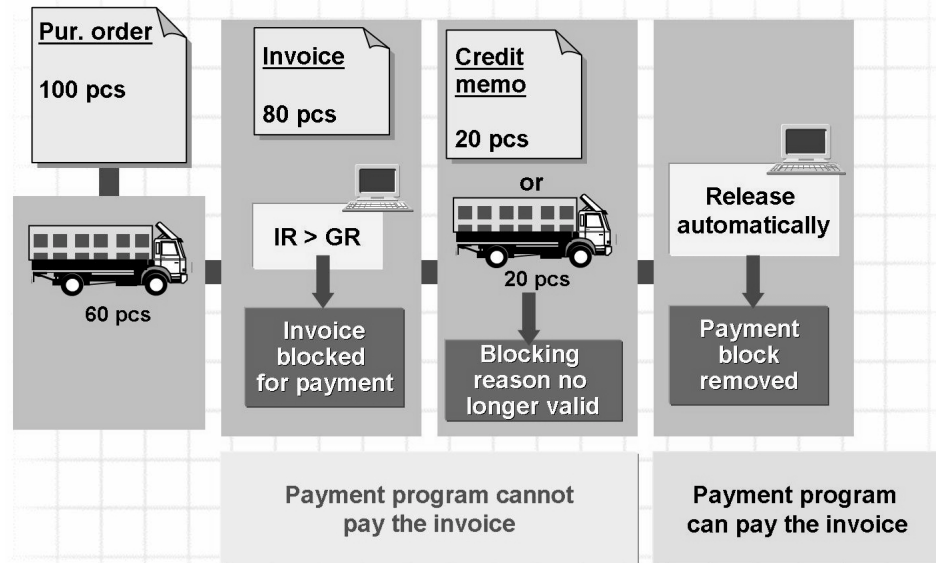


Figure 146: Automatic Release

Blocking reason Qty (quantity) may no longer apply after the arrival of a further delivery or a credit memo. Blocking reason Dte (date) becomes invalid over time. Blocking reason Prc (price) may no longer apply if you change the purchase order price or if you receive a subsequent credit. Blocking reason Qua (quality) becomes invalid when the goods pass the quality inspection.

Invoices that contain both blocking reasons and a manual payment block set in the document header are not released during automatic release, even if the blocking reasons in all items are no longer valid. Invoices with a manual payment block in the header must be released separately.

You can also let automatic release run in the background. Use program RM08RELEASE for this. Tell your system administration which variants of this program need to be created and which jobs should be defined.

Manual Release

For the manual release, you choose a *blocking procedure*, which determines which invoices you want to process. You can either release only the invoices that have been blocked due to variances, only the invoices that have been manually blocked, or only the invoices that have been stochastically blocked. For manual release, the system first shows you a list of blocked invoices. From this list you can delete individual blocking reasons, or release entire invoices.

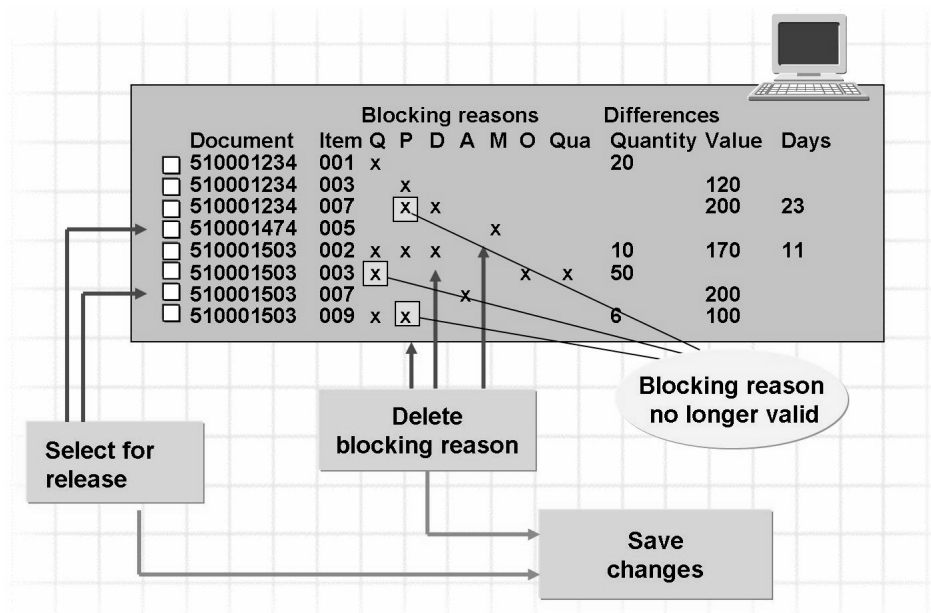


Figure 147: Manual Release

Once the selection has been made, the system displays a list of the blocked invoices that fulfill the given selection criteria. This list contains a lot of information and you can organize it to suit your needs. If invoices still contain blocking reasons that are no longer valid, these blocking reasons are highlighted in color in the list.

You can delete blocking reasons in single invoice items by placing your cursor on a blocking reason and choosing *Blocking Reason*. When you delete the last blocking reason and choose *Save Changes*, the system releases the invoice for payment.

If you want to release an invoice, you must select one line of the invoice and choose *Release Invoice*. As a result, all the other items of the invoice are also selected. The system releases the invoices when you choose *Save Changes*.

Workflow: Releasing Invoices Blocked Due to Price Variances

If items have been flagged with a price block, then the buyers responsible for the purchase order can be automatically informed using workflow. Use the predefined workflow template WS20000397, which you can configure in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Invoice Block* → *Activate Workflow Template*.

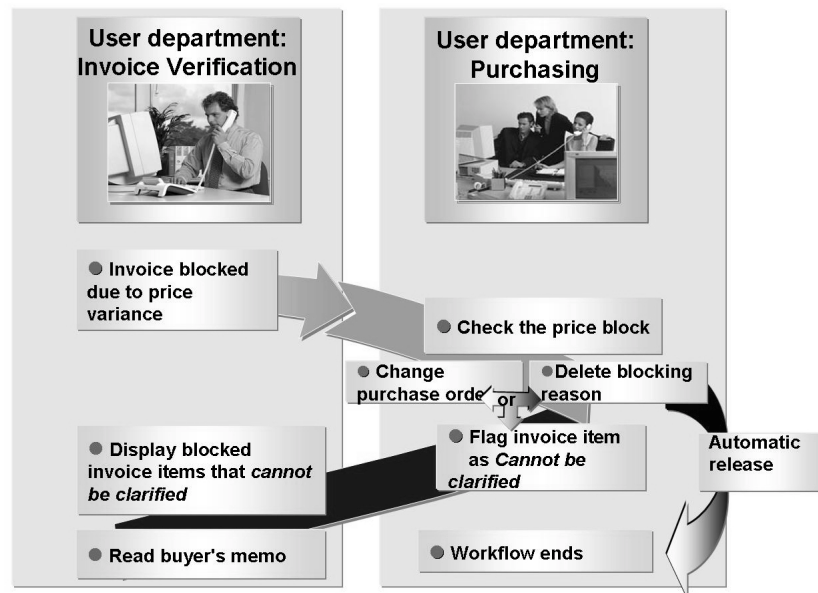


Figure 148: Workflow: Releasing Invoices Blocked Due to Price Variances

When an invoice is blocked due to a price variance, the responsible buyer(s) receive a work item in their inboxes. They can use this work item to check the blocked invoice items, and to process them as follows:

- Change purchase order
- Release invoice items by deleting the blocking reason
- Flag invoice items as Cannot be clarified

The workflow ends when the price block for the invoice items is no longer valid due to the change in the PO price, or when the invoice items have been released due to the deletion of the blocking reasons. If price blocks in the invoice items have been flagged as Cannot be clarified, a work item is generated for the invoice verification clerk. The workflow is then explicitly ended by the invoice verification clerk.

For more information, see the SAP Library under *SAP ERP Central Component (or SAP R/3 Enterprise Application Components)* -> *Scenarios in Applications* → *SAP Business Workflow (BC-BMT-WFM)* → *MM – Materials Management: Workflow Scenarios* → *Release of Invoices Blocked for Price Reasons (MM-IV-LIV)*.



Exercise 17: Releasing Blocked Invoices

Exercise Duration: 20 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Release invoices manually
- Release invoices automatically

Business Example

Most blocked invoices are released automatically when the balance of the goods is received or the purchase order price is adjusted. If the variances are justified, the supervisor should release the invoice for payment.

Task 1: Manual Release

You are responsible for releasing the blocked invoices for vendor T-K515A##.

1. List all the invoices for your vendor T-K515A## that have been blocked due to variances. In the *Display Options* area, select variant /SCM515.
2. How can you identify that blocking reasons are no longer valid?
Would any invoices be released when you use the automatic release function?
If so, which ones?

3. Display the invoice for purchase order 41515121##. Why was the invoice blocked? Can you have the system release the invoice automatically?

4. Since you accept the price variance and all the other blocking reasons are invalid, release the invoice for purchase order 41515121##. Beforehand, make a note of the number and year of the invoice document to be released.

Document number / year: _____

Continued on next page

5. Display the invoice that you have just released, in a second session. How do you know that the invoice is no longer blocked for payment? Have the individual blocking reasons been deleted from the items?

6. Return to the session with the invoice release. Release the invoice for purchase order 41515093## by deleting the individual blocking reasons one after the other. What happens when you delete the last blocking reason in this invoice? Before releasing the invoice, make a note of the number and year of the invoice document to be released.

Document number / year: _____

7. Display the last released invoice document. Have the blocking reasons been deleted from the items? Can you see who released this invoice?

Task 2: Automatic Release

You have manually released some of the invoices for vendor T-K515A## and, in order to make things easier for you, you now want to delete all the blocking reasons that are no longer valid.

1. Execute the automatic invoice release function for vendor T-K515A##.
2. If the system releases invoices, check one of them. Can you see who released this invoice?

Continued on next page

3. How does the automatic release function affect the next manual release?

Task 3: Display of Invoices That Have Been Stochastically Blocked

1. Display all the invoices entered by you that have been stochastically blocked. Release these invoices.

Solution 17: Releasing Blocked Invoices


Task 1: Manual Release

You are responsible for releasing the blocked invoices for vendor T-K515A##.

1. List all the invoices for your vendor T-K515A## that have been blocked due to variances. In the *Display Options* area, select variant /SCM515.

- a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Further Processing* → *Release Blocked Invoices*
- b) In the *Selection of Blocked Invoices* area, enter the following data:

Field name or data type	Values
Company code	1000
Vendor	T-K515A##

- c) In the *Processing* area, you select *Release manually*.
 - d) In the *Blocking procedure* area, you select *Blocked due to variances*.
 - e) In the *Display options* area, choose variant /SCM515.
 - f) Choose  *Execute*. The system displays a list of the blocked invoices.
2. How can you identify that blocking reasons are no longer valid?

Would any invoices be released when you use the automatic release function?
If so, which ones?

Answer: The blocking reasons that are highlighted in yellow are no longer valid and will be deleted the next time that you release invoices automatically. The system releases invoices containing only reasons that are no longer valid.

Continued on next page

3. Display the invoice for purchase order 41515121##. Why was the invoice blocked? Can you have the system release the invoice automatically?


Answer: The invoice for purchase order 41515121## was blocked due to date, quantity, and price variances. For more information, double-click the purchase order number to display the purchase order.

Since the delivery date for all the items in the purchase order is now in the past, these blocking reasons are now invalid. Likewise, the quantity variances are now invalid due to a further goods receipt.

However, the price variance for purchase order item 40 still exists (purchase order price 5 EUR, invoice price 6 EUR). A credit order from the vendor has not been entered and the purchase order price has not been corrected. The system cannot release the invoice automatically.

4. Since you accept the price variance and all the other blocking reasons are invalid, release the invoice for purchase order 41515121##. Beforehand, make a note of the number and year of the invoice document to be released.

Document number / year: _____


- a) Select a line of the invoice for the purchase order and choose  *Release Invoice*. All the lines for the invoice are highlighted in green.

- b) Choose  *Save Changes* to release the invoice.




The system outputs a message confirming that an invoice has been released; the released invoice disappears from the list.


5. Display the invoice that you have just released, in a second session. How do you know that the invoice is no longer blocked for payment? Have the individual blocking reasons been deleted from the items?

Continued on next page


-
- a) Choose *System* → *Create Session*.
 - b) Then choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Further Processing* → *Display Invoice Document*.
 - c) Enter the invoice number and the year of the released invoice and choose  *Display Doc*.
 - d) Choose the *Payment* tab page. The *Pmnt Block* field is set to *Free for Payment*.
 - e) For the item list, choose the *Layout All Information* and scroll to the end of the list. The blocking reasons were not deleted from the items during the “overall release” of the invoice.
6. Return to the session with the invoice release. Release the invoice for purchase order 41515093## by deleting the individual blocking reasons one after the other. What happens when you delete the last blocking reason in this invoice? Before releasing the invoice, make a note of the number and year of the invoice document to be released.

Document number / year: _____

- a) To delete an individual blocking reason, position your cursor on the relevant blocking reason and choose  *Blocking Reason*. Instead of  *Blocked* or *Blocking Reason Due*,  *Blocking Reason Deleted* is then displayed in the list.

The blocking reason is not deleted from the invoice item until you choose  *Save Changes*.
 - b) Repeat the procedure as described under a). You can also delete several blocking reasons before you save these changes. Delete all the blocking reasons except for one.
 - c) Delete the last remaining blocking reason and save this change. The invoice is released as a result.
7. Display the last released invoice document. Have the blocking reasons been deleted from the items? Can you see who released this invoice?
-

Continued on next page


-
- a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Further Processing* → *Display Invoice Document*
 - b) Enter the invoice number and the year of the released invoice and choose  *Display Doc*.
 - c) Choose *Goto* → *Display Change Document* to see who released the invoice.

Task 2: Automatic Release

You have manually released some of the invoices for vendor T-K515A## and, in order to make things easier for you, you now want to delete all the blocking reasons that are no longer valid.

1. Execute the automatic invoice release function for vendor T-K515A##.
 - a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Further Processing* → *Release Blocked Invoices*
 - b) In the *Selection of Blocked Invoices* area, enter the following data:

Field name or data type	Values
Company code	1000
Vendor	T-K515A##

- c) In the *Processing* area, you select *Release automatically*.
 - d) In the *Blocking procedure* area, you select *Blocked due to variances*.
 - e) Choose  *Execute*. The system displays a list of the released invoices.
2. If the system releases invoices, check one of them. Can you see who released this invoice?

-
- a) Select a released invoice and choose *Goto* → *Display Invoice* to call up the invoice.
 - b) Choose *Goto* → *Display Change Documents*.

Continued on next page

3. How does the automatic release function affect the next manual release?





Answer: In the case of automatic release, the system releases all blocking reasons that are no longer valid. They are not displayed when you next use the manual release function.

Task 3: Display of Invoices That Have Been Stochastically Blocked

1. Display all the invoices entered by you that have been stochastically blocked. Release these invoices.

- a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Further Processing* -> *Release Blocked Invoices*
- b) In the *Selection of Blocked Invoices* area, enter the following data:

Field name or data type	Values
Company code	1000
User	SCM515##

- c) In the *Processing* area, you select *Release manually*.
- d) In the *Blocking procedure* area, you select *Stochastically blocked*.
- e) Choose  *Execute*. The system displays a list of the blocked invoices.
- f) Choose  *Select All* and then  *Release Invoice*. All the invoices are highlighted green.
- g) Choose  *Save Changes* to release the invoices.



Lesson Summary

You should now be able to:

- Release invoices manually at item or header level
- Release an invoice automatically



Unit Summary

You should now be able to:

- Enter invoices with variances and explain the circumstances under which the system blocks invoices
- Compare the postings for standard and moving average priced stock materials
- Reduce invoices by posting an invoice and a credit memo at the same time
- Identify which account movements are made when you reduce invoices
- Post invoices when there is a difference between the item total that the system expects and the actual invoice total within acceptable tolerance limits
- Reduce invoices in Logistics Invoice Verification without reference to an item
- Release invoices manually at item or header level
- Release an invoice automatically

Unit 7



Subsequent Debits/Credits, Delivery Costs, and Credit Memos



For more information, see the Instructor Guide for the course SCM515 in the Corporate Portal.

Unit Overview

The amounts listed in the vendor invoice can be for settlement of delivered goods or for services rendered. Further costs can result from shipping and customs, or other miscellaneous costs and activities. This unit covers the entry of planned and unplanned delivery costs in Invoice Verification, and subsequent debits/credits. Participants will also learn how to enter credit memos and cancel invoices.



Unit Objectives

After completing this unit, you will be able to:

- Enter additional costs as a subsequent debit
- Explain the account movements made in the case of a subsequent debit
- Enter planned delivery costs for an invoice
- Enter unplanned delivery costs so that they are apportioned to the items
- Add items without reference to a purchase order to an invoice
- Enter an invoice without reference to a purchase order
- Enter a credit memo referencing a purchase order
- Reverse an invoice document
- Enter a subsequent credit

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Lesson: Subsequent Debit/Credit



Lesson Duration: 45 Minutes

Lesson Overview

This lesson discusses how to enter invoices that refer to existing transactions that have already been settled. No additional deliveries or services are being invoiced, but rather additional costs that are now due. The costs are posted as a subsequent debit/credit.



Lesson Objectives

After completing this lesson, you will be able to:

- Enter additional costs as a subsequent debit
- Explain the account movements made in the case of a subsequent debit



For more information, see the Instructor Guide in SAPNet.

Business Example

Occasionally, you receive from your vendors invoices or credit memos that refer to transactions that have already been settled. Your company wants to use subsequent debits/credits to process these documents.

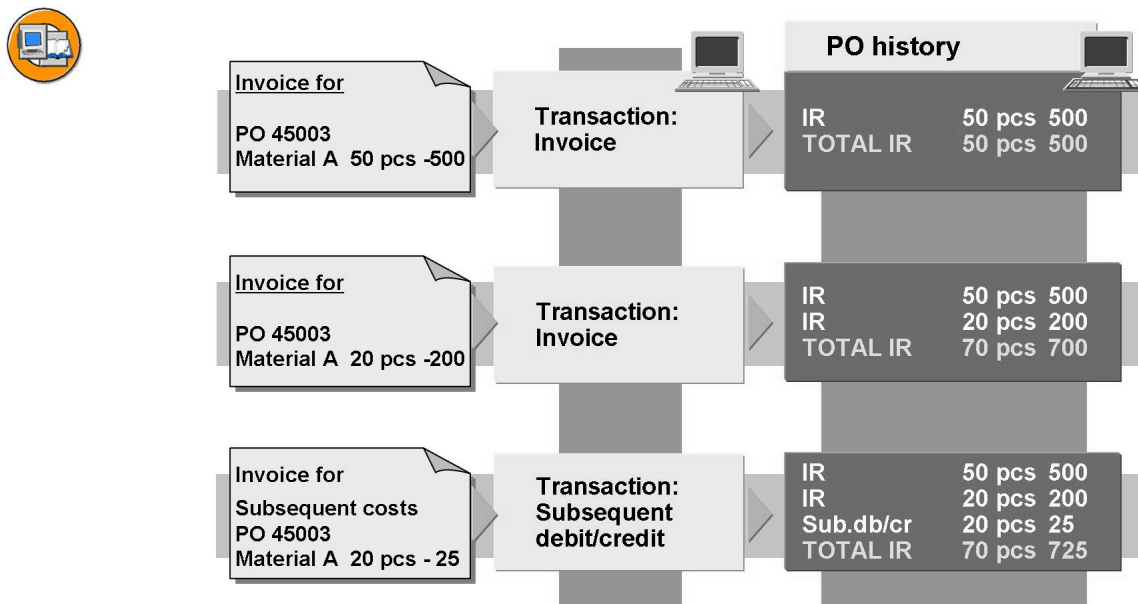


Figure 149: Subsequent Debit/Credit

A subsequent debit/credit arises if a transaction has already been settled, and a further invoice or credit memo is received afterwards.

A subsequent debit/credit changes the total invoice value of a purchase order item; the total invoice quantity remains unchanged. Therefore, only a value-based update of the purchasing transaction takes place. There is no quantity-based update.

- You must enter an invoice as a subsequent debit if a purchase order item has already been invoiced and further costs are now incurred. (Example: A vendor has inadvertently invoiced you at too low a price and then sends a second invoice for the difference.)
- You must enter a credit memo as a subsequent credit if a purchase order item was invoiced at too high a price and you have now received a credit memo. (Example: A vendor has inadvertently invoiced you at too high a price and then sends a credit memo for the difference.)

