



# TSCM62

Order Fulfillment II

Part I of II



THE BEST-RUN E-BUSINESSES RUN SAP

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- R/3 System
- Release 4.6C
- 2002, Q4
- Material number: 50057210

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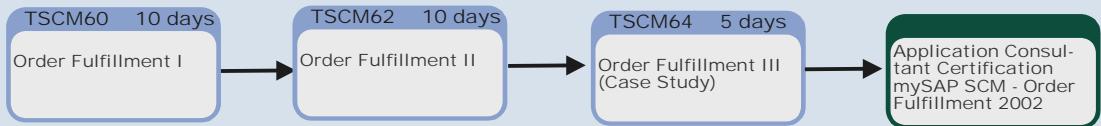
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# Solution Consultant mySAP SCM – Order Fulfillment

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- **Required: TSCM60 (Order Fulfillment I)**

## Target Group

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- **Audience:**
  - Consultants responsible for implementing Order Fulfillment with mySAP SCM
- **Duration: 10 days**



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### Contents:

- Course Goals
- Course Objectives
- Course Content
- Course Overview Diagram
- Main Business Scenario



This course will prepare you to:

- Implement the functions and Customizing settings for delivery processing, price determination, and billing
- Use the functions and Customizing settings for general SD functions such as messages and text determination

## Preface

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Course **Overview**

Course **Shipping**

Course **Pricing**

Course **Billing**

Course **Cross-Functional Customizing in SD**

Course **ASAP**

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Unit	<b>Course Overview</b>	Unit	<b>Goods Issue Process</b>
Unit	<b>Overview of the Delivery Processes</b>	Unit	<b>Special Functions</b>
Unit	<b>Organizational Units in Shipping</b>	Unit	<b>Packing</b>
Unit	<b>Controlling Elements of the Outbound Delivery</b>	Unit	<b>Handling Units within Delivery Processes</b>
Unit	<b>Goods Receipt Process</b>	Unit	<b>Goods Issue</b>
		Unit	<b>Conclusion</b>

## Appendix

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Unit	<b>Course Overview</b>	Unit	<b>Special Condition Types</b>
Unit	<b>Pricing Fundamentals</b>	Unit	<b>Statistical Condition Types</b>
Unit	<b>Condition Technique in Pricing</b>	Unit	<b>Taxes</b>
Unit	<b>Pricing Configuration</b>	Unit	<b>Agreements</b>
Unit	<b>Working with Condition Records</b>	Unit	<b>Rebates</b>
Unit	<b>Special Functions</b>	Unit	<b>Summary</b>

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## Appendix

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Unit	<b>Course overview</b>	Unit	<b>Types of settlements</b>
Unit	<b>Introduction</b>	Unit	<b>Special business transactions</b>
Unit	<b>Billing overview</b>	Unit	<b>Account determination</b>
Unit	<b>Controlling the billing process</b>	Unit	<b>SD/FI interface</b>
Unit	<b>Special billing types</b>	Unit	<b>Conclusion</b>
Unit	<b>Data flow in billing</b>		
Unit	<b>Creating billing documents</b>		

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## Appendix

## Preface

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Unit	<b>Course Overview</b>	Unit	<b>Lists</b>
Unit	<b>Organizational Structures in SD</b>	Unit	<b>Adapting the Interface</b>
Unit	<b>Copying Control</b>	Unit	<b>Summary</b>
Unit	<b>Text Control</b>		
Unit	<b>Output</b>		
Unit	<b>Processing Output</b>		

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**Unit    ASAP Overview**

**Unit    Implementation Roadmap**

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## Course: Shipping

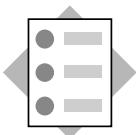
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**This course will prepare you to:**

- **Describe the processes and functions in shipping**
- **Make the necessary Customizing settings for shipping**



**At the conclusion of this course, you will be able to:**

- **Describe the role of shipping within the supply chain**
- **Perform the different functions in shipping processing**
- **Configure the system to your requirements for shipping processing**

## Preface

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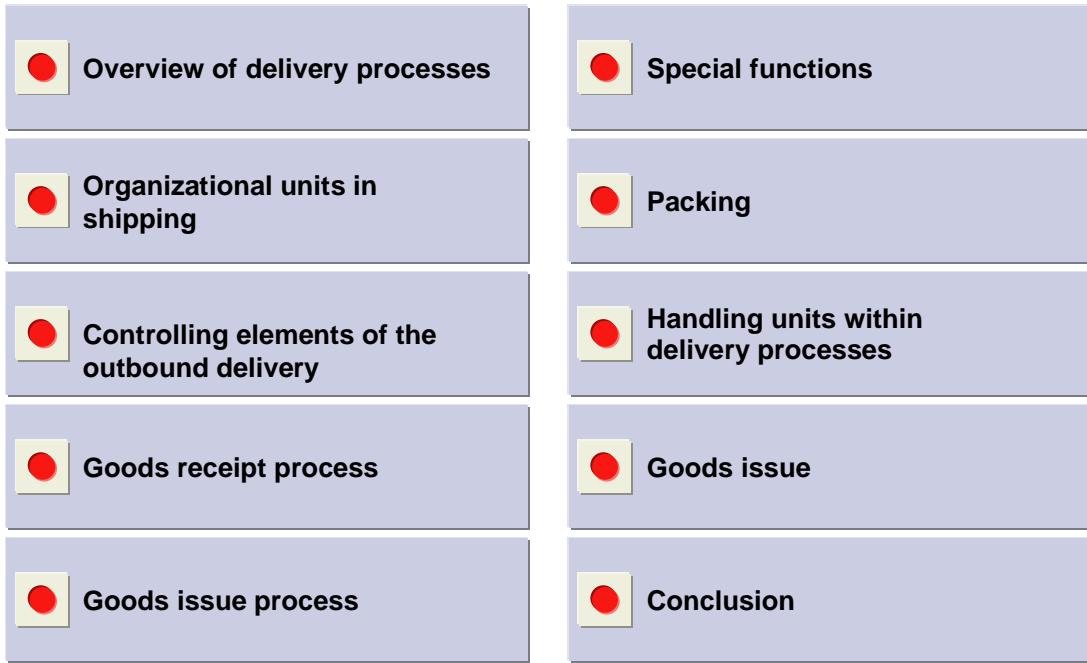
Unit 1	<b>Course Overview</b>	Unit 6	<b>Goods Issue Process</b>
Unit 2	<b>Overview of the Delivery Processes</b>	Unit 7	<b>Special Functions</b>
Unit 3	<b>Organizational Units in Shipping</b>	Unit 8	<b>Packing</b>
Unit 4	<b>Controlling Elements of the Outbound Delivery</b>	Unit 9	<b>Handling Units within Delivery Processes</b>
Unit 5	<b>Goods Receipt Process</b>	Unit 10	<b>Goods Issue</b>
		Unit 11	<b>Conclusion</b>