If you enter a subsequent debit/credit, the system suggests the entire invoiced quantity, but no value. The maximum quantity that you can subsequently debit or credit is the quantity that has already been invoiced. You can only enter a subsequent debit/credit for a purchase order item if an invoice has already been posted for this item.

A subsequent debit/credit cannot refer to a particular invoice.

Subsequent debits and credits are listed separately in the PO history.



	Goods receipt	Invoice	Subsequent debit/credit
Purchase order: 50 pcs at 2.00 EUR/pc Goods receipt for this purchase order: 50 pcs Invoice: 50 pcs = 2.00 EUR/pc. Subsequent invoice: 50 pcs = 20.00 EUR			
Stock account	100 +		20 +
GR/IR account	100 -	100 +	
Vendor account		100 -	20 -

Figure 150: Account Movements with a Subsequent Debit/Credit

When you post a subsequent debit/credit, the system posts the invoice amount to the vendor account.

If the quantity to be subsequently debited or credited has already been delivered, the system makes the offsetting entry to the stock account or the price difference account, depending on the type of price control used. For purchase order items with account assignment, the system makes the offsetting entry to the consumption account.

If the quantity for subsequent debit/credit has not yet been delivered, the system makes the offsetting entry to the GR/IR clearing account. Later, when the goods receipt is posted the system posts the debit/credit to the stock account or the price difference account, depending on the price control, or for PO items with account assignment, it posts to the consumption account.



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Exercise 18: Subsequent Debits/Credits

Exercise Duration: 15 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Enter additional costs as a subsequent debit
- Display the purchase order history and the account movements

Business Example

After posting an invoice, you receive an invoice from the vendor for additional freight and handling charges. The costs for each purchase order item are listed in the invoice.

Task:

The following invoice for additional freight costs came from a forwarding agent. Since you do not usually use this forwarding agent, there is no master record for this vendor.

Invoice			
Spedition Wolff Vor dem Felde 26 30186 Hannover			
Invoice date:	[Current date]		
Invoice:	9001##		
This invoice refers to your purchase order number 41515101##			
T-M15A##	Slugs for cast iron spiral casing	50 pcs	100 EUR
T-M15B##	Flat gaskets	100 pcs	250 EUR
			350 EUR
Tax: 10 %			35 EUR
Invoice amount:			385 EUR

Figure 151: Invoice 9001##

1. Enter the invoice as a **subsequent debit**.
2. Which quantities does the system propose on the item list?

Continued on next page

Select the relevant items and enter the invoice values.

3. Enter the one-time vendor account **1960** as the invoicing party on the *Details* tab page. Confirm your changes. The display of the vendor data changes. Why do you have to enter more vendor data? How can you do this?

4. Simulate the account movements.

Item	Account	Amount
001		
002		
003		
004		

Post the document.

Invoice number: _____

5. Display the invoice. How are the extra costs indicated in the purchase order history?

Solution 18: Subsequent Debits/Credits

Task:

The following invoice for additional freight costs came from a forwarding agent. Since you do not usually use this forwarding agent, there is no master record for this vendor.

Invoice			
Spedition Wolff Vor dem Felde 26 30186 Hannover			
Invoice date:	[Current date]		
Invoice:	9001##		
This invoice refers to your purchase order number 41515101##			
T-M15A##	Slugs for cast iron spiral casing	50 pcs	100 EUR
T-M15B##	Flat gaskets	100 pcs	250 EUR
			350 EUR
Tax: 10 %			35 EUR
Invoice amount:			385 EUR

Figure 152: Invoice 9001##

1. Enter the invoice as a **subsequent debit**.
 - a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
 - b) Select the *transaction* **Subsequent debit**.
 - c) You enter the following data on the *Basic data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	9001##
Amount	385
Tax amount	35

- d) You enter the purchase order number as the allocation:

Continued on next page

Field name or data type	Values
Purchase order/scheduling agreement	41515101##

2. Which quantities does the system propose on the item list?

Select the relevant items and enter the invoice values.

- a) The system proposes the total invoiced quantity in the individual items. Select the first two items and enter the invoice values.



Field name or data type	Values
Amount	100
Amount	250

3. Enter the one-time vendor account **1960** as the invoicing party on the *Details* tab page. Confirm your changes. The display of the vendor data changes. Why do you have to enter more vendor data? How can you do this?

Continued on next page


- a) In the vendor data, you see that the proposed vendor does not match the invoicing party. You enter the different invoicing party on the *Details* tab page: Since the invoice came from a freight forwarder with whom you do not usually work, use a one-time vendor master record and enter the one-time vendor account.

Field name or data type	Values
Inv. party	1960

- b) Choose  *Enter* to confirm your changes. Confirm also the information message by choosing *Enter*.
- c) The one-time account is displayed in the vendor data. Because you are using a one-time master record, you need to enter further data about the invoicing party in order for the invoice to be paid. Choose  *C...* (*One-Time Account Data*) to enter the vendor data.

A window appears in which you can enter the vendor data.

Field name or data type	Values
Name	Wolff
Street	Vor dem Felde 26
City	Hannover
Postal code	30186
Bank key	10010010
Bank account	232432434


- d) Choose  *Continue*. The window closes and the entered data is copied over.
4. Simulate the account movements.

Item	Account	Amount
001		
002		
003		
004		

Continued on next page

Post the document.

Invoice number: _____

- a) Choose  *Simulate*. A dialog box appears in which you see the account movements that will take place when the invoice is posted.


Item	Account	Amount
001	Vendor account	385.00 -
002	Stock account	100.00
003	Stock account	250.00
004	Tax account	35.00

- b) Choose  *Post*. A message appears displaying the document number.

5. Display the invoice. How are the extra costs indicated in the purchase order history?

- a) To display the invoice document you can either choose:

Logistics → *Materials Management* → *Logistics Invoice Verification*
→ *Further Processing* → *Display Invoice Document*

Choose  *Display Doc.* to see the last posted document.

or choose:

Logistics → *Materials Management* → *Logistics Invoice Verification*
→ *Document Entry* → *Enter Invoice*

Choose *Invoice Document* → *Display* to see the last posted document.

- b) To go to the purchase order, double-click on the PO number in the item list. In the item detail of the purchase order, choose the *Purchase Order History* tab page. The subsequent debit is flagged with the short text NB-L. It has increased the total invoiced value, but has not changed the total invoiced quantity.



Lesson Summary

You should now be able to:

- Enter additional costs as a subsequent debit
- Explain the account movements made in the case of a subsequent debit

Lesson: Delivery Costs



Lesson Duration: 90 Minutes

Lesson Overview

This lesson covers entry of planned and unplanned delivery costs in invoice verification.



Lesson Objectives

After completing this lesson, you will be able to:

- Enter planned delivery costs for an invoice
- Enter unplanned delivery costs so that they are apportioned to the items



For more information, see the Instructor Guide in SAPNet.

Business Example

Freight charges can be planned in the purchase order. More often, they are not known in detail when the purchase order is created and are entered only in Invoice Verification on the basis of the invoice. You need to test both possibilities.

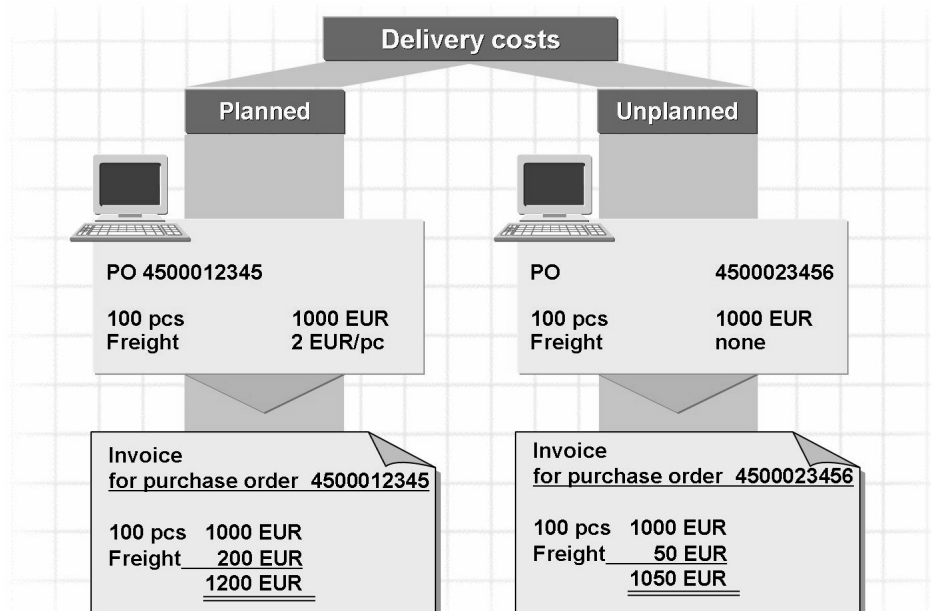


Figure 153: Delivery Costs

In the SAP system, delivery costs are divided into:

- Planned delivery costs
- Unplanned delivery costs

Planned delivery costs are entered when you enter the purchase order

Unplanned delivery costs are not known at the time of the purchase order, and are first entered upon invoice receipt.

You can either settle delivery costs together with goods items, or you can enter an invoice containing only delivery costs.

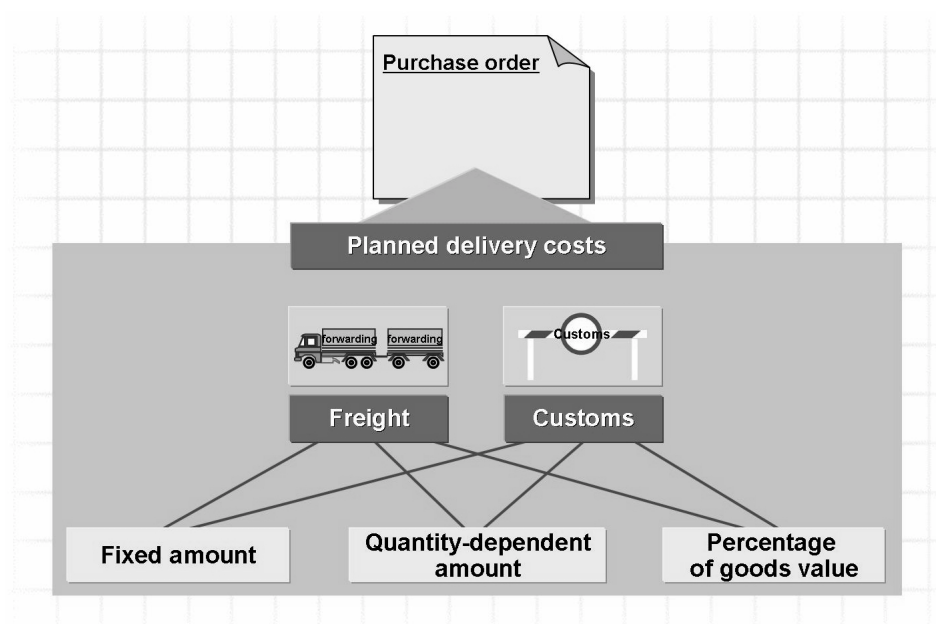


Figure 154: Planned Delivery Costs

Planned delivery costs are delivery costs that were agreed with the vendor, a freight forwarding agent, or a customs authority before the purchase order was made, and that are therefore already entered when you enter the purchase order. You enter them item-by-item in the purchase order. They are assigned accordingly at invoice receipt.

The advantage of planned delivery costs is that the delivery costs become a part of the valuation of a material at goods receipt, or - for a purchase order with account assignment - are debited to the account assignment object.

Planned delivery costs are not binding to one specific vendor. When planning the delivery costs in the purchase order, you can enter a specific vendor for the delivery costs (such as a freight vendor or a customs authority). However, in Invoice Verification, these delivery costs can also be posted to a different invoicing party if you enter the different vendor on the *Detail* tab page.

Planned delivery costs can be divided into:

- Freight costs
- Customs

Delivery costs can be invoiced in one of three ways:

- Fixed amount, independent of scope of supply
- Quantity-dependent amount
- Percentage of value of goods to be delivered



Figure 155: Account Movements with Planned Delivery Costs

For planned delivery costs, at goods receipt the system posts relevant provisions to a clearing account. Depending on the origin type, you can set up a specific clearing account in Customizing. This clearing account is balanced when the corresponding invoice is posted.

If no price differences arise between the planned delivery costs from the purchase order and the requested delivery costs in the invoice, the material master record does not change when you post the invoice.

If price differences do arise, these are treated in the same way as price variances for ordered materials.

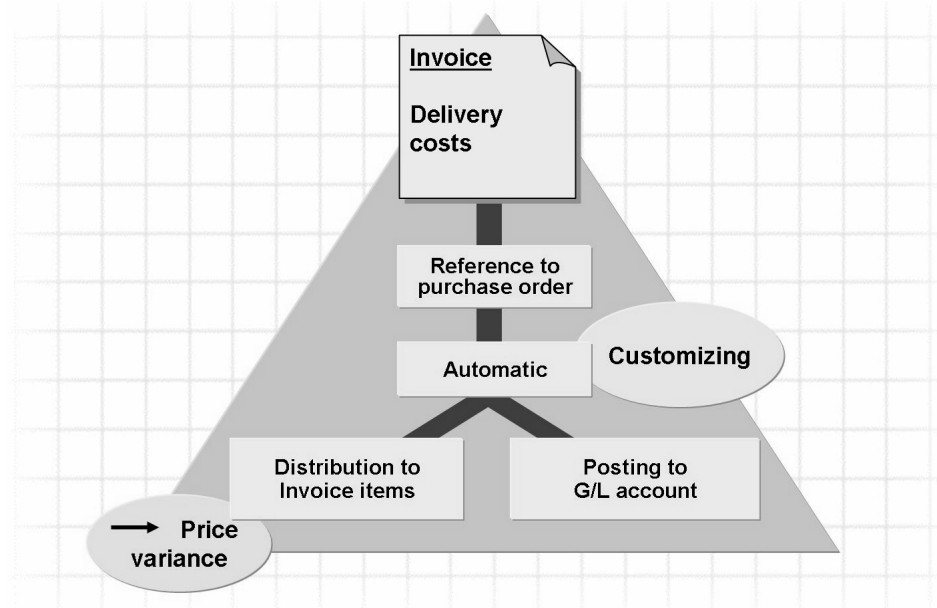


Figure 156: Unplanned Delivery Costs

Unplanned delivery costs are delivery costs that were not agreed upon in the purchase order and that are first entered upon invoice receipt. When you enter the invoice, you enter the total amount of the unplanned delivery costs on the *Detail* tab page.

In *Customizing for Materials Management under Logistics Invoice Verification* → *Incoming Invoice* → *Configure How Unplanned Delivery Costs Are Posted*, you can specify whether the system automatically posts the unplanned delivery costs to the individual items or to a separate G/L account.

During automatic distribution to the invoice items, the amounts in the items are automatically increased by the delivery costs part when you post the invoice, and therefore are treated as price variances. However, the system does not perform a price check after automatically distributing the delivery costs. Unplanned delivery costs that were distributed to individual items are not listed separately in the PO history. They are already a part of the calculated value.

If the unplanned delivery costs are posted to a separate G/L account, the unplanned delivery costs are not debited to the stocks or the account assignment objects. The system does not show unplanned delivery costs that are posted to a separate G/L account, in the PO history.

You can only post an invoice containing only unplanned delivery costs with reference to a purchase order, if at least one invoice has already been posted for the purchase order. Otherwise all the invoiced values would be zero, and it would not be possible to distribute the delivery costs.

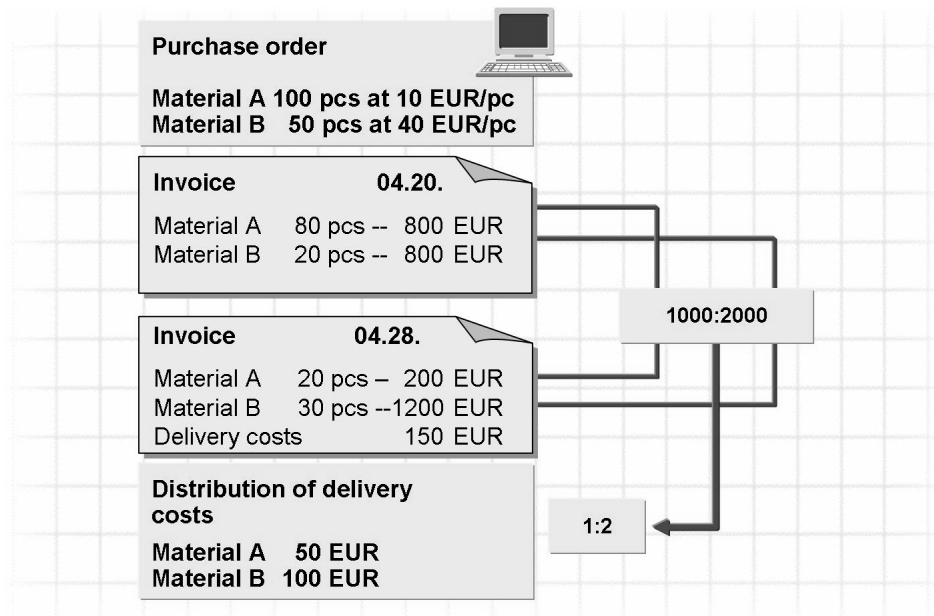


Figure 157: Distribution of Unplanned Delivery Costs

The system apportions the unplanned delivery costs to the items in proportion to the total value invoiced so far and the values in the current invoice.

You can also distribute unplanned delivery costs manually to individual invoice items, by changing the amounts of the invoice items. Since in this case the delivery costs are entered in the same way as price variances, the system performs a price check, and the invoices are blocked wherever the tolerances set in Customizing are exceeded.

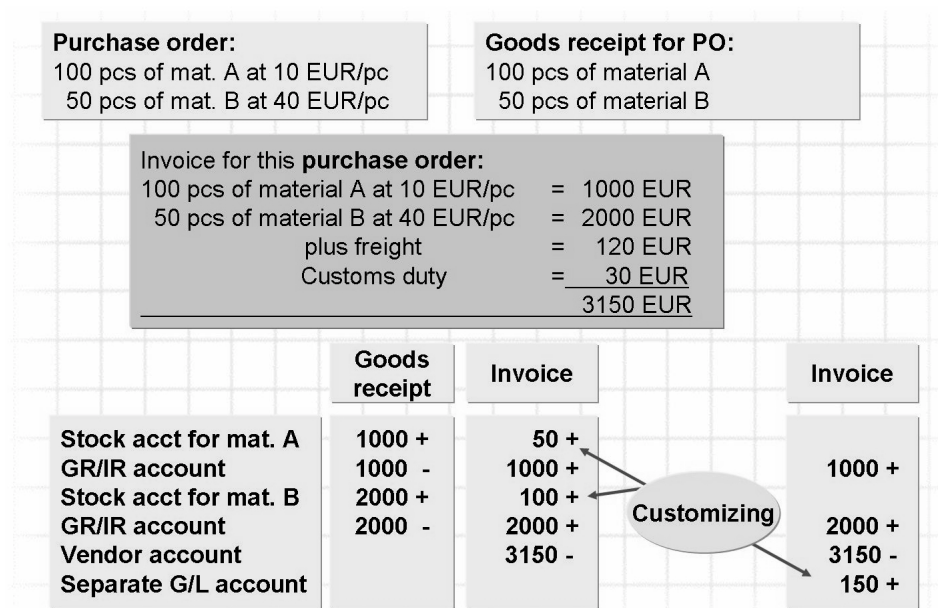


Figure 158: Account Movements with Unplanned Delivery Costs

In the case of unplanned delivery costs, the costs are not split up according to their origin.

The way in which the system posts unplanned delivery costs depends on the settings in Customizing. They are either distributed automatically to the individual invoice items or posted to a separate G/L account.

During automatic distribution, the unplanned delivery costs are posted according to the price control.

- For a material with moving average price, the system posts to the stock account as long as there is a stock coverage.
- For a material with standard price, the system posts the unplanned delivery costs to the price difference account you have set up.



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Exercise 19: Delivery Costs

Exercise Duration: 30 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Enter planned freight costs on an invoice
- Enter unplanned delivery costs that are apportioned to the items

Business Example

Some of your freight charges are specified in the purchase order. More often, delivery costs are calculated and included only on the invoice. You need to test both possibilities.

Task 1: Planned Delivery Costs

This invoice includes purchase order items and freight costs. The freight costs were already planned in the purchase order.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	8001##		
This invoice refers to your purchase order number 41515091##			
T-M15A##	Slugs for cast iron spiral casing	100 pcs	1000 EUR
T-M15C##	Packing gaskets	100 pcs	5000 EUR
Freight charges: Spiral casings	Freight/quantity	100 pcs	150 EUR
	Packing gaskets	Freight/quantity	100 pcs
			300 EUR
			6450 EUR
Tax: 10 %			645 EUR
Invoice amount:			7095 EUR

Figure 159: Invoice 8001##

1. Enter this invoice in Logistics Invoice Verification. Change the layout to *All Information*.

Continued on next page

How do you specify that both the material items and the planned delivery costs should be settled?

2. On the item list, how can you identify which items are delivery costs items?

3. Which delivery costs items does the system propose in the item list?

Order item	Text	Proposed quantity	Amount
10			
20			

The delivery costs proposed by the system are different from those in the invoice. Correct the proposed values on the item list. How does the system react to the changes?

4. Simulate the invoice. Which postings are made?

Continued on next page

Item	Account	Amount
001		
002		
003		
004		
005		
006		
007		
008		

Post the invoice.

Invoice number: _____

5. Display the PO history. How are the delivery costs displayed?

Continued on next page

Task 2: Unplanned Delivery Costs

In the following invoice, the vendor added unplanned freight costs.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:		[Current date]	
Rechnungsnummer: Invoice:			
This invoice refers to your purchase order number 41515092##			
T-M15B##	Flat gasket	100 pcs	5000 EUR
T-M15C##	Packing gasket	50 pcs	1000 EUR
	Freight (flat rate)		440 EUR
			6440 EUR
Tax: 10 %			644 EUR
Invoice amount:			7084 EUR

Figure 160: Invoice 8002##

1. Enter this invoice in Logistics Invoice Verification. The freight costs are unplanned delivery costs.
2. Where do you enter unplanned delivery costs?

3. What does the way in which the system posts unplanned delivery costs depend on?

4. Simulate the invoice. What is the ratio that the system uses to apportion the delivery costs? How is the ratio determined?

Fill in the table.

Continued on next page

Item	Account	Amount
001		
002		
003		
004		
005		
006		

Post the invoice.

Invoice number: _____

5. Display the invoice and go to the purchase order history. Are the unplanned costs displayed?

Task 3: Settlement of Delivery Costs Only

A forwarding agent sends the following invoice for unplanned delivery costs.

Invoice	
Spedition Gruber	(Vendor T-K515C##)
Invoice date:	[Current date]
Invoice:	8003##
This invoice refers to your purchase order number 41515093##	
Additional delivery costs – Rush order	180 EUR
<hr/>	
Tax: 10 %	<u>18 EUR</u>
Invoice amount:	198 EUR

Figure 161: Invoice 8003##

1. Enter the invoice as a **subsequent debit** due to unplanned delivery costs. The delivery costs refer to all the invoice items.
2. Note that the invoicing party is different to the order vendor. Where do you enter the different invoicing party?

Continued on next page

-
3. Under what conditions can you post an invoice for delivery costs only using unplanned delivery costs?

4. Simulate the postings. Fill in the table.

Item	Account	Amount
001		
002		
003		
004		
005		
006		

Post the invoice.

Invoice number: _____

Solution 19: Delivery Costs

Task 1: Planned Delivery Costs

This invoice includes purchase order items and freight costs. The freight costs were already planned in the purchase order.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	8001##		
This invoice refers to your purchase order number 41515091##			
T-M15A##	Slugs for cast iron spiral casing	100 pcs	1000 EUR
T-M15C##	Packing gaskets	100 pcs	5000 EUR
Freight charges: Spiral casings	Freight/quantity	100 pcs	150 EUR
	Packing gaskets	Freight/quantity	100 pcs
			300 EUR
			6450 EUR
Tax: 10 %			645 EUR
Invoice amount:			7095 EUR

Figure 162: Invoice 8001##

1. Enter this invoice in Logistics Invoice Verification. Change the layout to *All Information*.

How do you specify that both the material items and the planned delivery costs should be settled?


Continued on next page

- a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
- b) You enter the following data on the *Basic data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	8001##
Amount	7095
Tax amount	645

- c) You enter the purchase order number as the allocation:

Field name or data type	Values
Purchase order/scheduling agreement	41515091##

- d) Change the layout to *All Information*.
- e) Switch to *Goods/services items +Planned delivery costs*. Choose  *Enter*. In the item list, the system displays both the material items and the planned delivery costs items to settle.

- 2. On the item list, how can you identify which items are delivery costs items?
Answer: You can recognized the planned delivery costs from the texts.

- 3. Which delivery costs items does the system propose in the item list?


Order item	Text	Proposed quantity	Amount
10			
20			

Continued on next page

The delivery costs proposed by the system are different from those in the invoice. Correct the proposed values on the item list. How does the system react to the changes?

- a) The system proposes the following delivery costs items:

Order item	Text	Quantity proposed	Amount
10	Freight/quantity	100	100.00
	Customs (Value)	100	10.00
20	Freight/quantity	100	100.00

- b) Deselect the customs item and change the proposed amounts for the freight items. Choose  *Enter* to confirm your changes. The system performs a price check for the freight items. If there is a variance that lies outside the tolerance limit defined in Customizing, the system blocks the invoice for payment.


4. Simulate the invoice. Which postings are made?

Item	Account	Amount
001		
002		
003		
004		
005		
006		
007		
008		

Post the invoice.

Continued on next page


Invoice number: _____

- a) Choose  *Simulate*. A dialog box appears in which you see the account movements that will take place when the invoice is posted.

Item	Account	Amount
001	Vendor account	7,095.00 -
002	GR/IR clearing account	1,000.00
003	GR/IR clearing account	5,000.00
004	Freight clearing account	100.00
005	Stock account	50.00
006	Freight clearing account	100.00
007	Stock account	200.00
008	Tax account	645.00

- b) Choose  *Post*. A message appears displaying the document number.

5. Display the PO history. How are the delivery costs displayed?

- a) Choose *Logistics* → *Materials Management* → *Purchasing* → *Purchase Order* → *Display* from the SAP Easy Access menu to display the purchase order.
- b) Choose  *Other Purch. Order*, enter the purchase order number, and choose *Other Document*.

The planned delivery costs are listed as a separate item.

Task 2: Unplanned Delivery Costs

In the following invoice, the vendor added unplanned freight costs.

Continued on next page

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Rechnungsnummer: Invoice:			
This invoice refers to your purchase order number 41515092##			
T-M15B##	Flat gasket	100 pcs	5000 EUR
T-M15C##	Packing gasket	50 pcs	1000 EUR
	Freight (flat rate)		440 EUR
			6440 EUR
	Tax: 10 %		644 EUR
	Invoice amount:		7084 EUR


Figure 163: Invoice 8002##

1. Enter this invoice in Logistics Invoice Verification. The freight costs are unplanned delivery costs.
 - a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
 - b) You enter the following data on the *Basic data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	8002##
Amount	7084
Tax amount	644

- c) You enter the purchase order number as the allocation:

Field name or data type	Values
Purchase order/scheduling agreement	41515092##

- d) Select *Goods/services* and choose  *Enter*. In this item list, only the material items are proposed for settlement.

Continued on next page

2. Where do you enter unplanned delivery costs?

- a) You enter the unplanned delivery costs in the header data on the *Details* tab page:

Field name or data type	Values
Unpl. del. csts	440

3. What does the way in which the system posts unplanned delivery costs depend on?

- a) In Customizing for *Logistics Invoice Verification* under *Incoming Invoice* → *Configure How Unplanned Delivery Costs Are Posted*, you can configure for each company code whether the unplanned delivery costs are distributed to the invoice items or whether they are posted in a separate posting line.

4. Simulate the invoice. What is the ratio that the system uses to apportion the delivery costs? How is the ratio determined?


Fill in the table.

Item	Account	Amount
001		
002		
003		
004		
005		
006		

Post the invoice.

Continued on next page

Invoice number: _____


- a) Choose  *Simulate*. A dialog box appears in which you see the account movements that will take place when the invoice is posted.

Item	Account	Amount
001	Vendor account	7,084.00 -
002	GR/IR clearing account	5,000.00
003	Stock account	400.00
004	GR/IR clearing account	1,000.00
005	Stock account	40.00
006	Tax account	644.00


- b) Choose *Back*.
- c) To analyze the invoice items, choose *Show PO Structure*.

In item 20, 5000 EUR have already been invoiced. The current invoice is for another 5000 EUR. The total is therefore 10,000 EUR. In item 30, nothing has been invoiced yet, and the current invoice is for 1000 EUR.

This results in the ratio 10:1 for the distribution of the unplanned delivery costs.

- d) Choose  *Post*. A message appears displaying the document number.
5. Display the invoice and go to the purchase order history. Are the unplanned costs displayed?

Continued on next page

- a) To display the invoice document you can either choose:
- Logistics -> → Materials Management → Logistics Invoice Verification → Further Processing → Display Invoice Document*
- Choose  *Display Doc.* to see the last posted document.
- or choose:
- Logistics → Materials Management → Logistics Invoice Verification → Document Entry → Enter Invoice*
- Choose *Invoice Document → Display* to see the last posted document.
- b) To go to the purchase order, double-click on the PO number in the item list. In the item detail of the purchase order, choose the *Purchase Order History* tab page. The unplanned delivery costs are not listed as a separate item; you cannot differentiate between them and price differences.

Task 3: Settlement of Delivery Costs Only

A forwarding agent sends the following invoice for unplanned delivery costs.

Invoice	
Spedition Gruber	(Vendor T-K515C##)
Invoice date:	[Current date]
Invoice:	8003##
This invoice refers to your purchase order number 41515093##	
Additional delivery costs – Rush order	180 EUR
<hr/>	
Tax: 10 %	<u>18 EUR</u>
Invoice amount:	198 EUR

Figure 164: Invoice 8003##

- Enter the invoice as a **subsequent debit** due to unplanned delivery costs. The delivery costs refer to all the invoice items.
 - Logistics → Materials Management → Logistics Invoice Verification → Document Entry → Enter Invoice*

Continued on next page

- b) You enter an invoice that contains only unplanned delivery costs as a subsequent debit. For this reason, select the *transaction* **Subsequent debit**.


Field name or data type	Values
Transaction	Subsequent debit

- c) Enter the following data on the *Basic Data* tab page:


Field name or data type	Values
Document date	<Today's date>
Reference	8003##
Amount	198
Tax amount	18

- d) On the *Details* tab page, enter the *unplanned delivery costs*.

Field name or data type	Values
Unpl. del. csts	180

- e) Enter the purchase order number as the allocation and choose  *Enter*.

Field name or data type	Values
Purchase order/scheduling agreement	41515093##

- f) In the Item List area, choose  *Select All* to select all items.

2. Note that the invoicing party is different to the order vendor. Where do you enter the different invoicing party?

Continued on next page

- a) In the vendor data, you see that the proposed vendor does not match the invoicing party.

You enter the different invoicing party on the *Details* tab page:

Field name or data type	Values
Inv. party	T-K515C##

- b) Choose *Enter* to confirm your changes and then again to confirm the subsequent information message.
3. Under what conditions can you post an invoice for delivery costs only using unplanned delivery costs?

Answer: You can only post invoices containing only unplanned delivery costs with a reference to a purchase order, if at least one other invoices has already been posted for the purchase order.


4. Simulate the postings. Fill in the table.

Item	Account	Amount
001		
002		
003		
004		
005		
006		

Post the invoice.

Continued on next page

Invoice number: _____

- a) Choose  *Simulate*. A dialog box appears in which you see the account movements that will take place when the invoice is posted.

Item	Account	Amount
001	Vendor account	198.00 -
002	GR/IR clearing account	15.00
003	Stock account	15.00
004	Stock account	60.00
005	Stock account	90.00
006	Tax account	18.00

The system apportions unplanned delivery costs in the ratio of the values invoiced so far. You can see these values at a glance in the PO structure:

200 EUR : 400 EUR: 600 EUR

The system splits the 30 EUR for the first item, because only half of the quantity to be debited has been delivered. For this reason, 15 EUR is posted to the GR/IR clearing account and 15 EUR to the stock account.

- b) Choose  *Post*. A message appears displaying the document number.



Lesson Summary

You should now be able to:

- Enter planned delivery costs for an invoice
- Enter unplanned delivery costs so that they are apportioned to the items

Lesson: Invoices Without Reference to Purchase Orders



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Lesson Duration: 45 Minutes

Lesson Overview

In Logistics Invoice Verification, invoices are usually entered with reference to purchase orders. You can also post individual invoice items or complete invoices without reference to a purchase order. This lesson explains the required Customizing settings and the procedure for data entry in this case.



Lesson Objectives

After completing this lesson, you will be able to:

- Add items without reference to a purchase order to an invoice
- Enter an invoice without reference to a purchase order



For more information, see the Instructor Guide in SAPNet.

Business Example

Some invoices contain items that cannot be allocated to a purchase order. Sometimes, material is procured for consumption without creating a purchase order, or materials incur maintenance costs without a purchase order being created for the maintenance service.

As of SAP R/3 4.6C, in Logistics Invoice Verification, you can also post invoices that do not refer to a purchase order or to a delivery.

In contrast to invoices with a reference, the system does not propose any default values for the invoice items, because it cannot determine any PO items and posted goods receipts for this invoice. When you enter the invoice, you have to specify the accounts to which the offsetting postings for the vendor line are to be made. The SAP system offers you the following options:

- Posting to a G/L account
- Posting to a material account

If you permit direct posting to G/L and material accounts in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Incoming Invoice* → *Activate Direct Posting to G/L Accounts and Material Accounts*, the invoice items area will contain three tab pages:

- One for the PO reference
- One for direct posting to G/L accounts
- One for direct posting to material accounts



	G/L acct	D/C	Amount in doc. curr.	T	Cost center
		Debit		11	
		Debit		11	
		Debit		11	
		Debit		11	
		Debit		11	
		Debit		11	

Figure 165: Invoice Items Without Reference to Purchase Orders: G/L Account

You post to G/L accounts if, for example, amounts are settled for freight costs but you do not want to add these to the material or costs accounts for the invoice items.

On the G/L account tab page you can select different display variants to obtain the relevant account assignment fields in the item list.

When posting directly to a G/L account, no posting is made to a GR/IR clearing account. The system posts manually entered G/L account lines directly to the G/L account specified.



PO reference		G/L account		Material			
Material	Plant	Val. type	D/C	Amount	Qty	Tax code	
			D			11 (l...	
			D			11 (l...	
			D			11 (l...	
			D			11 (l...	
			D			11 (l...	
			D			11 (l...	
			D			11 (l...	

Figure 166: Invoice Items Without Reference to Purchase Orders: Material

If you have activated *direct posting to material accounts* in Customizing for Logistics Invoice Verification, you can enter invoice lines without a PO reference on the *Material* tab page. These lines are then posted to the given material when you post the invoice.

You post to material accounts if, for example, you want to post a subsequent credit or debit to a material, without an existing PO reference.

When posting directly to a material, no posting is made to a GR/IR clearing account. The system posts manually entered material lines directly to the stock account or price difference account, depending on price control and stock coverage.



Header

Basic data 1

Invoice date _____

Posting date _____

Amount/Currency _____

Tax amount _____

Tax indicator _____

Payment 2

Baseline date _____

Payment terms _____

Details 3

Invoicing party _____

Items

G/L account

G/L acct	Amount	Account

Material

Material	Plant	Amount	Qty

Figure 167: Creating Invoices Without Reference to Purchase Orders

When you create an invoice containing only items without reference to a PO, the system cannot copy any information (such as currency or invoicing party) from the purchase order. This means that in addition to the document date and the amount, you first have to enter the following information in the header data:

1. On the *Basic data* tab page: Currency
2. On the *Payment* tab page: Baseline payment date
3. On the *Detail* tab page: Invoicing party

Finally, you enter the item data on the *G/L Account* and *Material* tab pages.



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Exercise 20: Invoices Without Reference to Purchase Orders

Exercise Duration: 20 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Post an invoice containing items without reference
- Post an invoice without reference

Business Example

Your company receives invoices containing items that cannot be allocated to a purchase order.

Task 1: Additional Items Without Reference to Purchase Orders

You receive the following invoice from Sapsota Company Limited. In addition to the items with reference to a purchase order, the invoice contains lines without reference.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Today's date – 7 days]		
Invoice number:	1601##		
Invoice for your purchase order 41515161##			
T-M15A##	Slugs for cast iron spiral casings	100 pcs	1000 EUR
T-M15C##	Packing gaskets	100 pcs	2000 EUR
Shipping costs, flat rate			10 EUR
Additional costs arising from quality checks:			
Slugs for cast iron spiral casings, flat rate			50 EUR
Packing gaskets, flat rate			50 EUR
			3110 EUR
Tax: 10 % VAT			311 EUR
Invoice amount			3421 EUR

Figure 168: Invoice 1601##

1. Enter the header data and the items with reference to a purchase order. Change the system default values according to the vendor invoice.



Hint: No planned delivery costs are invoiced.

2. Post the shipping costs directly to the G/L account for unplanned delivery costs (**231600**).
3. Post the costs for quality checks directly to both materials. Enter **plant 1000**.
4. Simulate the postings that will take place. Fill in the table.

Continued on next page

Item	Account	Amount
001		
002		
003		
004		
005		
006		
007		

Post the document.

Invoice number: _____

Task 2: Invoices Without Reference to Purchase Orders

Occasionally, you receive an invoice for which there is no purchase order. The following invoice is for upgrading one of your materials. The freight costs are to be posted to a separate account.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	1603##		
Rechnung zu Ihrer Bearbeitung			
T-M15E##	Upgrade of HD braking system	500 pcs	600 EUR
	Freight		450 EUR
			1050 EUR
	Tax: 10 %		105 EUR
	Invoice amount:		1155 EUR
Payment: Within 14 days of invoice issue 2% discount, within 30 days net.			

Figure 169: Invoice 1603##

1. Enter the header data from the invoice. The base date is today's date.

Continued on next page

2. Post the freight costs to account **231600**, and the costs for material T-M13E## in plant **1000** directly to the material.
3. Simulate the postings that will take place. Fill in the table.

Item	Account	Amount
001		
002		
003		
004		

Post the document.

Invoice number: _____

Solution 20: Invoices Without Reference to Purchase Orders

Task 1: Additional Items Without Reference to Purchase Orders

You receive the following invoice from Sapsota Company Limited. In addition to the items with reference to a purchase order, the invoice contains lines without reference.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Today's date – 7 days]		
Invoice number:	1601##		
Invoice for your purchase order 41515161##			
T-M15A##	Slugs for cast iron spiral casings	100 pcs	1000 EUR
T-M15C##	Packing gaskets	100 pcs	2000 EUR
Shipping costs, flat rate			10 EUR
Additional costs arising from quality checks:			
Slugs for cast iron spiral casings, flat rate			50 EUR
Packing gaskets, flat rate			50 EUR
			3110 EUR
Tax:	10 % VAT	311 EUR	
Invoice amount			3421 EUR

Figure 170: Invoice 1601##

1. Enter the header data and the items with reference to a purchase order. Change the system default values according to the vendor invoice.



Hint: No planned delivery costs are invoiced.

- a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
- b) Change the transaction to *Invoice*.
- c) Enter the following data on the *Basic Data* tab page:

Continued on next page

Field name or data type	Values
Document date	<Today's date>
Reference	1601##
Amount	3421
Tax amount	311

- d) Enter the purchase order number as the allocation.

Field name or data type	Values
Purchase order/scheduling agreement	41515161##

Specify also that only *goods/services items* are to be displayed:

- e) Check the invoice items with reference to a PO and change the default values according to the data in the vendor invoice.
2. Post the shipping costs directly to the G/L account for unplanned delivery costs (**231600**).
- a) To enter the G/L account items, choose the *G/L account* tab page. Enter the following data:

Field name or data type	Values
G/L account	231600
Amount	10
Tax code	1I

Continued on next page


3. Post the costs for quality checks directly to both materials. Enter **plant 1000**.

- a) To enter the material items, choose the *Material* tab page. You enter the following data:

Field name or data type	Values
Material	T-M15A##
Plant	1000
Amount	50
Quantity	100
Tax code	1I

and

Field name or data type	Values
Material	T-M15C##
Plant	1000
Amount	50
Quantity	100
Tax code	1I

- b) Choose  *Enter* to confirm your entries.



Hint: Please note that the material items do not have to be selected.


4. Simulate the postings that will take place. Fill in the table.

Continued on next page

Item	Account	Amount
001		
002		
003		
004		
005		
006		
007		

Post the document.

Invoice number: _____

- a) Choose  *Simulate*. A dialog box appears in which you see the account movements that will take place when the invoice is posted.

Item	Account	Amount
001	Vendor account	3,421.00 -
002	GR/IR clearing account	1,000.00
003	GR/IR clearing account	2,000.00
004	Stock account	50.00
005	Stock account	50.00
006	G/L account 231600	10.00
007	Tax account	311.00

- b) Choose  *Post*. A message appears displaying the document number.