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## Appendix

# Course Overview Diagram

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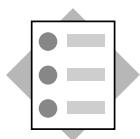




- You are a member of a company's project team which is responsible for implementing R/3 in the shipping area.
- Your task is to compare the shipping processing requirements of your company with the options available in the SAP R/3 System.
- To do this, you test the shipping functions and learn what Customizing settings are possible.

## Contents:

- **Shipping as part of the processes in Logistics Execution**
- **Delivery document: Structure and information**
- **Application areas of the delivery**

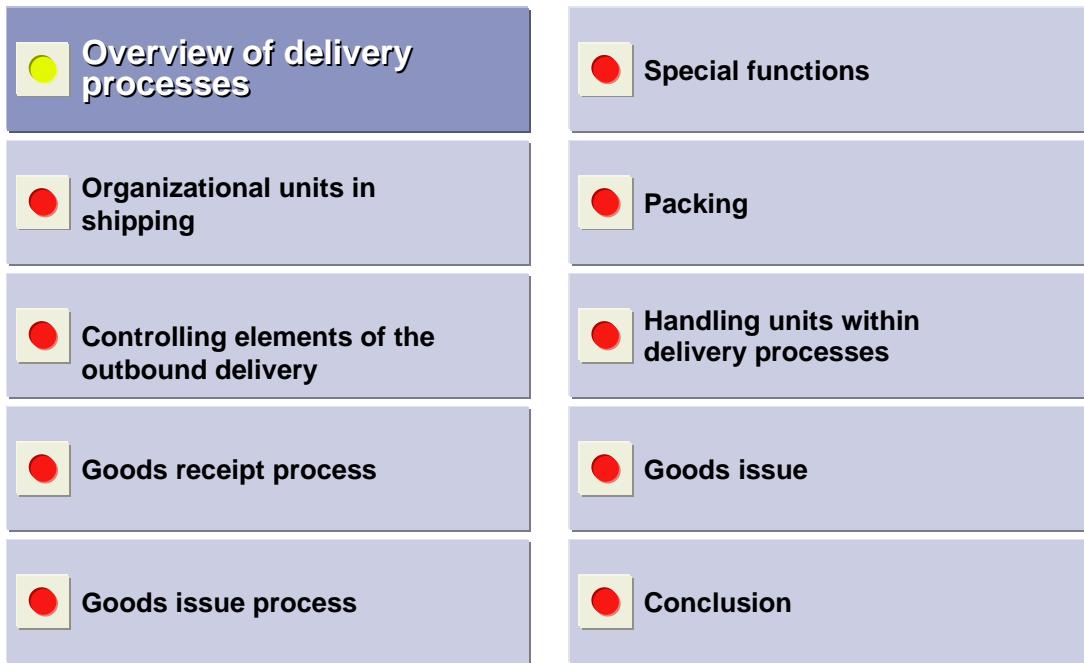


**At the conclusion of this unit, you will be able to:**

- Identify shipping as part of the LE process
- Describe the functions in shipping
- Explain the structure of the delivery document and find information in the delivery document
- Describe the connection between the purchase order and the inbound delivery
- Describe the connection between the sales order and the outbound delivery
- Describe the use of delivery documents in other applications
- Explain the difference between a delivery document and a shipment document

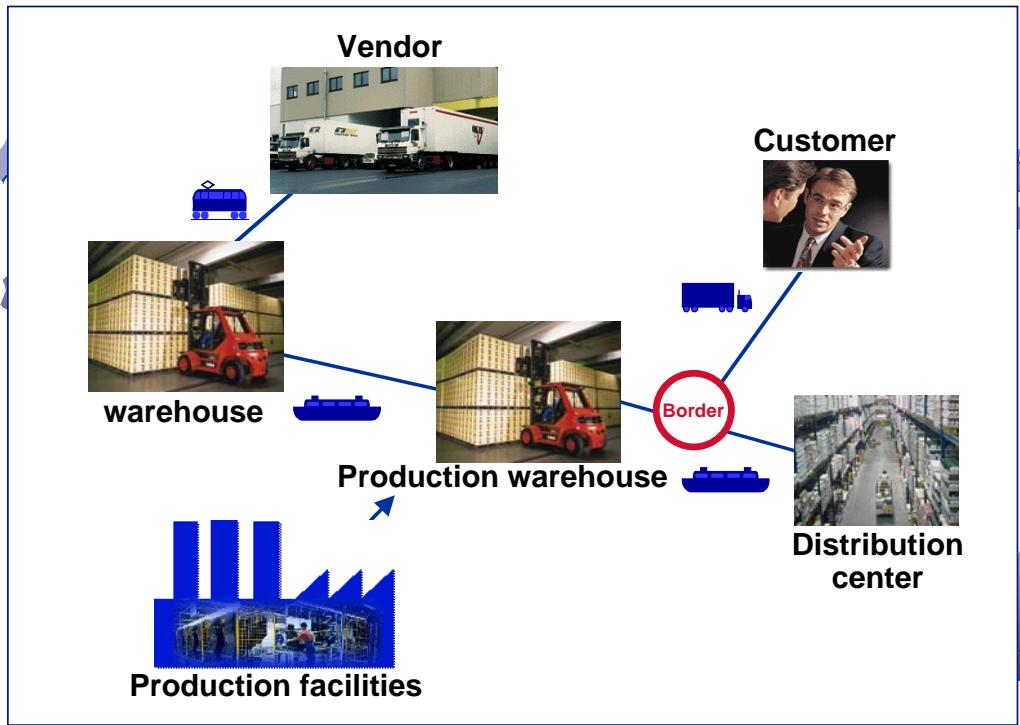
# Shipping Overview: Course Overview Diagram