Task 2: Invoices Without Reference to Purchase Orders

Occasionally, you receive an invoice for which there is no purchase order. The following invoice is for upgrading one of your materials. The freight costs are to be posted to a separate account.

Continued on next page

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	1603##		
Rechnung zu Ihrer Bearbeitung			
T-M15E##	Upgrade of HD braking system	500 pcs	600 EUR
	Freight		450 EUR
			1050 EUR
Tax:	10 %		105 EUR
Invoice amount:			1155 EUR
Payment: Within 14 days of invoice issue 2% discount, within 30 days net.			

Figure 171: Invoice 1603##

1. Enter the header data from the invoice. The base date is today's date.
 - a) Enter the following data on the *Basic Data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	1603##
Amount	1155
Currency	EUR
Tax amount	105

- b) Enter the following data on the *Payment* tab page:

Field name or data type	Values
Baseline date	<Today's date>
Days / Percentage	14 / 2
Days / Percentage	30 / -

- c) Enter the following data on the *Details* tab page:

Continued on next page

Field name or data type	Values
Invoicing party	T-K515A##

2. Post the freight costs to account **231600**, and the costs for material T-M13E## in plant **1000** directly to the material.
- a) To enter the G/L account items, choose the *G/L account* tab page. Enter the following data:

Field name or data type	Values
G/L account	231600
Amount	450

- b) To enter the material items, choose the *Material* tab page. You enter the following data:

Field name or data type	Values
Material	T-M15E##
Plant	1000
Amount	600
Quantity	500


3. Simulate the postings that will take place. Fill in the table.

Item	Account	Amount
001		
002		
003		
004		

Post the document.

Continued on next page

Invoice number: _____

- a) Choose  *Simulate*. A dialog box appears in which you see the account movements that will take place when the invoice is posted.

Item	Account	Amount
001	Vendor account	1,155.00 -
002	Price difference account	600.00
003	G/L account 231600	450.00
004	Tax account	150.00

- b) Choose  *Post*. A message appears displaying the document number.



Lesson Summary

You should now be able to:

- Add items without reference to a purchase order to an invoice
- Enter an invoice without reference to a purchase order

Lesson: Credit Memos and Reversals



429

Lesson Duration: 45 Minutes

Lesson Overview

This lesson deals with the function for entering vendor credit memos. You need to specify whether you receive a credit memo to correct the calculated quantity or to correct the price in the invoice. If you need to correct a data entry error, you must cancel the invoice or credit memo.



Lesson Objectives

After completing this lesson, you will be able to:

- Enter a credit memo referencing a purchase order
- Reverse an invoice document
- Enter a subsequent credit



For more information, see the Instructor Guide in SAPNet.

Business Example

The accounting group has to correct occasional data entry errors by reversing a posted invoice.

Credit memos and subsequent credits can be used to adjust the amount due to the vendor.

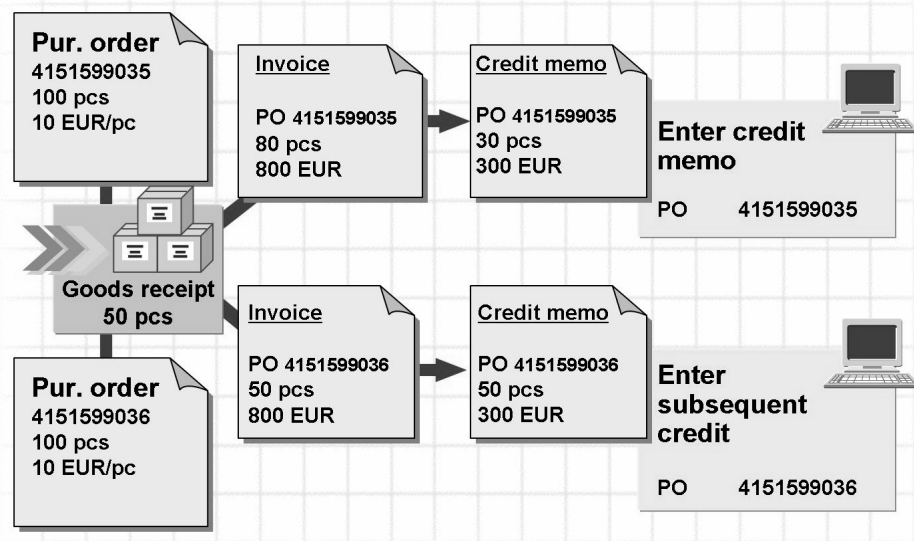


Figure 172: Credit Memos

You usually receive a credit memo from a vendor if you were overcharged.

As is the case for invoices, credit memos refer to purchase orders or goods receipts.

We differentiate between the transactions *Credit Memo* and *Subsequent Credit*:

- You post a **credit memo** if too large an amount has been invoiced. When you post the credit memo, the total invoiced quantity in the PO history is reduced by the credit memo quantity. The maximum quantity you can make a credit for is the quantity that has already been invoiced.
In the same way as the corresponding goods receipt is expected or posted for the invoice, in the case of a credit memo, the system assumes that the credit memo belongs to a return delivery or reversal of the goods receipt. This means that the credit memo is settled using the GR/IR clearing account.
- You post a **subsequent credit** if the price in the invoice is too high. The total quantity invoiced for the purchase order item remains the same, but the total value invoiced is reduced.

The account movements made when you post a credit memo or subsequent credit are made according to the same rules as when you post an invoice or subsequent debit. The system posts to the same accounts, but with the opposite +/- sign next to the entry.

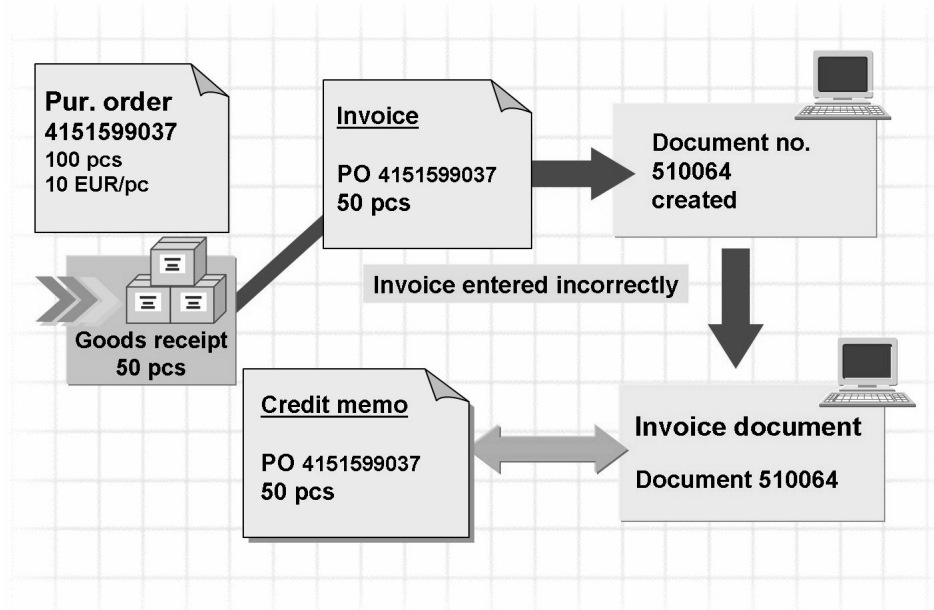


Figure 173: Cancelling Invoices

Invoice documents, either invoices or credit memos, can be subsequently canceled if, for example, they were posted incorrectly. There are two separate cases:

- If you cancel an invoice, the system automatically generates a credit memo.
- If you cancel a credit memo, the system automatically generates an invoice.

When you reverse an invoice, the system automatically creates a credit memo based on the data in the invoice document. The system automatically determines the credit memo amount and quantity from the invoice. This avoids any variances between the invoice and the credit memo.

When you reverse an invoice, the account movements made when the invoice was posted cannot always simply be reversed. For example, if there was sufficient stock coverage when you posted an invoice with a price variance for a material with moving average price, but when you reverse the invoice there is insufficient stock coverage, the system posts the price difference in the credit memo to a price difference account, although the price variance was debited to the stock account when you posted the invoice.

When you reverse an invoice, all items in the document are reversed. You can reverse “part of an invoice” only by manually entering a credit memo.

You cannot reverse a reversal document.

When canceling invoices in Logistics Invoice Verification, the document lines in Financial Accounting are not automatically cleared. SAP recommends running this periodically (for example, daily in the background).



Exercise 21: Credit Memos and Reversals

Exercise Duration: 25 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Enter credit memos with reference to a purchase order
- Reverse invoice documents
- Enter subsequent credits

Business Example

The accounting group occasionally has to correct data entry errors by reversing a posted invoice.

You can use subsequent credits in the same way as subsequent debits to adjust the amount due to the vendor.

Task 1: Invoices with Variances

This invoice arrived a week ago.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date – 7 Tage]		
Invoice:	1501##		
This invoice refers to your purchase order number 41515111##			
T-M15A##	Slugs for cast iron spiral casing	100 pcs	1000 EUR
T-M15B##	Flat gaskets	100 pcs	4750 EUR
T-M15C##	Packing gaskets	100 pcs	1980 EUR
T-M15D##	Locking ring	100 pcs	600 EUR
			8330 EUR
Tax:	10 %		833 EUR
Invoice amount:			9163 EUR

Figure 174: Invoice 1501##

1. Enter the invoice in accordance with the vendor's specifications and post it despite the differences. Overwrite the system default values.

Continued on next page

Invoice: _____ (blocked for payment)

Task 2: Credit Memo

The vendor has discovered that he is no longer able to supply the 30 spiral casings that have already been invoiced for purchase order 41515111##. Therefore, he sends a credit memo.

Credit Memo			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	1502##		
This credit memo is in reference to your purchase order 41515111## (Invoiced quantity reduced)			
T-M15A##	Slugs for cast iron spiral casing	30 pcs	300 EUR
Tax: 10 %			30 EUR
Total credit			<u>330 EUR</u>

Figure 175: Credit Memo 1502##

1. Enter the credit memo. Which items does the system propose? What are the proposed quantities and values?

2. Simulate the document. Which account movements will take place? Fill in the table.

Item	Account	Amount
001		
002		
003		

Post the credit memo.

Document number: _____

Continued on next page

3. Display the credit memo document and go to the purchase order history. How is the credit memo displayed in the PO history?

4. The credit memo means that the blocking reason in the first invoice item in exercise 1 is no longer valid. Does the system automatically delete the blocking reason when you post the credit memo?

Task 3: Subsequent Credit

In the last invoice item in exercise 1, the price used as a basis is too high. You informed the vendor about this. The vendor sends you the following credit memo because their company made the error.

Credit Memo			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	1503##		
This credit memo is in reference to your purchase order 41515111## (Invoice amount corrected)			
T-M15D##	Locking ring	100 pcs	100 EUR
Tax: 10 %			10 EUR
Total credit			<u>110 EUR</u>

Figure 176: Credit Memo 1503##

1. Enter the credit memo. Why do you have to enter this credit memo as a **subsequent credit**?

2. Which items does the system propose? What are the proposed quantities and values?

Continued on next page

Select the item that should be credited. Enter the amount into the item list. Confirm your changes.

3. Simulate the document. Which account movements will take place? Fill in the table.

Item	Account	Amount
001		
002		
003		

Post the credit memo.

Document number: _____

Solution 21: Credit Memos and Reversals

Task 1: Invoices with Variances

This invoice arrived a week ago.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date – 7 Tage]		
Invoice:	1501##		
This invoice refers to your purchase order number 41515111##			
T-M15A##	Slugs for cast iron spiral casing	100 pcs	1000 EUR
T-M15B##	Flat gaskets	100 pcs	4750 EUR
T-M15C##	Packing gaskets	100 pcs	1980 EUR
T-M15D##	Locking ring	100 pcs	600 EUR
			8330 EUR
Tax:	10 %		833 EUR
Invoice amount:			9163 EUR

Figure 177: Invoice 1501##

1. Enter the invoice in accordance with the vendor's specifications and post it despite the differences. Overwrite the system default values.

Continued on next page

Invoice: _____ (blocked for payment)

- a) *Logistics* → *Materials Management* → *Invoice Verification* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
- b) Enter the following data on the *Basic Data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	1501##
Amount	9163
Tax amount	833

- c) Enter the purchase order number as the allocation:

Field name or data type	Values
Purchase order/scheduling agreement	41515111##

- d) On the item list, change the quantities and values as specified in the invoice and post the invoice.

Continued on next page

Task 2: Credit Memo

The vendor has discovered that he is no longer able to supply the 30 spiral casings that have already been invoiced for purchase order 41515111##. Therefore, he sends a credit memo.

Credit Memo			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	1502##		
This credit memo is in reference to your purchase order 41515111## (Invoiced quantity reduced)			
T-M15A##	Slugs for cast iron spiral casing	30 pcs	300 EUR
Tax: 10 %			30 EUR
Total credit			330 EUR

Figure 178: Credit Memo 1502##

1. Enter the credit memo. Which items does the system propose? What are the proposed quantities and values?


Continued on next page

- a) *Logistics* → *Materials Management* → *Invoice Verification* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
- b) To enter a credit memo, choose the transaction *Credit memo*.
- c) Enter the following data on the *Basic Data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	1502##
Amount	330
Tax amount	30

- d) Enter the purchase order number as the allocation:

Field name or data type	Values
Purchase order/scheduling agreement	41515111##

- e) Choose  *Enter*. The system makes the allocation.
The system proposes the total invoiced quantity and the total invoice value in the individual items.
- f) Change the proposed quantity and value in item 1.

Field name or data type	Values
Quantity	30
Amount	300


- g) Deselect items 2 through 4.
- h) Confirm your changes by choosing *Enter*.
2. Simulate the document. Which account movements will take place? Fill in the table.

Continued on next page


Item	Account	Amount
001		
002		
003		

Post the credit memo.

Document number: _____


- a) Choose  *Simulate*. A dialog box appears in which you see the account movements that will take place when the invoice is posted.

Item	Account	Amount
001	Vendor account	330.00
002	GR/IR clearing account	300.00 -
003	Tax account	30.00 -

- b) Choose  *Post*. A message appears displaying the document number.
3. Display the credit memo document and go to the purchase order history. How is the credit memo displayed in the PO history?

- a) To display the invoice document you can either choose:

Logistics → *Materials Management* → *Logistics Invoice Verification*
 -> → *Further Processing* → *Display Invoice Document*

Choose  *Display document* to see the last posted document.

or choose:

Logistics → *Materials Management* → *Logistics Invoice Verification*
 → *Document Entry* → *Enter Invoice*

Choose *Invoice Document* → *Display* to see the last posted document.

- b) To go to the purchase order, double-click on the PO number in the item list. In the item detail of the purchase order, choose the *Purchase Order History* tab page. The credit memo is displayed in the same way as an invoice. You can only identify that a document is a credit memo by the +/- sign next to the entry.

Continued on next page

4. The credit memo means that the blocking reason in the first invoice item in exercise 1 is no longer valid. Does the system automatically delete the blocking reason when you post the credit memo?

Answer: Posting the credit memo does not automatically delete the blocking reason in the invoice. The blocking reason is deleted when you execute the automatic release function.

Task 3: Subsequent Credit

In the last invoice item in exercise 1, the price used as a basis is too high. You informed the vendor about this. The vendor sends you the following credit memo because their company made the error.

Credit Memo			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	1503##		
This credit memo is in reference to your purchase order 41515111## (Invoice amount corrected)			
T-M15D##	Locking ring	100 pcs	100 EUR
Tax: 10 %			10 EUR
Total credit			<u>110 EUR</u>

Figure 179: Credit Memo 1503##

1. Enter the credit memo. Why do you have to enter this credit memo as a **subsequent credit**?

Continued on next page

- a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Document Entry* → *Enter Invoice*
- b) Since the credit memo corrects only the total invoiced value, not the total invoiced quantity, you enter it as a subsequent credit. To do this, change the transaction.


Field name or data type	Values
Transaction	Subsequent credit

- c) Enter the following data on the *Basic Data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	1503##
Amount	110
Tax amount	10

- d) Enter the purchase order number as the allocation:

Field name or data type	Values
Purchase order/scheduling agreement	41515111##

- e) Choose  *Enter*. The system makes the allocation.
2. Which items does the system propose? What are the proposed quantities and values?

Continued on next page

Select the item that should be credited. Enter the amount into the item list. Confirm your changes.

- a) In the individual items, the system proposes the total invoiced quantity without an amount; no items are selected.
- b) Select the fourth item and enter the amount.


Field name or data type	Values
Amount	100

3. Simulate the document. Which account movements will take place? Fill in the table.

Item	Account	Amount
001		
002		
003		

Post the credit memo.

Document number: _____

- a) Choose  *Simulate*. A dialog box appears in which you see the account movements that will take place when the invoice is posted.

Item	Account	Amount
001	Vendor account	110.00
002	Stock account	100.00 -
003	Tax account	10.00 -

- b) Choose  *Post*. A message appears displaying the document number.



Lesson Summary

You should now be able to:

- Enter a credit memo referencing a purchase order
- Reverse an invoice document
- Enter a subsequent credit



Unit Summary

You should now be able to:

- Enter additional costs as a subsequent debit
- Explain the account movements made in the case of a subsequent debit
- Enter planned delivery costs for an invoice
- Enter unplanned delivery costs so that they are apportioned to the items
- Add items without reference to a purchase order to an invoice
- Enter an invoice without reference to a purchase order
- Enter a credit memo referencing a purchase order
- Reverse an invoice document
- Enter a subsequent credit

Unit 8



Automated Processes in Invoice Verification



For more information, see the Instructor Guide for the course SCM515 in the Corporate Portal.

In some cases, time constraints may mean it is necessary to omit the exercises for this unit.

Unit Overview

In the SAP system, invoices can be posted either manually or automatically. This unit covers invoice verification in the background and evaluated receipt settlement as options available for simplifying invoice entry.



Unit Objectives

After completing this unit, you will be able to:

- Enter invoices in the background
- Use the invoice overview functions
- Perform evaluated receipt settlement and display the corresponding log
- Describe the EDI process

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Lesson: Invoice Verification in the Background



Lesson Duration: 60 Minutes

Lesson Overview

This lesson demonstrates a form of invoice verification that is most suited to invoices with a large number of items. For this type of invoice verification, you enter only the header and allocation details without any item details. The invoice is verified in the background using a specific program.



Lesson Objectives

After completing this lesson, you will be able to:

- Enter invoices in the background
- Use the invoice overview functions



For more information, see the Instructor Guide in SAPNet.

Business Example

For your lengthiest invoices with hundreds of line items, the system should compare the total invoice amount to the expected amount from the purchase order using background processing.

For invoice verification in the background, you enter only header data such as invoice date, reference, invoice amount, currency, tax information, and unplanned delivery costs. You also assign the incoming invoice to one or more purchasing documents or to a vendor. The data and allocation are saved. However, no item list is generated, which means that the document does not contain any items.

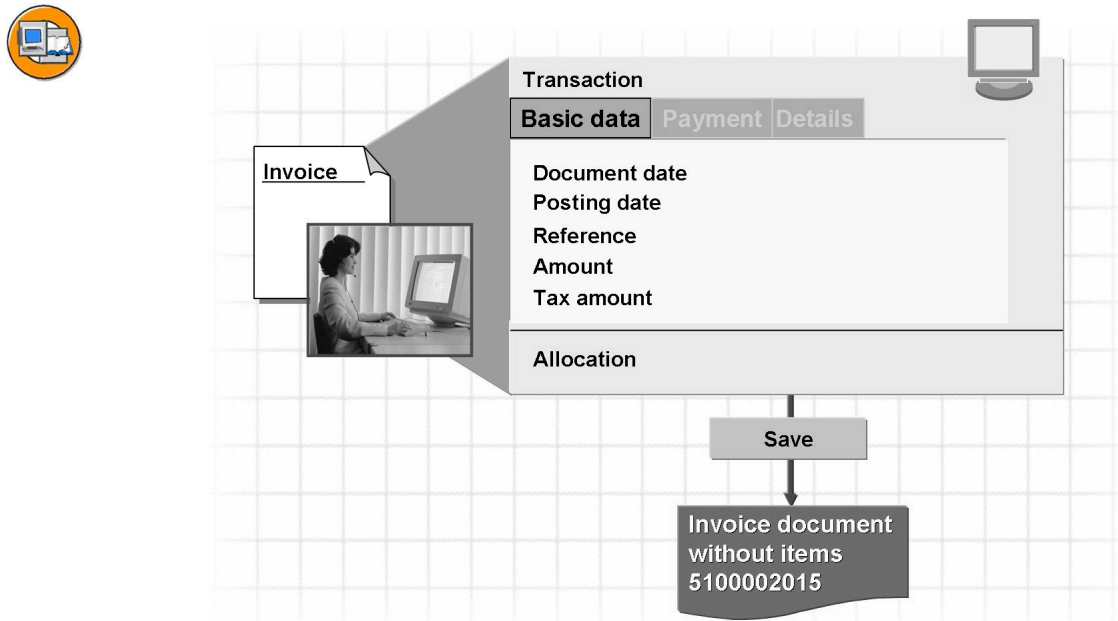


Figure 180: Invoice Verification in the Background

First, the settlement program, which can be regularly started in the background, creates the items for this invoice document and checks the accuracy of the invoice with regards to accounting.

Background processing uses the same logic as online Invoice Verification. Therefore, the system takes into account the settings in Customizing for automatic invoice reduction or automatic acceptance.

Invoice verification in the background is suitable for the following transactions, for example:

- Posting invoices with mass data for which no verification should take place at item level.
- Posting invoices that refer to transactions not yet entered in the system

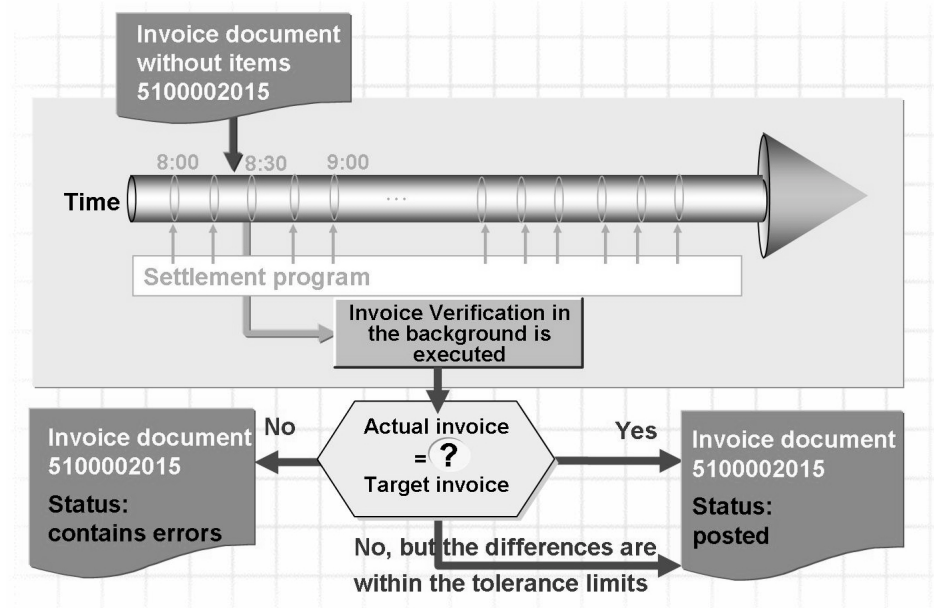


Figure 181: Invoice Verification in the Background - Process Flow

The settlement program uses the saved allocation to generate the items for the invoice document. On the basis of the quantities and values to be invoiced, the system checks whether the total of the item amounts and the amounts already saved (gross invoice amount, tax amounts, and unplanned delivery costs) results in a zero balance or whether the balance falls within the configured tolerances.

If the **net total is equal to the gross invoice amount - tax amount (+/- tolerance)**, the invoice is posted in the background.

If the **net total is not equal to the gross invoice amount - tax amount (+/- tolerance)**, the invoice is not posted in the background. The header data and the items determined in the background are saved. The saved document must then be processed manually.

Invoice verification in the background is performed using program **RMBABG00**. Your system administrator can define jobs that regularly start the background processing program for Invoice Verification (for example: every fifteen minutes or every evening at 20:00).

It makes sense to use a settlement run in the evening in the following cases:

- You receive an invoice at the same time as a delivery. The goods receipt will probably be entered in the course of the day, but not immediately. You cannot check the invoice referencing the delivery note online, because the delivery has not yet been entered. You expect the goods receipt to be entered by that evening at the latest.
- The invoices contain many items for the same materials. To prevent system locks and avoid slowing down system performance during the day, you want the system to post the invoice in the background during the night.

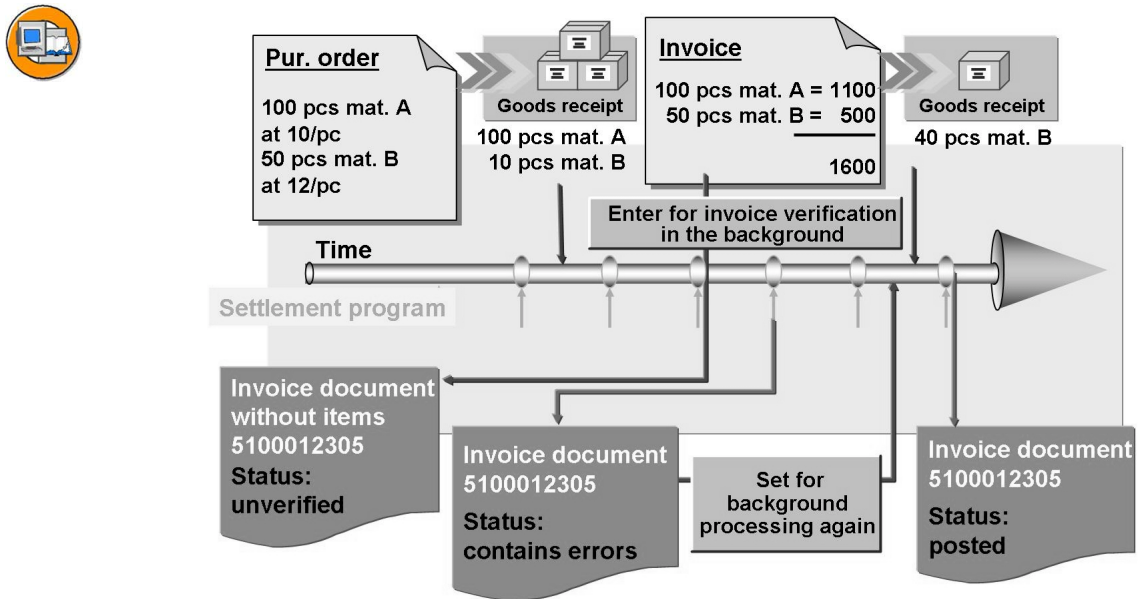


Figure 182: Invoice Verification in the Background – Example

The status of an invoice tells you how far the processing for the invoice has progressed.

When you enter an invoice for verification in the background, the document receives the status *Planned for Background Verification*.

When you next run the settlement program, the system creates the item list and tries to post the invoice document with the suggested quantities and values. In the above example, this is not possible because you have only received part of the order for material B. The system therefore determines that there is a difference between the expected invoice amount ($100 \times 10 + 10 \times 12 = 1120$) and the actual invoice amount (1600). Therefore, the invoice document receives the status *Verified as Incorrect*.

When the accounts payable clerk processes the invoice document, he or she manually reschedules the invoice for processing in the background. This means that the document has the status *Planned for Background Verification* again.

When you next run the program, the system tries again to post the invoice. In the above example, since another goods receipt has been posted in the meantime, the expected invoice amount is now $100 \times 10 + 50 \times 12 = 1600$. There is therefore no difference between the expected invoice amount and the actual invoice amount. The invoice document is posted with the suggested quantities and values of the individual items. As shown in the above example, differences can cancel each other out without being noted.

Whether the invoice document receives the status *Correct (Posted, Not Completed)* or *Posted* after it has been posted in the background depends on the settings made in Customizing. In Customizing for *Materials Management* under *Logistics Invoice Verification* → *Invoice Verification in Background* → *Define Automatic Status Change*, you can specify whether an invoice posted in the background receives the status *Correct* or *Posted*.

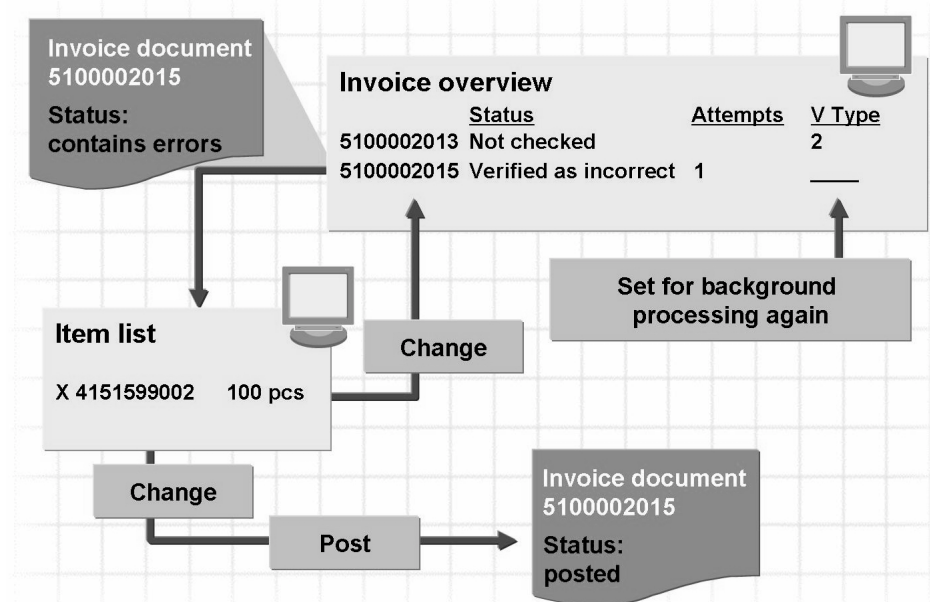


Figure 183: Processing Invoices Verified as Incorrect

After verification in the background, there may be other tasks to perform. An invoice verified as incorrect must be processed manually by an invoice verification clerk. Documents with the status *Correct* must be changed manually to the status *Posted*.

To check which documents were posted in the background, and which need to be processed further, you can generate a list of documents that you can use to go to the individual documents. You can then display, change, or delete them as necessary. From the *SAP Easy Access* screen, choose *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Further Processing* → *Invoice Overview*.

You have the following options when processing an invoice document manually:

- Schedule the invoice document for Invoice Verification in the background without making any changes.
- Change the invoice document and post it online.
- Change the invoice document and reschedule it for Invoice Verification in the background.

The system creates an error log for an invoice document that contains errors, indicating why it could not post the invoice document. If you do not want the system to reprocess an invoice document that was verified as incorrect (for example, because it was inadvertently entered twice), you can delete this document.



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Exercise 22: Invoice Verification in the Background

Exercise Duration: 30 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Enter invoices for processing in the background
- Manually process invoices verified in the background as incorrect

Business Example

For your largest invoices with hundreds of line items, the R/3 System is to match the total invoice amount to the expected value from the purchase order and the goods receipts. If the variance is within the tolerance limits, the R/3 System should post the invoice. If the variance is too large, then you can correct the problems on the invoice overview.

Task 1: Planning Invoices for Verification in the Background

You receive several invoices that should match your purchase order data and goods receipt data. Since invoice verification in the background will save you time later, you use the transaction *Enter Invoice for Verification in Background*.

1. Schedule the following four invoices for Invoice Verification in the background. For each invoice, enter the relevant basic data and the purchase order number and make a note of the document number.



Caution: Make sure that you have selected *Invoice* as the transaction.

Select Goods/service items **without** planned delivery costs.

Continued on next page

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	1101##		
This invoice refers to your purchase order number 41515131##			
T-M15A##	Slugs for cast iron spiral casing	30 pcs	300 EUR
T-M15B##	Flat gaskets	40 pcs	2000 EUR
			2300 EUR
Tax: 10 %			230 EUR
Invoice amount:			2530EUR

Figure 184: Invoice 1101##

First invoice: _____

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	1102##		
This invoice refers to your purchase order number 41515132##			
T-M15C##	Packing gaskets	70 pcs	1050 EUR
			105 EUR
Tax: 10 %			105 EUR
Invoice amount:			1155 EUR

Figure 185: Invoice 1102##

Second invoice: _____

Continued on next page

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	1103##		
This invoice refers to your purchase order number 41515133##			
T-M15B##	Flat gaskets	200 pcs	10000 EUR
T-M15C##	Packing gaskets	50 pcs	1100 EUR
			11100 EUR
Tax: 10 %			1110 EUR
Invoice amount:			12210 EUR

Figure 186: Invoice 1103##

Third invoice: _____

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	1104##		
This invoice refers to your purchase order number 41515134##			
T-M15A##	Slugs for cast iron spiral casing	50 pcs	500 EUR
T-M15B##	Flat gaskets	200 pcs	10000 EUR
T-M15C##	Packing gaskets	300 pcs	6000 EUR
			16500 EUR
Tax: 10 %			1650 EUR
Invoice amount:			18150 EUR

Figure 187: Invoice 1104##

Fourth invoice: _____

Continued on next page

2. Display the documents entered in the *Invoice Overview* transaction. Has an invoice already been posted?
-

Task 2: Invoice Verification in the Background

Check your invoices in the background and then check the result.

1. Choose *System* → *Services* → *Reporting* and start the settlement program RMBABG00. Enter the following selection criteria:

Field name or data type	Values
Company code	1000
Vendor	T-K515A##

Has the R/3 System already posted invoices?

2. Display the documents entered on the *Invoice Overview* transaction again. What has changed?
-
-

Do any of the invoices contain errors? Which ones? Why?

Task 3: Manual Processing

Process the incorrect invoice manually.

1. You would like to correct the second invoice. In the *Invoice Overview* transaction, display the message log for the item. Why did the system not post the second invoice?
-

Accept the difference amount manually.

2. You would like to correct the third invoice. In the *Invoice Overview* transaction, display the message log for the item. Why did the system not post the third invoice?
-

Continued on next page

Go to the invoice document. To analyze the cause of the error, compare the default values to those in the vendor invoice. How can you correct the invoice?

Correct the invoice manually and post the document.

3. Why did the system not post the fourth invoice? Go to the purchase order and display the purchase order history. Compare the goods receipt quantities for the items with the quantities that the vendor wants to settle in the invoice. Would it make sense to schedule the invoice for background verification again?

Solution 22: Invoice Verification in the Background

Task 1: Planning Invoices for Verification in the Background

You receive several invoices that should match your purchase order data and goods receipt data. Since invoice verification in the background will save you time later, you use the transaction *Enter Invoice for Verification in Background*.

- Schedule the following four invoices for Invoice Verification in the background. For each invoice, enter the relevant basic data and the purchase order number and make a note of the document number.



Caution: Make sure that you have selected *Invoice* as the transaction.

Select Goods/service items **without** planned delivery costs.

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	1101##		
This invoice refers to your purchase order number 41515131##			
T-M15A##	Slugs for cast iron spiral casing	30 pcs	300 EUR
T-M15B##	Flat gaskets	40 pcs	2000 EUR
			2300 EUR
Tax: 10 %			230 EUR
Invoice amount:			2530EUR

Figure 188: Invoice 1101##

First invoice: _____

Continued on next page

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	1102##		
This invoice refers to your purchase order number 41515132##			
T-M15C##	Packing gaskets	70 pcs	1050 EUR
	Tax: 10 %		105 EUR
	Invoice amount:		1155 EUR

Figure 189: Invoice 1102##

Second invoice: _____

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	1103##		
This invoice refers to your purchase order number 41515133##			
T-M15B##	Flat gaskets	200 pcs	10000 EUR
T-M15C##	Packing gaskets	50 pcs	1100 EUR
			11100 EUR
	Tax: 10 %		1110 EUR
	Invoice amount:		12210 EUR

Figure 190: Invoice 1103##

Third invoice: _____

Continued on next page

Invoice			
Sapsota Company Limited (Vendor T-K515A##)			
Invoice date:	[Current date]		
Invoice:	1104##		
This invoice refers to your purchase order number 41515134##			
T-M15A##	Slugs for cast iron spiral casing	50 pcs	500 EUR
T-M15B##	Flat gaskets	200 pcs	10000 EUR
T-M15C##	Packing gaskets	300 pcs	6000 EUR
			16500 EUR
Tax:	10 %		1650 EUR
Invoice amount:			18150 EUR

Figure 191: Invoice 1104##

Fourth invoice: _____

- a) *Logistics* → *Materials Management* → *Logistics Invoice Verification*
→ *Document Entry* → *Enter Invoice for Invoice Verification in Background*
- b) First invoice:


Enter the following data on the *Basic Data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	1101##
Amount	2530
Tax amount	230

Enter the purchase order number as the allocation:

Field name or data type	Values
Purchase order/scheduling agreement	41515131##

Continued on next page

Choose  *Schedule Background Verification* to save the document and schedule it for verification in the background. A message appears displaying the document number.


- c) Second invoice:

Enter the following data on the *Basic Data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	1102##
Amount	1551
Tax amount	141

Enter the purchase order number as the allocation:

Field name or data type	Values
Purchase order/scheduling agreement	41515132##

Choose  *Schedule Background Verification* and make a note of the document number.

- d) Third invoice:

Enter the following data on the *Basic Data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	1103##
Amount	12210
Tax amount	1110

Enter the purchase order number as the allocation:

Field name or data type	Values
Purchase order/scheduling agreement	41515133##

Choose  *Schedule Background Verification* and make a note of the document number.

- e) Fourth invoice:


Continued on next page

Enter the following data on the *Basic Data* tab page:

Field name or data type	Values
Document date	<Today's date>
Reference	1104##
Amount	18150
Tax amount	1650

Enter the purchase order number as the allocation:


Field name or data type	Values
Purchase order/scheduling agreement	41515134##

Choose  *Schedule Background Verification* and make a note of the document number.

2. Display the documents entered in the *Invoice Overview* transaction. Has an invoice already been posted?

-
- a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Further Processing* → *Invoice Overview*.
 - b) Enter the following selection criteria:

Field name or data type	Values
User	SCM515##

- c) In the *Entry Type* area, select *Background*.
- d) In the *Invoice Status* area, select all four options.
- e) Choose  *Execute*. The system displays a list of the invoices.

No invoice has been posted yet, because the invoice has not run yet.

Task 2: Invoice Verification in the Background

Check your invoices in the background and then check the result.

1. Choose *System* → *Services* → *Reporting* and start the settlement program RMBABG00. Enter the following selection criteria:

Continued on next page

Field name or data type	Values
Company code	1000
Vendor	T-K515A##

Has the R/3 System already posted invoices?

- a) Choose *System* → *Services* → *Reporting*. The program execution screen appears. You enter the following data:

Field name or data type	Values
Program	RMBABG00

- b) Choose *Execute*. The selection criteria screen appears. You enter the following data:

Field name or data type	Values
Company code	1000
Vendor/Invoicing party	T-K515A##

- c) Choose  *Execute*. The log for the settlement program appears. Only one invoice has been posted.

2. Display the documents entered on the *Invoice Overview* transaction again. What has changed?
-
-


Do any of the invoices contain errors? Which ones? Why?

Continued on next page

- a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Further Processing* → *Invoice Overview*.

Enter the following selection criteria:

Field name or data type	Values
User	SCM515##

- b) In the *Entry Type* area, select *Background*, and in the *Invoice Status* area, select all four options.
- c) Choose  *Execute*. The system displays a list of the invoices.



The posted invoice is flagged with a green traffic light. The other invoices are flagged with a red traffic light.

Task 3: Manual Processing

Process the incorrect invoice manually.

1. You would like to correct the second invoice. In the *Invoice Overview* transaction, display the message log for the item. Why did the system not post the second invoice?

Accept the difference amount manually.



- a) Process the second invoice. To analyze the errors, you can display the message log. Choose  *Message Log*. The invoice could not be posted because the balance is not zero.
- b) To go to the invoice, choose  *Change invoice*. Compare the system default values in the item list with the values in the vendor invoice. Accept the difference amount manually. To do so, choose *Edit* → *Accept and Post*.

2. You would like to correct the third invoice. In the *Invoice Overview* transaction, display the message log for the item. Why did the system not post the third invoice?

Continued on next page

Go to the invoice document. To analyze the cause of the error, compare the default values to those in the vendor invoice. How can you correct the invoice?


Correct the invoice manually and post the document.

- a) For the third invoice, choose  *Message Log*. The invoice could not be posted because the balance is not zero.
- b) To go to the invoice, choose  *Change invoice*. Compare the system default values in the item list with the values in the vendor invoice.

The R/3 System has determined a proposed quantity and a value for purchase order item 10, but the invoice does not contain this item. Deselect this item.



There is obviously a price variance in purchase order item 30. Correct the default value to **1100** and post the invoice.