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- Your company creates inbound/outbound deliveries in the procurement/sales processes
- These documents are the basis for shipping and warehouse activities
- Shipping employees require different information for processing the delivery, such as weight, relevance for transportation, and address of the ship-to party
- You also use the delivery document to process shipping activities if material is delivered to other plants within the company

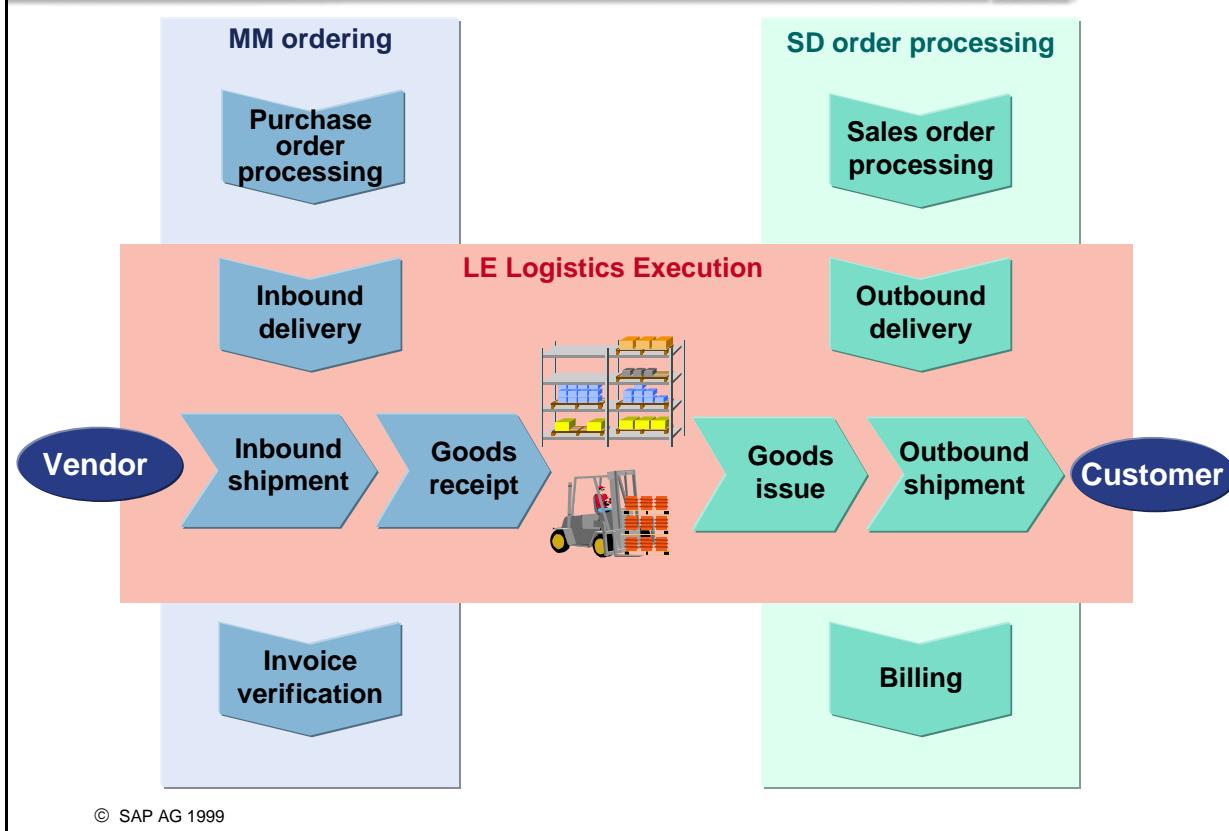


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- The **Logistics Execution (LE)** component models the logistics processes in a company. It covers the entire process chain from the vendor through the company warehouse, production facilities, and distribution centers to the customer.
- The LE processes include:
  - The **goods receipt** process: Goods pickup from the vendor and **putaway** in the company's warehouse.
  - The **goods issue** process: Picking the goods and delivering them to the customer.
  - **Internal warehouse** processes such as posting change, **stock transfer**, and **inventory**.
  - The **shipment** process: **Inbound** and **outbound shipments**, and **shipment cost calculation** and **settlement**.

# Processes in Logistics Execution

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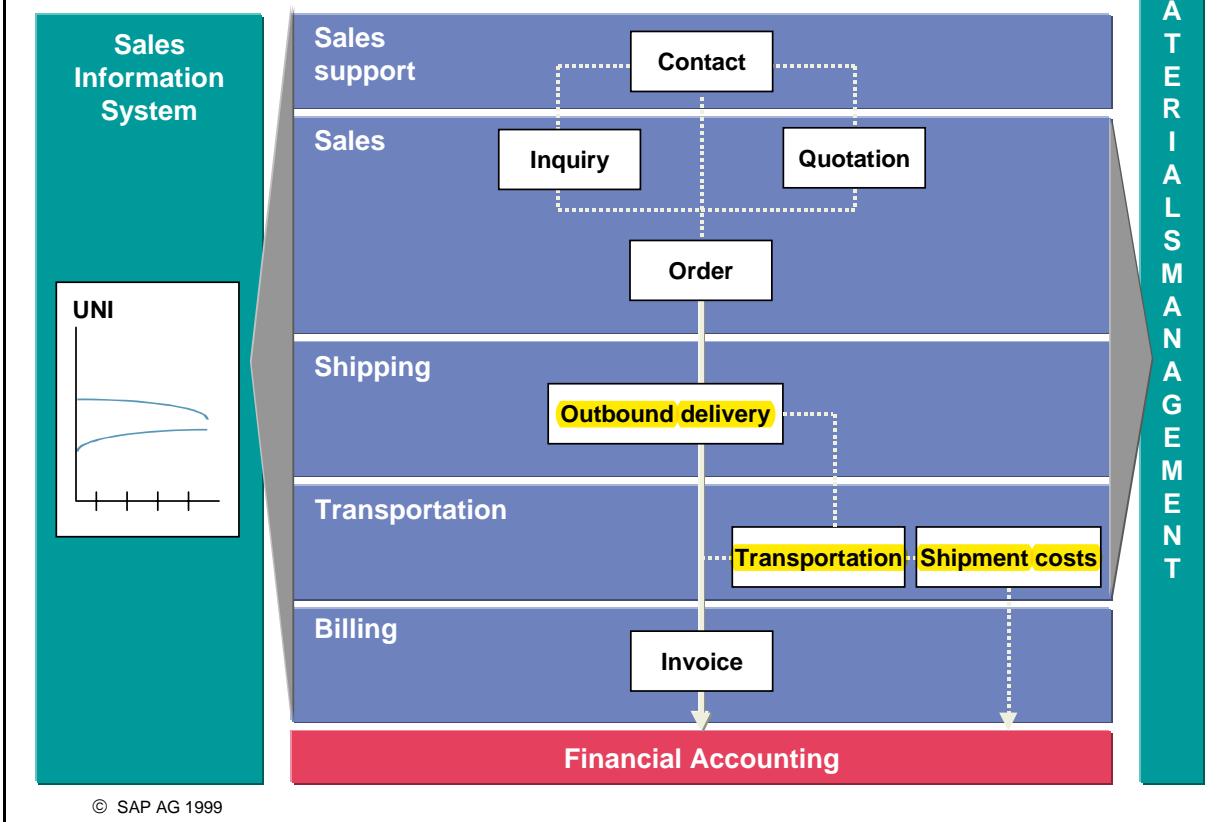


- **Shipping** is part of the Sales and Distribution (SD) component. You use it to create **outbound deliveries** and perform different shipping activities such as **picking** and **packing**.
- It is also a **step** in the **supply chain from vendor to customer**, and therefore also **belongs to** the Logistics Execution (LE) component.

## Processes in Sales and Distribution

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MATERIALS MANAGEMENT

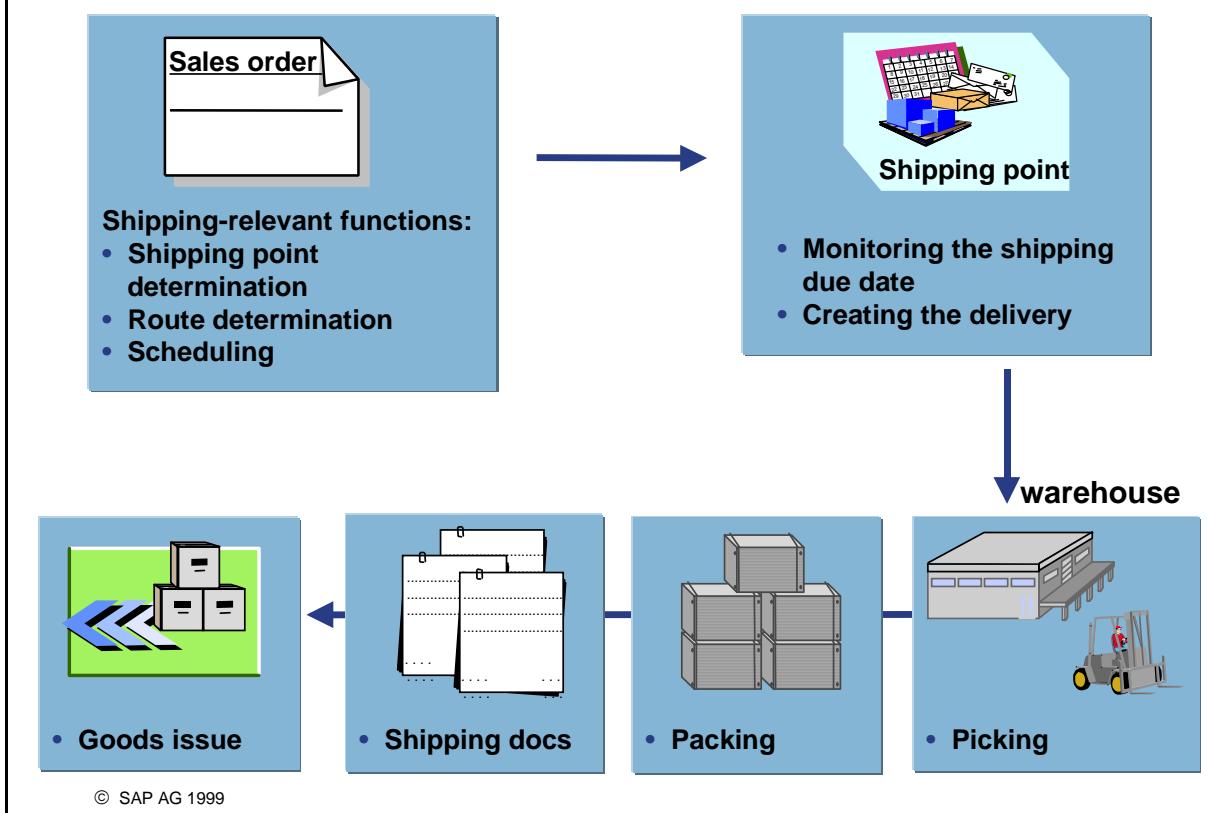


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- R/3 Sales and Distribution is divided into the areas sales support, sales, shipping, transportation, and billing.
- Each sales activity that you initiate in R/3 is documented by a sales document.
- You can execute different business transactions in sales, shipping, transportation, and billing with the help of specific, tailored document types.
- Documents are identified by their unique document number. To find a document, you can use the search help function (matchcodes).
- Each document has an **overall status** that tells you to what extent a document has already been processed. The overall status, in turn, depends on the other individual status fields in the document. These statuses display the processing level for different steps within the sales activity.
- You can analyze the sales activities in the **Sales Information System**.
- From Sales and Distribution, there are several interfaces to other areas, such as Materials Management and Financials (Financial Accounting and Controlling).
- Shipping activities follow sales activities. You can complete a range of shipping activities within shipping, including picking, packing, and printing shipping documents. The basis for these activities is the delivery document (outbound delivery).