3. Why did the system not post the fourth invoice? Go to the purchase order and display the purchase order history. Compare the goods receipt quantities for the items with the quantities that the vendor wants to settle in the invoice. Would it make sense to schedule the invoice for background verification again?
-
-

- a) For the fourth invoice, choose  *Change Invoice* to go to the invoice.
- b) To go to the purchase order, double-click on the PO number in the item list. In the item detail of the purchase order, choose the *Purchase Order History* tab page. Compare the PO history data for each item with the data in the vendor invoice.

The entire quantity ordered, 300 pc, has obviously been invoiced for purchase order item 30, although a goods receipt has been posted for only 50 pieces.

Since it is possible that the outstanding goods receipt for 250 pieces will be posted before the settlement program runs again, it makes sense to have the R/3 System verify the invoice in the background again.

- c) Choose  *Back* to return to the invoice document.
- d) Choose  *Schedule background verification*.



Lesson Summary

You should now be able to:

- Enter invoices in the background
- Use the invoice overview functions

Lesson: Automatic Settlements



Lesson Duration: 45 Minutes

Lesson Overview

Logistics Invoice Verification offers various procedures for automatic settlements. This lesson covers the procedure for evaluated receipt settlement (automatic goods receipt settlement). The lesson also deals with transmission of the invoice data via EDI.



Lesson Objectives

After completing this lesson, you will be able to:

- Perform evaluated receipt settlement and display the corresponding log
- Describe the EDI process



For more information, see the Instructor Guide in SAPNet.

Business Example

To reduce paperwork and data entry errors, the accounting department wants to use evaluated receipt settlement for two vendors. Whenever goods receipts and returns are recorded, the system creates the invoices each night.

For another vendor, your company receives and processes invoices using EDI.

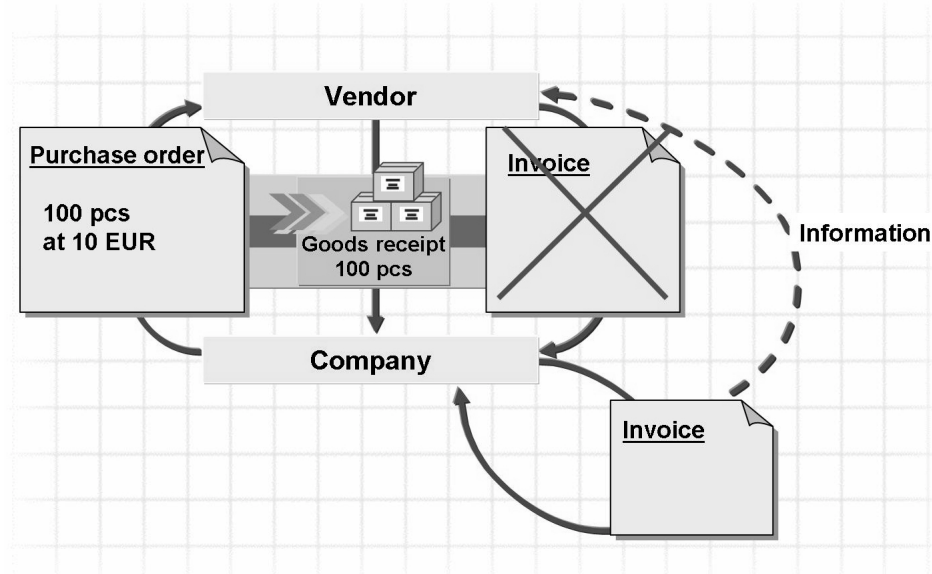


Figure 192: Evaluated Receipt Settlement

You can settle goods receipts directly using evaluated receipt settlement (ERS), without receiving an invoice. The system can use the information from the purchase order and goods receipts as a basis for generating and posting the invoice. There is no need for a vendor invoice. The system creates a message record at the time of settlement, which allows you to send the vendor a letter about the settlement.

Evaluated Receipt Settlement is defined for each purchase order item. It is only possible if you have made the relevant settings for the vendor in the vendor master record.

The following prerequisites must be fulfilled before evaluated receipt settlement can be performed for a purchase order item:

- Vendor master record: In the purchasing data, the *AutoEvalGRSetmt Del.* (Evaluated Receipt Settlement) indicator must be set.
- Vendor master record: In the purchasing data, a terms of payment key must be selected that proposes a baseline date.
- Purchase order item: The *GR-Based Inv. Verif.* (Goods-Receipt-Based Invoice Verification) indicator must be set.
- Purchase order item: The *ERS* (Evaluated Receipt Settlement) indicator must be set.
- Purchase order item: A tax code must be specified.

Evaluated receipt settlement has the following advantages:

- Purchasing transactions are completed quicker.
- Data transfer errors can be avoided.
- Quantity and price variances do not occur in Invoice Verification.

Evaluated receipt settlement (ERS) creates credit memos. If an invoice was already posted for a goods receipt and a return delivery has been posted in the meantime, the system creates a credit memo for the returned quantity during ERS.

You can also let evaluated receipt settlement run in the background.



Caution: You cannot use ERS to settle delivery costs.

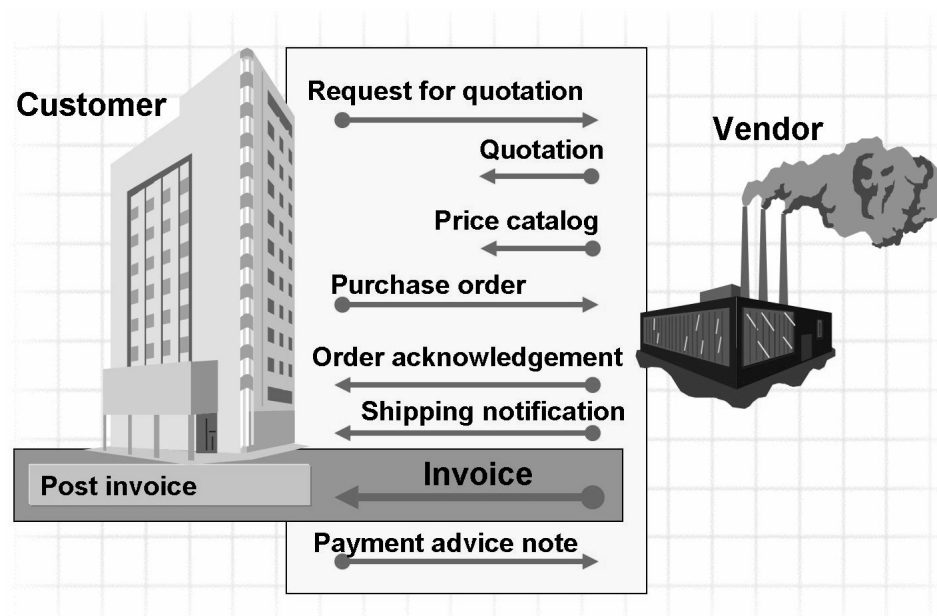


Figure 193: Electronic Data Interchange (EDI)

Many companies can transmit information to you electronically. This has the advantage that data is available more quickly in the host system due to the automatic receipt of the data and you can avoid entry errors.

An invoice received via EDI contains the same information as a paper invoice.

If you receive an invoice via EDI, the system tries to post this invoice. The system determines the items to be settled and suggests quantities and values for these items based on the purchase order transmitted. In contrast to invoice verification in the background, the system checks invoices received via EDI at item level.

If the EDI invoice matches the items that the system proposes, the system posts the invoice.

If the invoice contains variances, you can post it with the variances, reduce it or hold it and process it later manually, depending on the settings in Customizing.

You cannot settle subsequent debits/credits and planned delivery costs via EDI. You can only settle unplanned delivery costs using the enhancement MRMH0002 and the customer exit EXIT_SAPLMRMH_014. You can post directly to G/L or material accounts using the enhancement MRMH002 and the customer exit EXIT_SAPLMRMH_015.



Exercise 23: Automatic Settlements

Exercise Duration: 15 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Create invoices from the goods receipt data automatically

Business Example

To save on paperwork and prevent errors from occurring during Invoice Verification, the accounting department wants to test ERS for a vendor. The goods receipts and return deliveries posted during the day will be settled automatically each evening.

Task:

Your vendor Abbott Supplies (**T-K515B##**) will be used to test ERS processing.

1. Verify the vendor master record *Purchasing Data* view to see if Evaluated Receipt Settlement is possible with this vendor. For this, the *ERS Delivery* indicator must be set.
2. Execute evaluated receipt settlement for vendor **T-K515B##**. Execute the settlement using document selection 3 (Document selection per order item) and, initially, in **test mode**. Choose a purchase order to settle in the next question.

Purchase order number:

3. Execute ERS again for the purchase order that you selected in question 2 for your vendor **T-K515B##**, document selection 3, without using the test mode. Which documents did the system post? Write down the document numbers.

Display one of the documents.

4. **OPTIONAL:** You receive an invoice for an ERS purchase order from an ERS vendor.

Use the test mode to search for a purchase order that you have not yet settled.

Continued on next page

Purchase order number:

Post an invoice for this purchase order manually.

How does this affect the next ERS run?

Solution 23: Automatic Settlements


Task:

Your vendor Abbott Supplies (**T-K515B##**) will be used to test ERS processing.

1. Verify the vendor master record *Purchasing Data* view to see if Evaluated Receipt Settlement is possible with this vendor. For this, the *ERS Delivery* indicator must be set.
 - a) *Logistics* → *Materials Management* → *Purchasing* → *Master Data* → *Vendor* → *Purchasing* → *Display (Current)*
 - b) On the initial screen, enter the following data:

Field name or data type	Values
Vendor	T-K515B##
Purchasing organization	1000

In the *Purchasing Organization Data* area, set the *Purchasing Data* indicator.



- c) Choose  *Enter*. In the *Control Data* area, check whether the *AutoEvalGRSetmt Del.* indicator is set.
2. Execute evaluated receipt settlement for vendor **T-K515B##**. Execute the settlement using document selection 3 (Document selection per order item) and, initially, in **test mode**. Choose a purchase order to settle in the next question.

Continued on next page

Purchase order number:

- a) *Logistics* → *Materials Management* → *Logistics Invoice Verification*
→ *Automatic Settlement* → *Evaluated Receipt Settlement (ERS)*
- b) Enter the following selection criteria:

Field name or data type	Values
Company code	1000
Vendor	T-K515B##
Document selection	3


- c) Set the *Test Run* indicator.
- d) Choose  *Execute*. The system displays a list of the PO transactions to be settled. Select a purchase order and make a note of the number.
- e) Choose  *Back* to return to the selection screen.
3. Execute ERS again for the purchase order that you selected in question 2 for your vendor **T-K515B##**, document selection 3, without using the test mode. Which documents did the system post? Write down the document numbers.

Continued on next page

Display one of the documents.

- a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *Automatic Settlement* → *Evaluated Receipt Settlement (ERS)*
- b) Enter the following selection criteria:

Field name or data type	Values
Company code	1000
Vendor	T-K515B##
Purchasing document	<see question 2 >

- c) Deselect *Test run*.
 - d) Choose  *Execute*. The system posts the invoices for the PO items. A list appears showing which invoices the system created. Click on an invoice number to display the invoice.
4. OPTIONAL: You receive an invoice for an ERS purchase order from an ERS vendor.

Use the test mode to search for a purchase order that you have not yet settled.

Purchase order number:

Post an invoice for this purchase order manually.

How does this affect the next ERS run?

- a) If you enter an invoice manually for the delivered quantity of a purchase order item for which ERS is defined, the system creates a zero-value invoice for this item during the next ERS run. If you enter a partial invoice manually, the system creates an invoice for the quantity still to be settled during the next ERS run.



Lesson Summary

You should now be able to:

- Perform evaluated receipt settlement and display the corresponding log
- Describe the EDI process



Unit Summary

You should now be able to:

- Enter invoices in the background
- Use the invoice overview functions
- Perform evaluated receipt settlement and display the corresponding log
- Describe the EDI process

Unit 9



GR/IR Account Maintenance and Customizing



For more information, see the Instructor Guide for the course SCM515 in the Corporate Portal.

Unit Overview

The topics GR/IR account maintenance and Customizing complete this course.



Unit Objectives

After completing this unit, you will be able to:

- Perform GR/IR clearing account maintenance
- List the Customizing steps required for Logistics Invoice Verification

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Lesson: GR/IR Account Maintenance



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Lesson Duration: 45 Minutes

Lesson Overview

Generally speaking, the GR/IR clearing account is balanced after the procurement process is completed for an item. If this is not the case, you must clear the balance manually. This lesson introduces the required function for maintaining the clearing account.



Lesson Objectives

After completing this lesson, you will be able to:

- Perform GR/IR clearing account maintenance



For more information, see the Instructor Guide in SAPNet.

Business Example

The goods receipt/invoice receipt clearing account is used for clearing goods receipts and invoices. In the case of quantity differences between goods receipts and invoice receipts, some items remain open on the GR/IR clearing account. If further deliveries, return deliveries, invoices, or credit memos do not clear a quantity difference for a purchase order item, you have to maintain the GR/IR clearing account for this item.

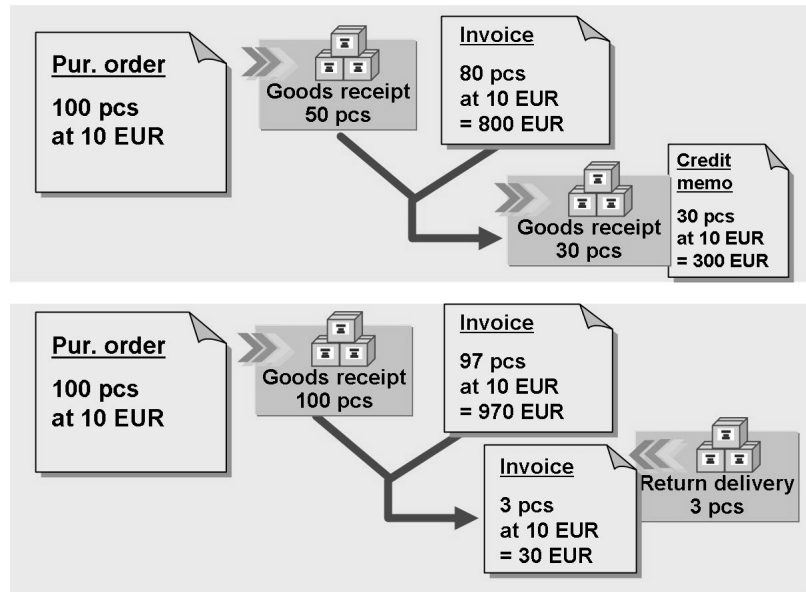


Figure 194: Quantity Variances

The GR/IR clearing account is cleared for a purchase order item when the delivered quantity and the invoiced quantity are **the same**.

If the invoiced quantity is greater than the delivered quantity, the system expects another goods receipt.

If the delivered quantity is greater than the invoiced quantity, the system expects another invoice.

If the differences on the GR/IR clearing account are not cleared by a further goods receipt (or credit memo) or by an invoice (or return delivery), the GR/IR clearing account must be maintained manually.

Before maintaining the GR/IR clearing account, you should establish that no further goods receipts or invoice receipts are expected for a purchase order item.

Clearing the GR/IR clearing account is usually performed periodically, or at the end of the fiscal year, for those PO items for which no further goods receipts or invoice receipts will be posted.

If quantity differences between the goods receipt and invoice receipt for a purchase order item are cleared using account maintenance, the system generates an account maintenance document.

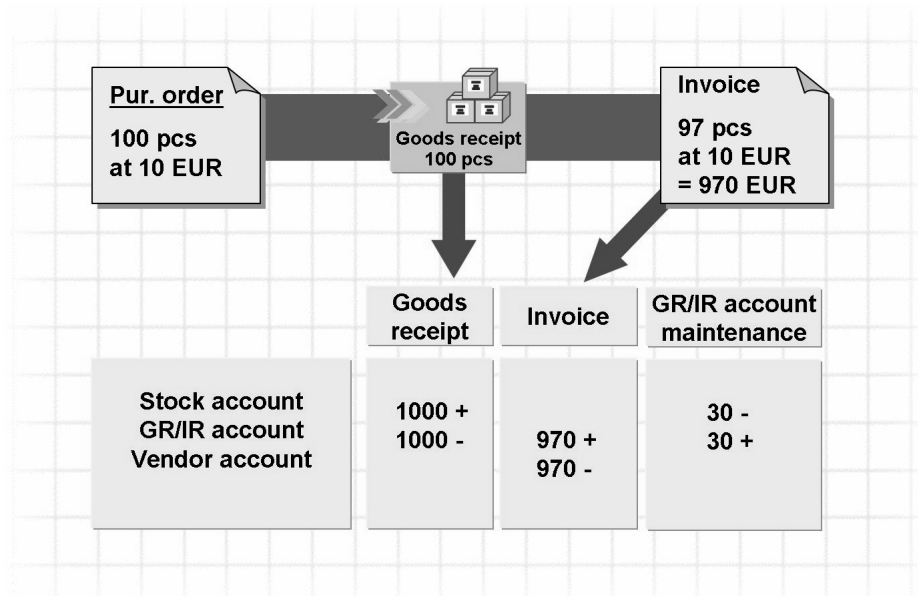


Figure 195: Account Movements with Account Maintenance

For a material with moving average price, the offsetting posting to clear the GR/IR clearing account is made to the stock account, unless there is no stock coverage. If the material stock is smaller than the quantity to clear, the system only partially credits/debits the actual existing stock. The remaining amount is posted to the price difference account.

For a material with a standard price, the system makes the offsetting posting to the price difference account. For a purchase order item with account assignment, the system makes the offsetting entry to the consumption account.



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Exercise 24: GR/IR Account Maintenance

Exercise Duration: 15 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- Use the GR/IR account maintenance functions

Business Example

The GR/IR clearing account is used for clearing goods receipts and invoices. Some differences are not cleared by further goods receipts or invoices. You have to clear these differences manually.

Task:

As the accounting supervisor, you want to clear the GR/IR clearing account for ordering transactions for vendor **T-K515A##**.

1. Select all uncleared purchase order items for vendor T-K515A## whose purchase order date is between 01/01 of the previous year and today. Enter today's date as the key date for the last movement. Do not restrict the amount of the quantity or value variance. First, prepare just a list.
2. Select a purchase order item from the list and display it. Go to the purchase order history and analyze why the GR/IR clearing account contains a difference.

Return to GR/IR clearing account maintenance and clear the difference for the purchase order item selected.

3. Display the account maintenance document. Which amounts were posted to which accounts?
4. Display the PO history. Does the system list the account maintenance document in the purchase order history?

Solution 24: GR/IR Account Maintenance


Task:

As the accounting supervisor, you want to clear the GR/IR clearing account account for ordering transactions for vendor **T-K515A##**.

1. Select all uncleared purchase order items for vendor T-K515A## whose purchase order date is between 01/01 of the previous year and today. Enter today's date as the key date for the last movement. Do not restrict the amount of the quantity or value variance. First, prepare just a list.




- a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *GR/IR Account Maintenance* → *Maintain GR/IR Clearing Account*
- b) In the selection criteria area, you enter the following:



Field name or data type	Values
Vendor	T-K515A##
Purchase Order Date	<01/01/previous year> to <today's date>
Last movement before key date	Today's date
Qty Var. Less Than/Equal To	–
Value VarianceLess Than/= To	–



- c) In the *Processing* area, select *Prepare list*.
 - d) Choose  *Execute*. The system shows you a list of the PO items where the GR/IR clearing accounts contain a difference, and which fit your selection criteria.
2. Select a purchase order item from the list and display it. Go to the purchase order history and analyze why the GR/IR clearing account contains a difference.

Continued on next page

Return to GR/IR clearing account maintenance and clear the difference for the purchase order item selected.

- a) In the list, select the purchase order items that you want to process.
 - b) Choose  *Purchase order* to go to the purchase order. In the item detail for the item selected, you can see on the *PO history* tab page why the GR/IR clearing account contains a difference.
 - c) Choose  *Back* to return to account maintenance.
 - d) Choose  *Post*. The system posts a document that clears the GR/IR clearing account.
3. Display the account maintenance document. Which amounts were posted to which accounts?
- a) *Logistics* → *Materials Management* → *Logistics Invoice Verification* → *GR/IR Account Maintenance* → *Display/Cancel Account Maintenance Document*

The system proposes the number of the account maintenance document that you last posted.
 - b) Choose  *Item List* to display the document.
 - c) Choose  *Follow-On Documents* and double-click the number of the accounting document.

For a material with a moving average price with stock coverage, the offsetting posting for the GR/IR clearing account is made to the stock account. For a material with a standard price, the offsetting posting is made to the price difference account.
 - d) Choose  *Back* and close the *List of Documents in Accounting* dialog box.
4. Display the PO history. Does the system list the account maintenance document in the purchase order history?
- a) Place your cursor on the account maintenance item and choose  *Purchase Order*. In the item detail, choose the *Purchase Order History* tab page.