# The Shipping Process

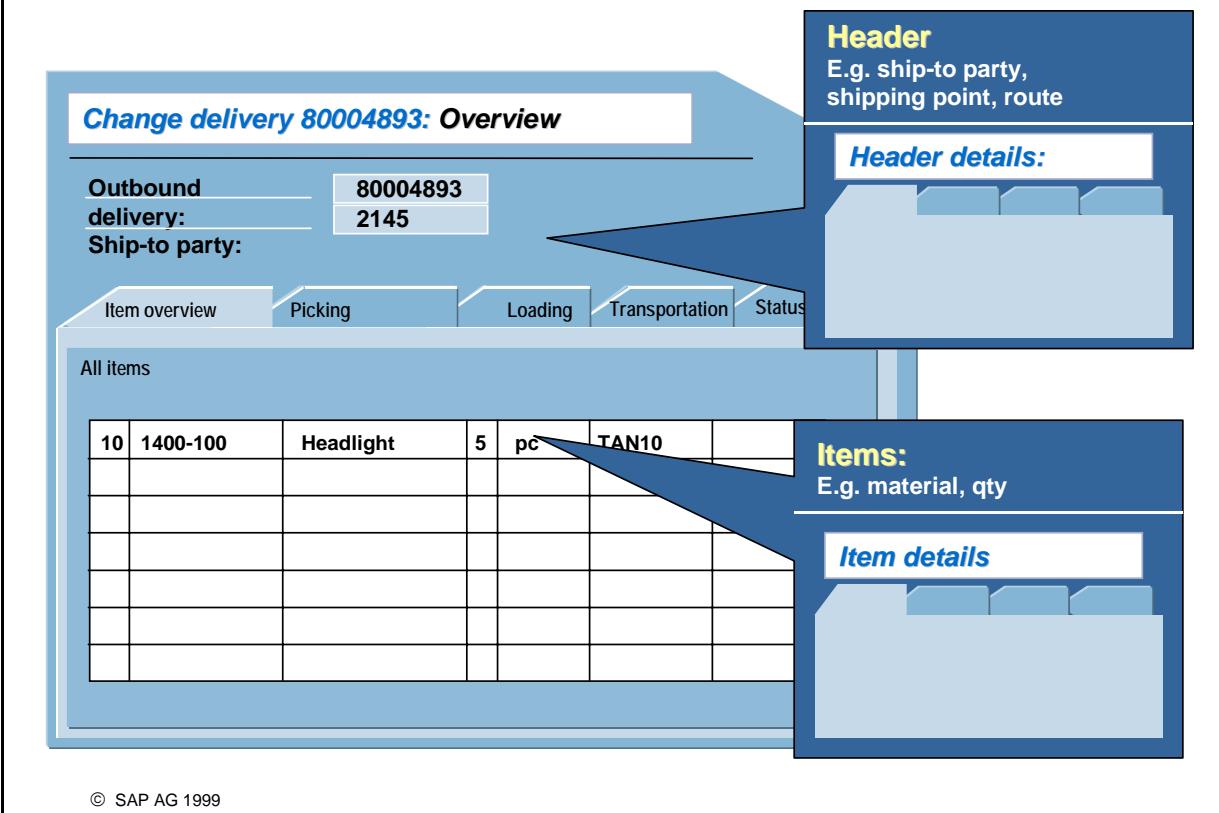
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- Functions supported by the R/3 System in **shipping processing** include:
  - Monitoring of deadlines for reference documents due for shipping (for example, customer orders and purchase orders)
  - Creating and processing outbound deliveries
  - Monitoring goods availability
  - Monitoring capacity situation in the warehouse
  - Support for picking (with link to the Warehouse Management System)
    - Packing the delivery
  - Printing and transmitting shipping documents
    - Processing goods issue
  - Controlling through overviews of:
    - deliveries currently in process
    - activities still to be performed
    - possible bottlenecks
- The deliveries in the shipping department that have already been posted for goods issue can provide the basis for creating a worklist for billing.

# Structure of the Delivery Document

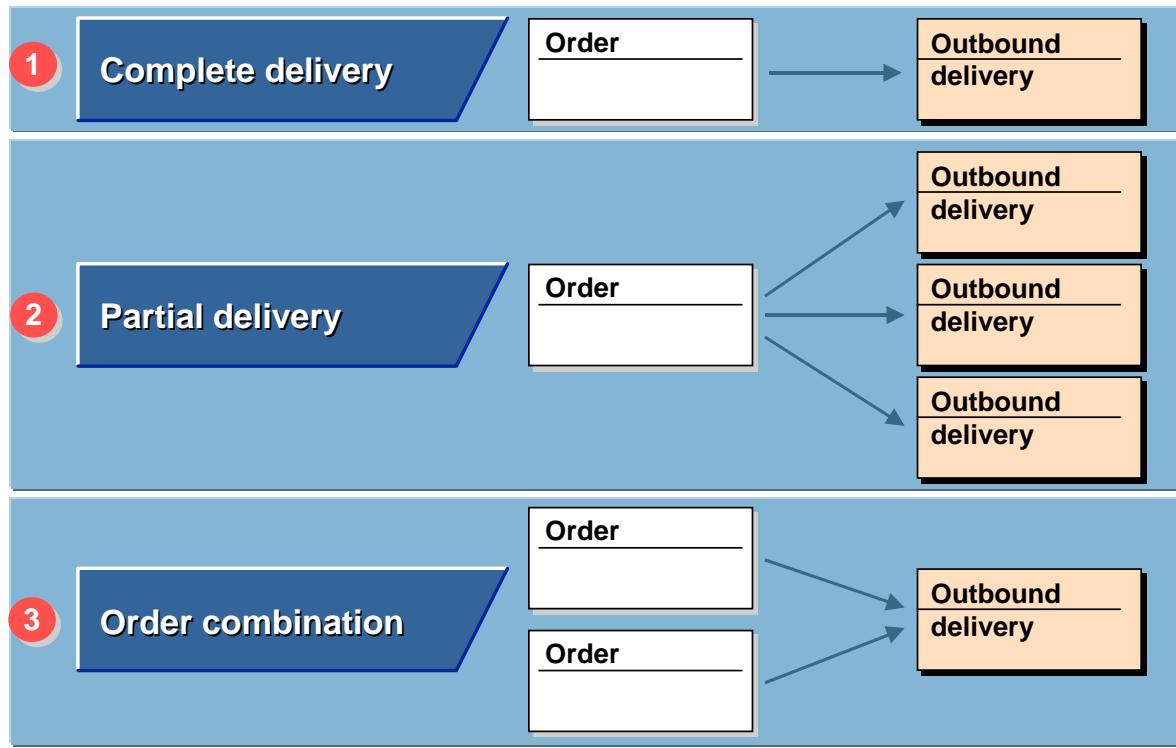
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- A delivery document consists of a **header** and a number of **items**.
- The header contains data that applies to the whole document. This means that the ship-to party, shipping point, route, and so on, are clearly displayed for each outbound delivery.
- The items primarily contain information about the material to be delivered.
- The information in the delivery document is displayed in different screens:  
The overview screen displays selected header and item data, which is grouped according to activity on tabstrips. This means that you find the important data all on one screen.
- At both **header and item level**, you can access another screen to display **detailed information**. Again, the information is grouped into processes on tabstrips.  
At header level, this information includes data on processing, picking, loading, shipment, foreign trade/customs, texts, partners, output, package monitoring, and conditions. At item level, the detailed screen displays similar tabstrips with information about the items.

## Relationship Between Order and Outbound Delivery

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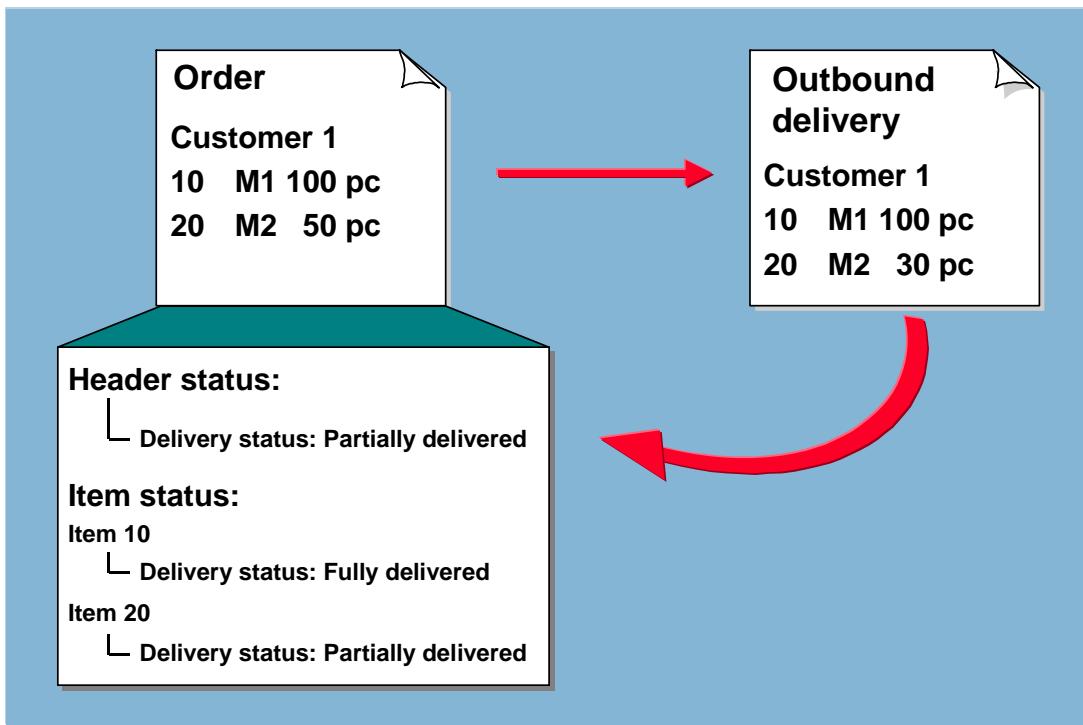


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- There are different options for delivering orders. You can store delivery agreements using the **indicators** in the sold-to party master record or in the customer material information record. These are proposed in the order and can be changed there.
- The sold-to party requires **complete delivery** of the order. You cannot, therefore, split the order into several outbound deliveries. However, the complete-delivery agreement does not rule out order combination, if this is allowed.
- The sold-to party agrees to **partial delivery**. Here you can choose from a variety of partial delivery options. These are defined in the order at item level based on the partial-delivery agreement.
- The sold-to party agrees to several orders being **combined** to form one outbound delivery.

## Updating an Order

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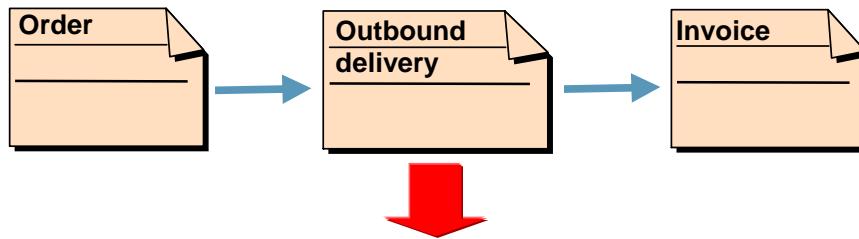


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- When you create an outbound delivery, the system updates the relevant order with a **delivery status** at header and item level. This takes place regardless of how the outbound delivery itself is updated during the delivery process.
- The status indicators provide information about the work progress in the shipping activity.