Account maintenance is listed as a separate transaction in the purchase order history.



Lesson Summary

You should now be able to:

- Perform GR/IR clearing account maintenance

Lesson: Customizing for Invoice Verification



Lesson Duration: 60 Minutes

Lesson Overview

This lesson gives an overview of the most important Customizing settings in Logistics Invoice Verification.



Lesson Objectives

After completing this lesson, you will be able to:

- List the Customizing steps required for Logistics Invoice Verification



For more information, see the Instructor Guide in SAPNet.

Business Example

To simplify maintenance as your needs change, you want to summarize the changes that your company has made to Customizing in the Logistics Invoice Verification area.

The following provides you with an overview of the key Customizing settings from the *Logistics Invoice Verification* area.

System Messages in Logistics Invoice Verification

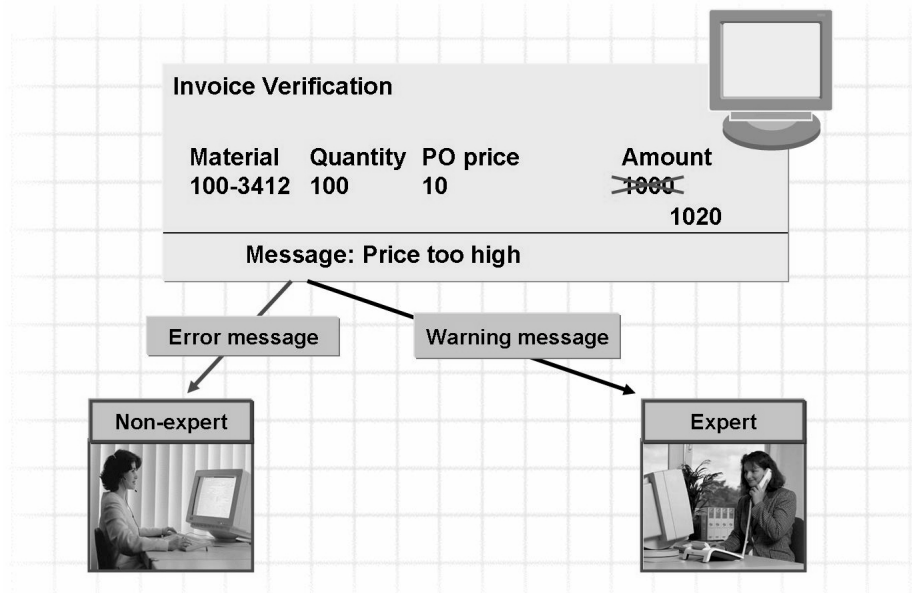


Figure 196: System Messages

You can configure certain error messages to appear as either an information message, a warning message, or an error message, or so that they do not appear at all.

You can do this so that it applies to all employees or for certain employees only.

You make the settings for system messages in Logistics Invoice Verification in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Define Attributes of System Messages*.

Automatic Postings

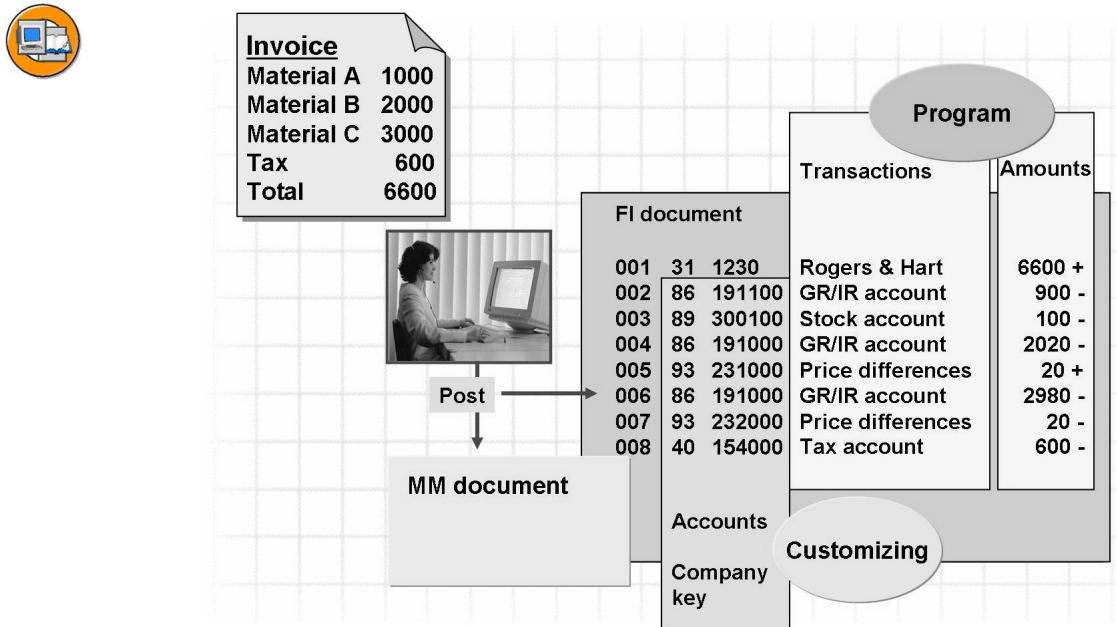


Figure 197: Automatic Postings

When posting an invoice, the system automatically determines which transactions it must post.

A chart of accounts is assigned to each company code. For each chart of accounts, you define which accounts the system is to post to for the individual transactions.

For certain transactions, you can configure the accounts to depend on the valuation area and/or on the debit/credit indicator.

You make settings for automatic postings in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Configure Automatic Postings*.

Number Assignment in Logistics Invoice Verification

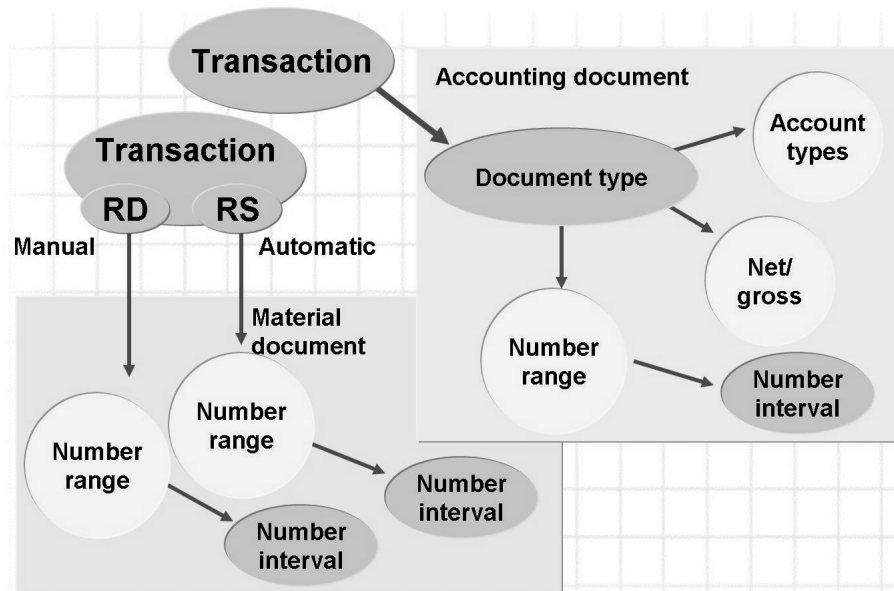


Figure 198: Document Types and Number Ranges

In the case of the invoice document in Materials Management, the number range is configured to depend on the transaction concerned. There are two transactions:

- RD for manual invoice entry
- RS for automatic document creation, such as invoice reversal, ERS, and EDI

You configure for each transaction, which document type the system is to suggest for the accounting document when calling up the transaction. If the system creates more than one accounting document (such as an invoice reduction document), you can configure separate document types for each one.

The document type controls whether the system posts the document net or gross, which account types are allowed and which number range the system is to use. Document types RE for gross posting and RN for net posting are supplied in the standard system.

The number interval from which the system assigns the document number depends on the number range used. You can configure the number ranges to depend on the relevant year.

You configure number assignment for logistics documents in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Incoming Invoice* → *Number Assignment* → *Maintain Number Assignment for Logistics Documents*.

You configure number assignment for accounting documents in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Incoming Invoice* → *Number Assignment* → *Maintain Number Assignment for Accounting Documents*.

Settings for Taxes and Configure How Exchange Rate Differences Are Treated

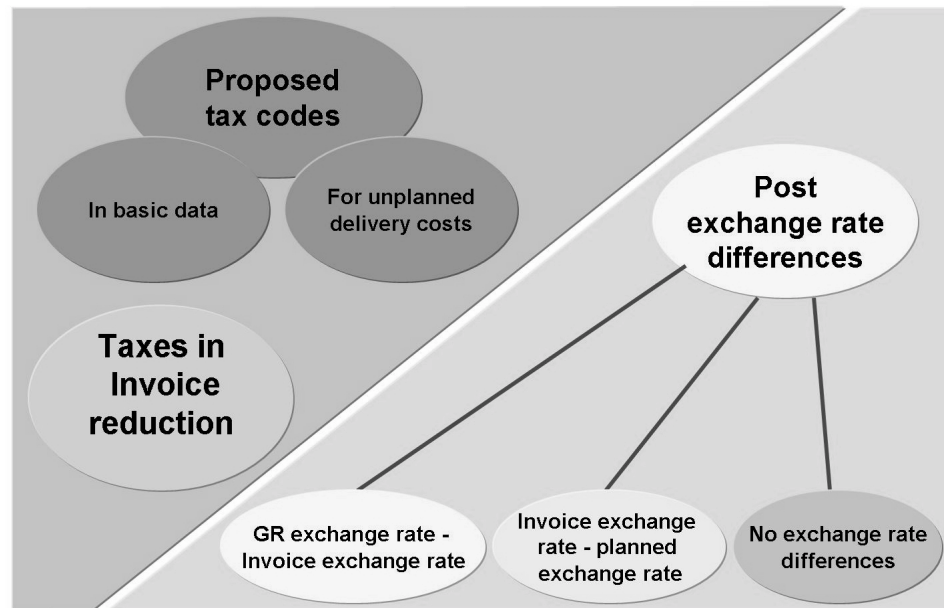


Figure 199: Taxes - Foreign Currencies

For invoice reduction, you can specify whether the original document is posted with reduced tax or whether the tax should be corrected in the reduction document. You do this in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Incoming Invoice* → *Tax Treatment in Invoice Reduction*.

For each company code, you can specify which tax code is to be proposed during invoice entry. You do this in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Incoming Invoice* → *Maintain Default Values for Tax Codes*.

If you do not want the system to distribute unplanned delivery costs among the items, but to post them to a separate G/L account instead, you can set a specific tax code for this, which the system suggests when you enter invoices.

In the case of invoices in foreign currencies, exchange rate differences can occur. You specify whether these are to be posted to separate currency difference accounts and how the latter are determined. You do this in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Incoming Invoice* → *Configure How Exchange Rate Differences Are Treated*.

Report Unplanned Delivery Costs and Purchase Order Texts in Invoice Verification

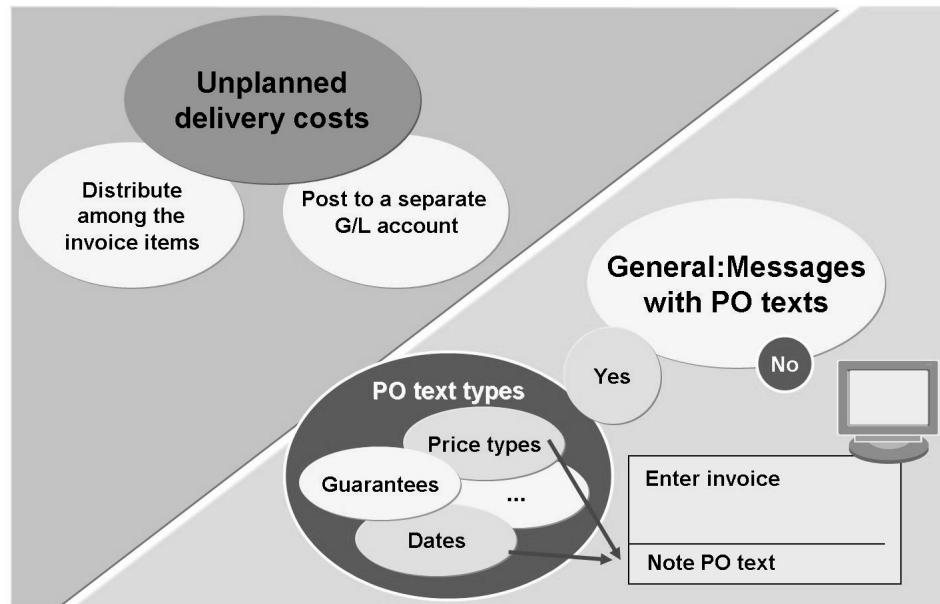


Figure 200: Unplanned Delivery Costs - Report PO Texts

Unplanned delivery costs can be either distributed across the corresponding invoice items or posted to a separate G/L account. This is dependent on the setting made in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Incoming Invoice* → *Configure How Unplanned Delivery Costs Are Posted*.

You can create various purchase order texts in the purchase order. In Customizing for *Materials Management*, you can specify whether the invoice verification clerk is to be informed when a purchase order contains texts. To do so, you choose *Logistics Invoice Verification* → *Incoming Invoice* → *Edit PO Supplement Text in Invoice Verification*. Since not all text types are relevant for the accounts payable clerk, you can also configure which texts the system is to display a message for.

Settings for Bar Code Entry in Logistics Invoice Verification

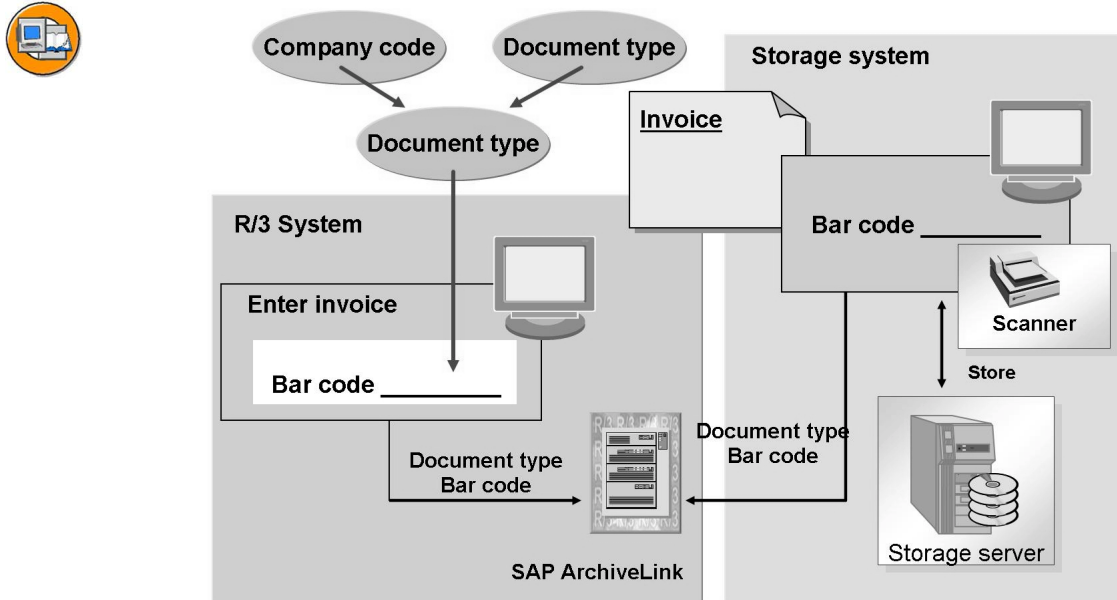


Figure 201: Settings for Bar Code Entry

If you enter the paper invoice in a storage system, you must assign the invoice document to this document. You use the bar code for this.

You can assign a paper document type to each document type for each company code.

In the settings for bar code entry, you can specify whether bar code entry is active and whether the system is to check the bar code entered, depending on the document type and the user.

Direct Posting and Display Variants in Logistics Invoice Verification

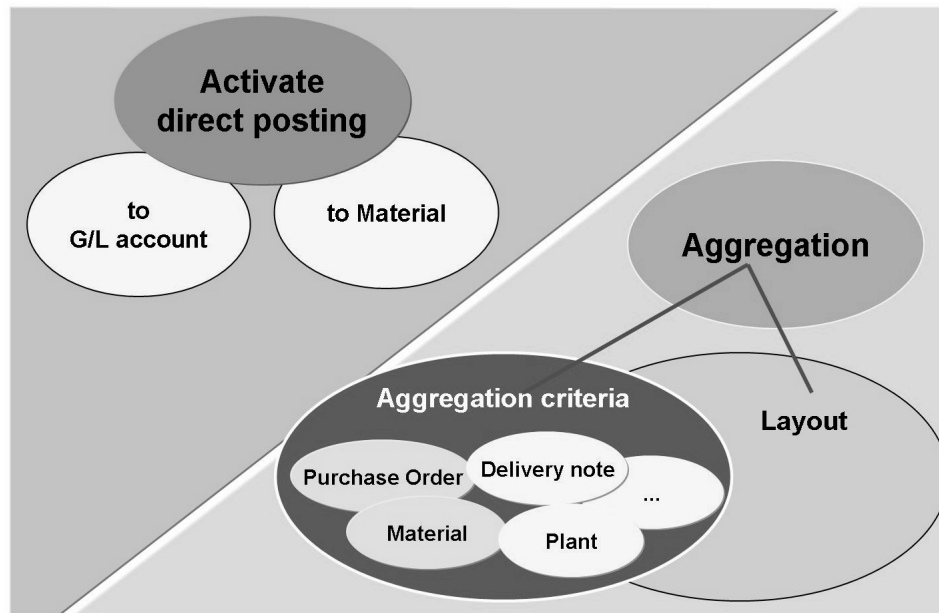


Figure 202: Direct Posting - Aggregation

To post directly to G/L or material accounts in Logistics Invoice Verification, choose Customizing for *Materials Management* → *Logistics Invoice Verification* → *Incoming Invoice* → *Activate Direct Posting to G/L Accounts and Material Accounts*. If direct posting is not activated, the tab pages for direct posting are hidden in the invoice entry transaction.

You can aggregate several invoice items from an invoice. In other words, the invoice items are summarized based on the aggregation criteria, and are displayed on a single line. You can use specific aggregation variants for this. By aggregating an invoice, you can reduce the effort needed to verify the invoice and simplify the search for variances. You can create the aggregation variants in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Incoming Invoice* → *Aggregation* → *Maintain Variants for Aggregation List*. You must also set criteria for the aggregation itself.



Ref. Doc. Type		Doc. No.		Layout			
				All Information			
Item	Amnt	Qty	Pur.order	Pu	PO text	Tax code	

Ref. Doc. Type		Doc. No.		Layout			
				Account Assignment-Cost Center			
I	PO text	Qty	UoM	Amnt	G/L account	Cost center	Tot

Figure 203: Item List Variants

When entering invoices, the accounts payable clerk receives all items for settlement on the item list. Each line contains a lot of information.

To enable you to view key information comfortably and so that you do not have to keep scrolling, item list display variants have been defined.

If the existing layouts do not meet your requirements for invoice entry, you can define new layouts for the item list in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Incoming Invoice* → *Maintain Item List Variants*.

Checking for Duplicate Invoices in Logistics Invoice Verification

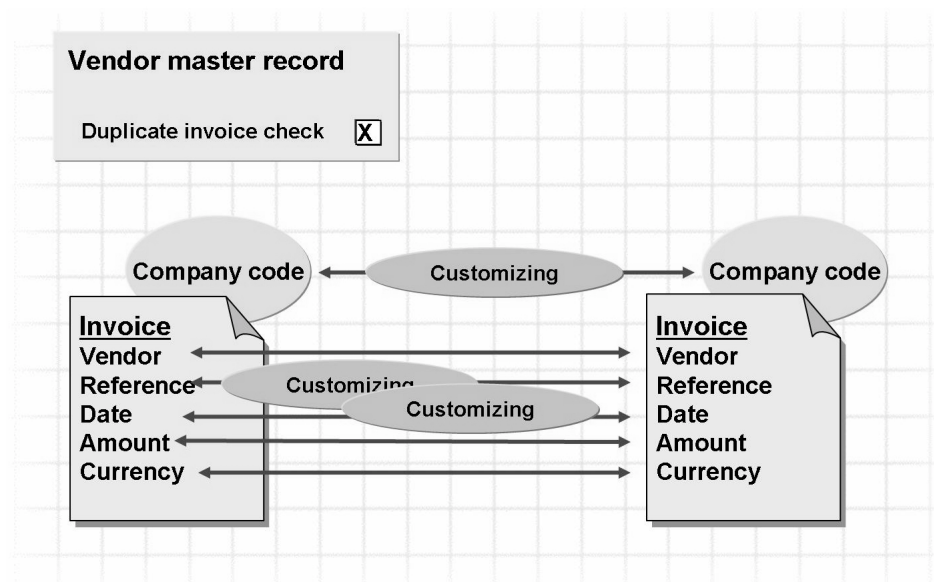


Figure 204: Duplicate Invoice Check

If you have set the *Duplicate invoice check* in a particular vendor master record, when you enter an invoice for this vendor and there is an entry in the *Reference* field, the system always checks if there is already an invoice containing the same data as that just entered.