## Document Flow

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### Document Flow

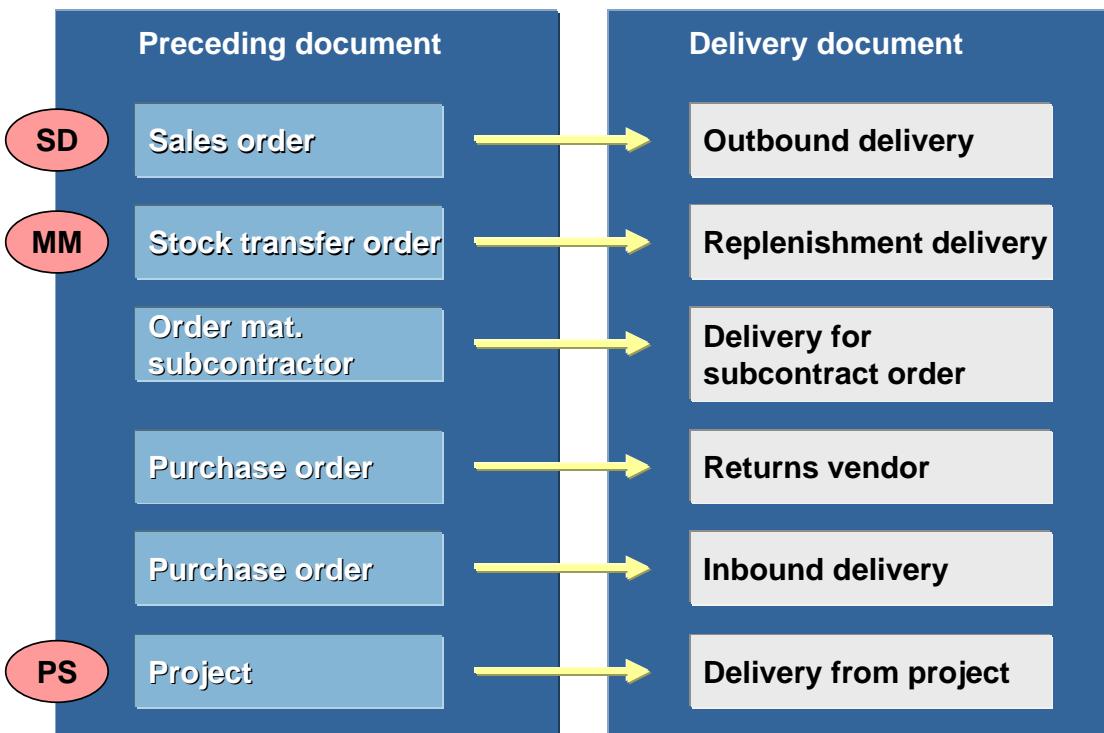
Document	Date	Overall processing status
. Order 5373	06/05	Completed
. Outbound delivery 80003752	06/09	Completed
. WM transfer order 2651	06/09	Completed
. Goods issue 49007029	06/10	Completed
. Invoice 90004711	06/15	Completed
. Accounting doc. 1000000276	06/15	Cleared

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- With the help of the document flow in SD sales processing, it is now possible to trace the order upon which the delivery is based or the follow-up documents, such as the WM transfer order, the goods issue document, and the billing document.
- You can display the documents by calling up the document flow.
- Using the document flow and the status settings displayed, you can monitor the progress of processing.
- The document flow is displayed at the header level and at the item level for one or all items of a document.
- **Note:**  
The overall processing status of the outbound delivery is "in process" until the billing document is generated - even if shipping processing activities of picking and goods issue are complete.

## Application Areas of the Delivery

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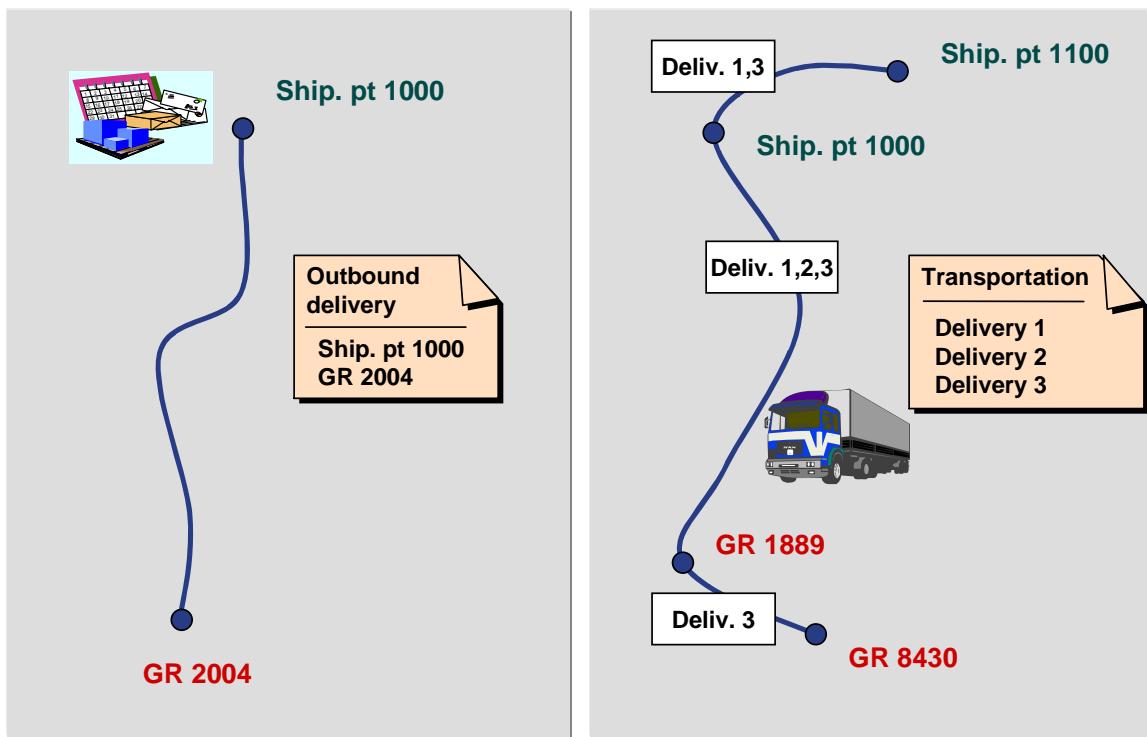


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- Employees using other applications may also need to complete shipping activities such as picking, packing, and document printing. They can use the delivery documents for these activities too.
- For example: Stock transfer from plant to plant:  
The ordering plant creates a purchase order in purchasing; the delivering plant creates a delivery for this purchase order. Based on this delivery, the goods are picked, packed, and posted as a goods issue.
- The different business processes are modeled using different delivery types. In the sales and distribution process, we refer to **outbound deliveries**.

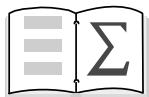
# Outbound Delivery and Shipment

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- The outbound delivery in the R/3 System supports the processing of shipping activities in the warehouse and the shipping point.
- The outbound delivery itself simplifies shipment processing.
- Basically, each outbound delivery starts at a **shipping point**, continues via a **route**, and has the **ship-to party** as the destination. This flow is reflected in the fact that the criteria mentioned are header fields in the outbound delivery.
- For example, several outbound deliveries are to be loaded onto a truck and the truck is to deliver goods to several shipping points and ship-to parties along a particular route. Here the transportation functionality is recommended. The outbound deliveries are grouped together on the basis of user-definable criteria in a document, namely, the shipment document.
- The functions provided in transportation planning, shipment completion, and shipment costs calculation form the contents of the course LO611.