- Company code
- Vendor
- Reference
- Document date
- Amount
- Currency

In Customizing for *Materials Management*, choose *Logistics Invoice Verification* → *Incoming Invoice* → *Set Check for Duplicate Invoices* to specify whether the system should consider the company code, reference, and date as check criteria.

The check should help avoid duplicate entry and payment of invoices. Depending on the system settings, the system issues an information or error message if it finds an invoice that matches all the attributes.

Example: The following invoice was already posted in your system:

You now enter the following invoice: company code 0001, vendor 1230, reference ab23c4, document date 10/22, amount 1000, currency EUR. Now enter the following invoice:

Company code 1000, vendor 1230, reference ab23c4, document date 10/22, amount 1000, currency EUR. If you have set the reference as a check criterion in Customizing, the system does not consider the second invoice to be a duplicate. If you have not set the reference as a check criteria, a message appears stating that you might have entered the invoice twice.

Document Parking - Workflows in Logistics Invoice Verification

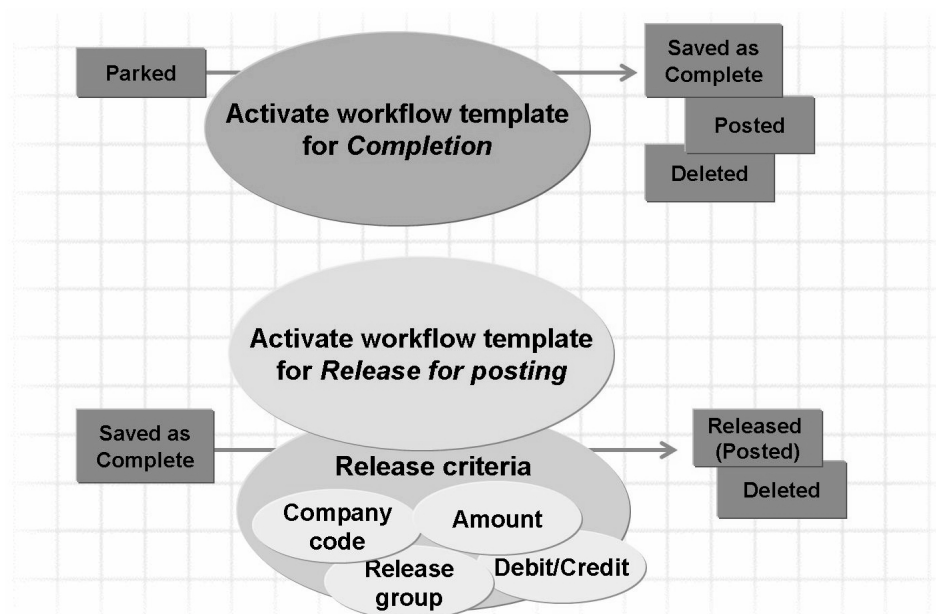


Figure 205: Document Parking: Workflow

When different processor groups park and complete invoice documents, you can use the workflow that is predefined in the standard system. Use workflow template WS20001003. In Customizing for *Materials Management* under *Logistics Invoice Verification* → *Document Parking* → *Activate Workflow Template for Document Completion*, you can configure the workflow. All users authorized to complete parked documents receive a work item in their inbox. The workflow ends when the invoice document is saved as complete, posted, or deleted.

In Logistics Invoice Verification, you can control the document parking process using workflow. This is useful where invoices exceeding certain release criteria must be approved by an employee responsible for release before the invoice documents are posted. Use the workflow template WS20001004, which is predefined in the standard system. In Customizing for *Materials Management* under *Logistics Invoice Verification* → *Document Parking* → *Activate Workflow Template for Release for Posting*, you can configure the workflow. In Customizing for *Materials Management*, choose *Logistics Invoice Verification* → *Document*

Parking → *Define Release Criteria* to specify the company code, the vendors, and the amount as of which a release should take place. The workflow ends when the workflow is released or deleted.

Settings for Invoice Blocking in Logistics Invoice Verification

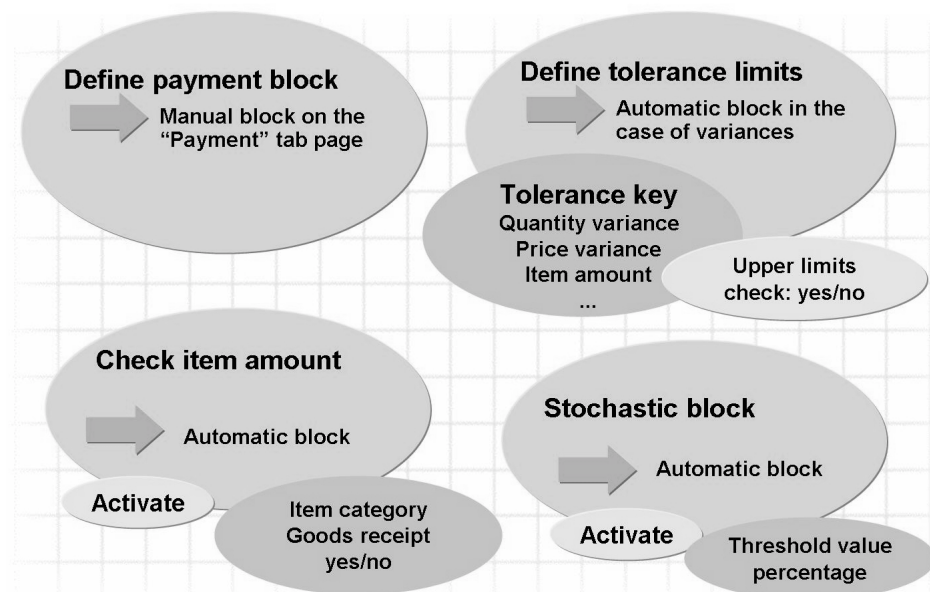


Figure 206: Settings for Invoice Blocks

In Customizing for *Logistics Invoice Verification*, you can define various payment blocks for manually blocking invoices at header level. In the case of an automatic payment block, the system sets payment block *R*.

There is a tolerance key for each variance type (for example, quantity variance, price variance), for which you must configure tolerance limits in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Invoice Block* → *Set Tolerance Limits*. There is also a tolerance key for the checks on the item amount, small differences, and the maximum price changes.

If the system is to block invoice items above a certain amount, you must generate the amount check in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Invoice Block* → *Item Amount Check* → *Activate Item Amount Check*. In Customizing for *Logistics Invoice Verification*, you can also limit the check with regard to the item category and the goods receipt indicator for the purchase order by choosing *Invoice Block* → *Item Amount Check* → *Set Item Amount Check*. You enter the actual amount in the tolerance limits.

In the case of stochastic blocking, the system blocks invoices at random. You activate stochastic blocking in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Invoice Block* → *Stochastic Block* → *Activate*

Stochastic Block. You must also choose *Invoice Block* → *Stochastic Block* → *Set Stochastic Block* to store a threshold value and specify the probability with which invoices will be blocked.

Settings for EDI in Logistics Invoice Verification

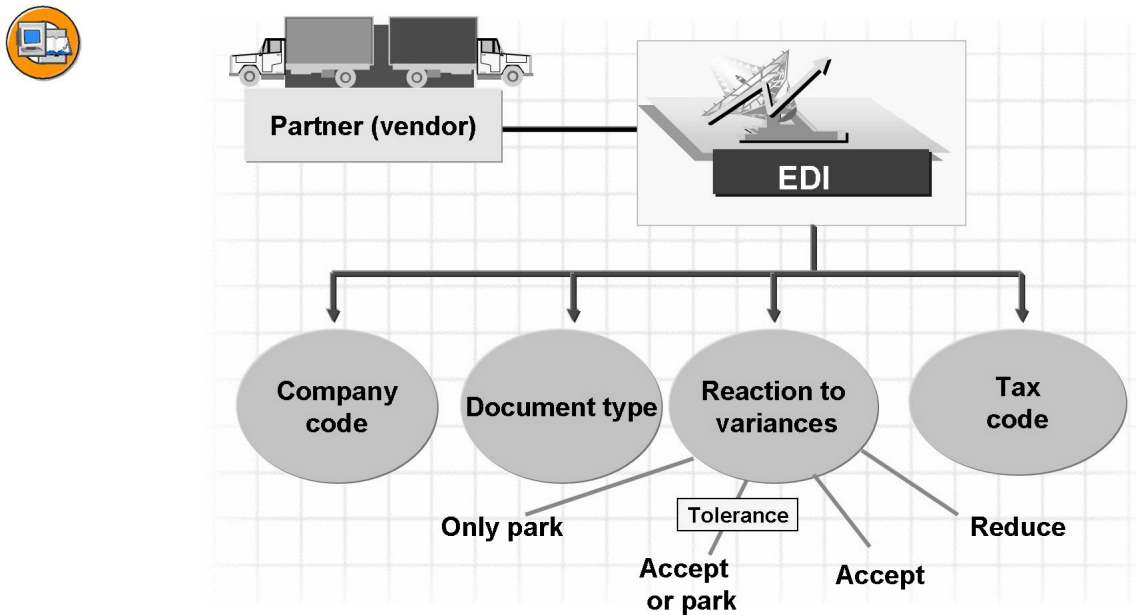


Figure 207: Settings for EDI in Invoice Verification

For invoice receipt via Electronic Data Interchange (EDI), you have to make various settings in Customizing for *Materials Management* under *Logistics Invoice Verification* → *EDI*:

- How the system is to convert the tax codes that the business partner transmits to the tax codes used in your system.
- How your system is to use the company code information transmitted by the business partner to determine the company code in which it posts the invoice
- Which document type the system is to post the document with
- How the system is to react, if the business partner transmits different quantities and values to those expected on the basis of the purchase order and the purchase order history:
 - The R/3 System reduces the invoices by the difference at item level.
 - The system accepts the differences. (The system might block the invoice for payment.)
 - The system parks the invoice. The error correction indicator *Unclarified errors* is set in the item list. You must then process the invoice manually.
 - Variances are only accepted if the total of the variances falls within the vendor-specific tolerance for positive small differences. The system might block the invoice for payment. If the total of the variances is not within the positive small difference vendor-specific tolerances, the system only holds the invoice.

Message Determination in Logistics Invoice Verification

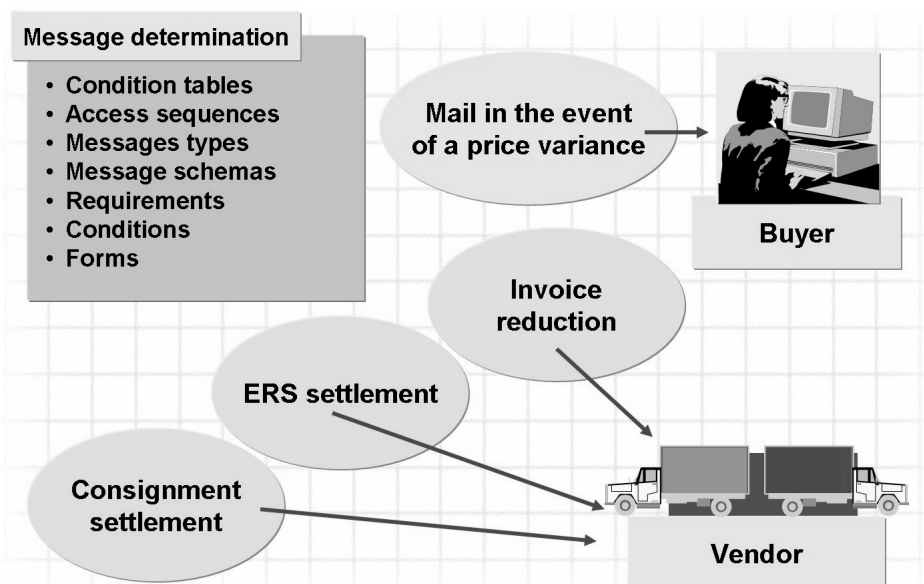


Figure 208: Message Determination in Invoice Verification

In Customizing for *Materials Management* under *Logistics Invoice Verification* → *Incoming Invoice* → *Define Mail to Purchasing When Price Variances Occur*, you can specify that when a price variance occurs, the buyer is informed by e-mail.

In the case of consignment settlement, you must send the vendor a statement of settlement, so that the vendor can check the payment and has an overview of the quantities of the consignment stocks.

In the case of Evaluated Receipt Settlement (ERS), you must send the vendor a statement of the invoices created so that the vendor can compare the payments made with the purchase orders and deliveries.

When you reduce an invoice, you must inform the vendor so that differences between the payments and the receivables can be accounted for.

You configure message determination for *Logistics Invoice Verification* in Customizing under *Message Determination*.

Authorization in Logistics Invoice Verification

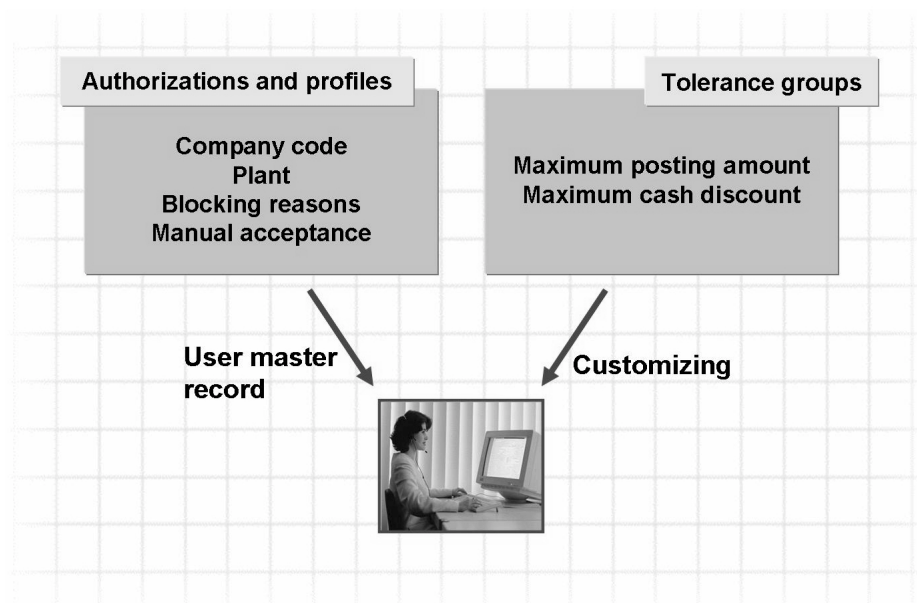


Figure 209: Authorization in Invoice Verification

You can use authorizations and profiles to set the following for each user:

- The company codes for which the user can post invoices
- The plants for which the user can post invoices
- The blocking reasons which the user can delete
- If the user can manually accept variances without item reference

All users can be assigned to a tolerance group in Customizing for *Materials Management* under *Logistics Invoice Verification* → *Authorization Management* → *Assign User Tolerance Group*.

Enhancements in Logistics Invoice Verification

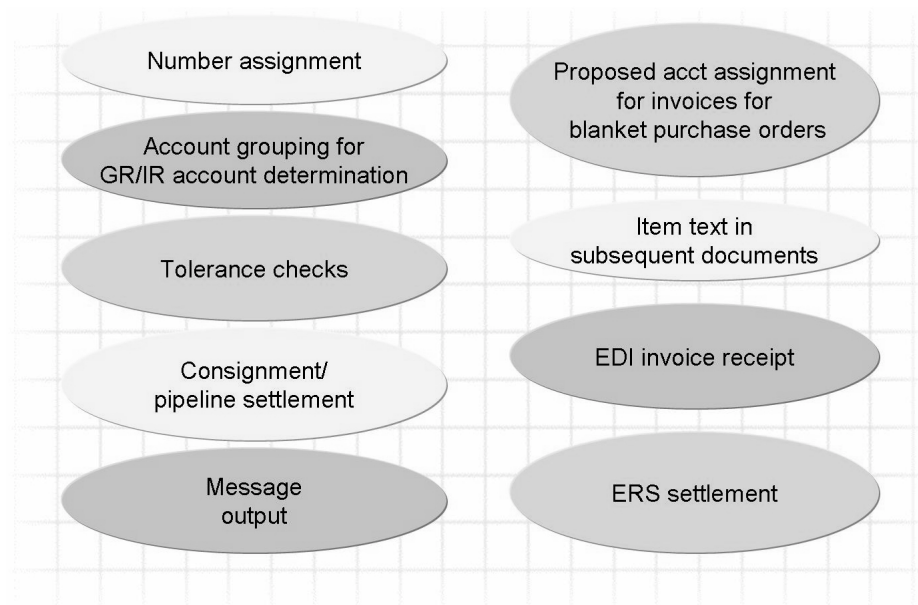


Figure 210: Enhancements in Invoice Verification

At various points in Logistics Invoice Verification, you can use enhancements to influence how the system updates information for specific vendors.

An enhancement consists of one or more function modules in which you can write your own coding.

For documentation on the individual enhancements, see the relevant function modules.



Exercise 25: Optional: Customizing for Invoice Verification

Exercise Duration: 20 Minutes

Exercise Objectives

After completing this exercise, you will be able to:

- List the Customizing steps required for Invoice Verification

Business Example

You have to configure Customizing for Logistics Invoice Verification to optimize the invoice verification process.

Task:

There are various settings that you need to modify for your company. Find the **menu paths** for the following functions.

1. Define message **M8 225** “Evaluated receipt settlement is active for purchase order & &” as an error message for all employees.

2. Define vendor-specific tolerances.

3. For company code 1000, configure the system to block invoice items for external services above 1000 EUR.

4. Define a small price differences tolerance.

5. Check which accounts the system posts to in the case of price differences.

6. Define notifiable PO supplement texts.

Solution 25: Optional: Customizing for Invoice Verification

Task:

There are various settings that you need to modify for your company. Find the **menu paths** for the following functions.

1. Define message **M8 225** "Evaluated receipt settlement is active for purchase order & &" as an error message for all employees.

a) *Tools → Customizing → IMG → Execute Project*

When you choose *SAP Reference IMG*, the entire SAP Customizing Implementation Guide appears. You make the settings for Logistics Invoice Verification under *Materials Management → Logistics Invoice Verification →*

For the individual subtasks, you add the following to this menu path:

→ *Define Attributes of System Messages*

2. Define vendor-specific tolerances.

a) → *Incoming Invoice → Configure Vendor-Specific Tolerances*

3. For company code 1000, configure the system to block invoice items for external services above 1000 EUR.

a) → *Invoice Block → Item Amount Check → Activate Item Amount Check*

→ *Invoice Block → Item Amount Check → Set Item Amount Check*

→ *Invoice Block → Set Tolerance Limits (tolerance key AP)*

4. Define a small price differences tolerance.

Continued on next page

a) → *Invoice Block* → *Set Tolerance Limits* (tolerance key BD)

5. Check which accounts the system posts to in the case of price differences.

a) → *Configure Automatic Postings* (transaction PRD)

6. Define notifiable PO supplement texts.

a) → *Incoming Invoice* → *Edit PO Supplement Text in Invoice Verification*



Lesson Summary

You should now be able to:

- List the Customizing steps required for Logistics Invoice Verification



Unit Summary

You should now be able to:

- Perform GR/IR clearing account maintenance
- List the Customizing steps required for Logistics Invoice Verification



Course Summary

You should now be able to:

- Create and manage different types of supply sources
- Use source lists and quota arrangement for controlling automatic supply source determination
- Execute automatic supply source determination
- Convert purchase requisitions into purchase orders efficiently
- Enter invoices for inventory and non-inventory items
- Describe the updates and account postings that result from invoice entry
- Change discounts and taxes during invoice entry
- Set tolerances for prices, quantities and amounts, and release blocked invoices
- Enter planned and unplanned delivery costs in the invoice
- Post invoices in the background
- Adjust amounts by using invoice reduction
- Perform evaluated receipt settlements
- Maintain the GR/IR clearing account
- Configure the Invoice Verification functions

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Feedback

SAP AG has made every effort in the preparation of this course to ensure the accuracy and completeness of the materials. If you have any corrections or suggestions for improvement, please record them in the appropriate place in the course evaluation.