You are now able to:

- Identify shipping as part of the LE process
- Describe the functions in shipping
- Explain the structure of the delivery document and find information in the delivery document
- Describe the connection between the sales order and the outbound delivery
- Describe the use of delivery documents in other applications
- Explain the difference between a delivery document and a shipment document

# Exercise Data

## Key to the symbols used in the exercises and solutions

	<b>Exercises</b>
	<b>Solutions</b>
	<b>Unit objectives</b>
	<b>Business scenario</b>
	<b>Tips &amp; tricks</b>
	<b>Warning or attention</b>

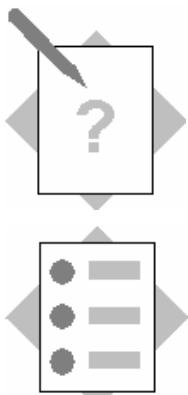
## Data Used in Exercises

<b>Data Type</b>	<b>Data in the training system</b>	<b>Data in the IDES system</b>
Sales organization	1000	1000
Distribution channel	12	12
Division	00	00
Plant	1200 / 1000	1200 / 1000
Storage location	0001 / 01## / Hu##	0001 / 0100
Warehouse number	012 / 1##	012 / 100
Shipping point	X0## / Z0##	1200
Shipping condition	50##	02
Customer 1	T-L64A##	1002
Customer 2	T-L64B##	2004
Customer 3	T-L64C##	2146
Vendor	T-K12A##	1000
Material 1	T-AU1##	M-03
Material 2	T-AU2##	R-1160
Material 3	T-AU3##	R-1150
Material 4	T-ZS4##	PK-100
Material 5	T-ZS5##	PK-095
Material 6	T-AU4##	R-1155

## Notes

- Replace the symbols ## with your group number (01, 02, 03 ...).
- Exercises marked with an asterisk (\*) are optional. These exercises are additional exercises that you can complete after working through the standard exercises.
- When working through the exercises in the IDES System after the course, replace the data used in the exercises by the data as listed in the table for the IDES System.

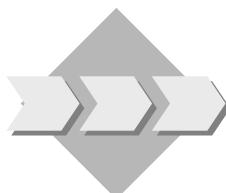
# Exercises



## Unit: Overview of the Shipping Process

At the end of these exercises, you will be able to:

- Explain the functions and activities in shipping
- Identify the structure of the outbound delivery
- Find the different information items that are stored in the outbound delivery



As an employee with responsibilities in shipping, you are also a member of the project team working on R/3 implementation for shipping.

Before you start configuring the system and examining the processes in shipping, clarify the position of shipping processing in logistics. You need to identify the individual shipping activities that you can perform in the R/3 System. You also examine the structure of the delivery document and find out what information it contains.

1-1 Shipping is an element of the components *Sales and Distribution* and *Logistics Execution*.

1-1-1 Which specific activities can you complete within shipping processing?

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1-1-2 What is the role of the delivery document in this context?

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1-1-3 In the sales and distribution process, you usually create a delivery document (outbound delivery) with reference to a sales order. In what other scenarios might you want to use a delivery document in shipping processing?

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1-2 You want to familiarize yourself with the structure of the delivery document and find information on an existing outbound delivery.

1-2-1 Find out the number of the outbound delivery that refers to the sales order that has the purchase order number *LO610*.

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1-2-2 Which shipping point is processing this outbound delivery?

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1-2-3 Determine the gross weight for the second item.

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1-2-4 When will the goods reach the ship-to party?

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1-2-5 Display the order that is the basis for this delivery and check its delivery status.

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1-2-6 Does the delivery status of the order tell you whether the goods have already left your warehouse? Give a reason for your answer.

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# Solutions



## Unit: Overview of the Shipping Process

1-1 Shipping is an element of the components *Sales and Distribution* and *Logistics Execution*.

1-1-1 Activities in shipping processing:

- Monitoring the deadlines of reference documents due for shipping
- Creating and processing outbound deliveries
- Monitoring capacity situation in the warehouse
- Support for picking
- Packing
- Printing and transmitting shipping documents
- Processing goods issue
- Controlling

1-1-2 Role of the delivery document:

The delivery document forms the basis for all these activities. It is used in various business transactions, and the status settings in the document provide information on the progress of different steps within shipping processing.

1-1-3 Scenarios in which you can use a delivery document:

- Replenishment delivery for stock transport orders
- Delivery for subcontract order
- Returns vendor
- Inbound delivery for purchase order
- Delivery from project

1-2 Finding information on an existing outbound delivery:

1-2-1 Number of the outbound delivery:

***Logistics → Sales and Distribution → Sales → Order → Display***

Purchase order number: **LO610**

Choose **Search**.

***Environment → Display document flow***

1-2-2 Shipping point:

***Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Display***

***Enter the delivery number you just found.***

***Goto → Header → Administration (tab)***

***Shipping point: 1200***

1-2-3 Gross weight of the second item:

Position the cursor on the second item.

Choose ***Item Detail*** (magnifying glass) → ***Picking tab***

***Gross weight: 5 kg***

1-2-4 Delivery date:

***Header → Shipment***

***Delivery date*** field

1-2-5 Delivery status of the order:

***Logistics → Sales and Distribution → Sales → Order → Display***

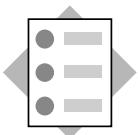
***Goto → Header → Status***

***Delivery status: Fully delivered***

1-2-6 No, the delivery status in the order depends solely on whether an outbound delivery already exists for the items. If you want to find out about the actual progress of the delivery, you should view the status of the outbound delivery itself.

## Contents:

- **Organizational units in shipping**



**At the conclusion of this unit, you will be able to:**

- **Describe the organizational units relevant to shipping**
- **Define and assign organizational units in the Implementation Guide (IMG)**

# Organizational Units: Course Overview Diagram

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 Overview of delivery processes

 **Organizational units in shipping**

 Controlling elements of the outbound delivery

 Goods receipt process

 Goods issue process

 Special functions

 Packing

 Handling units within delivery processes

 Goods issue

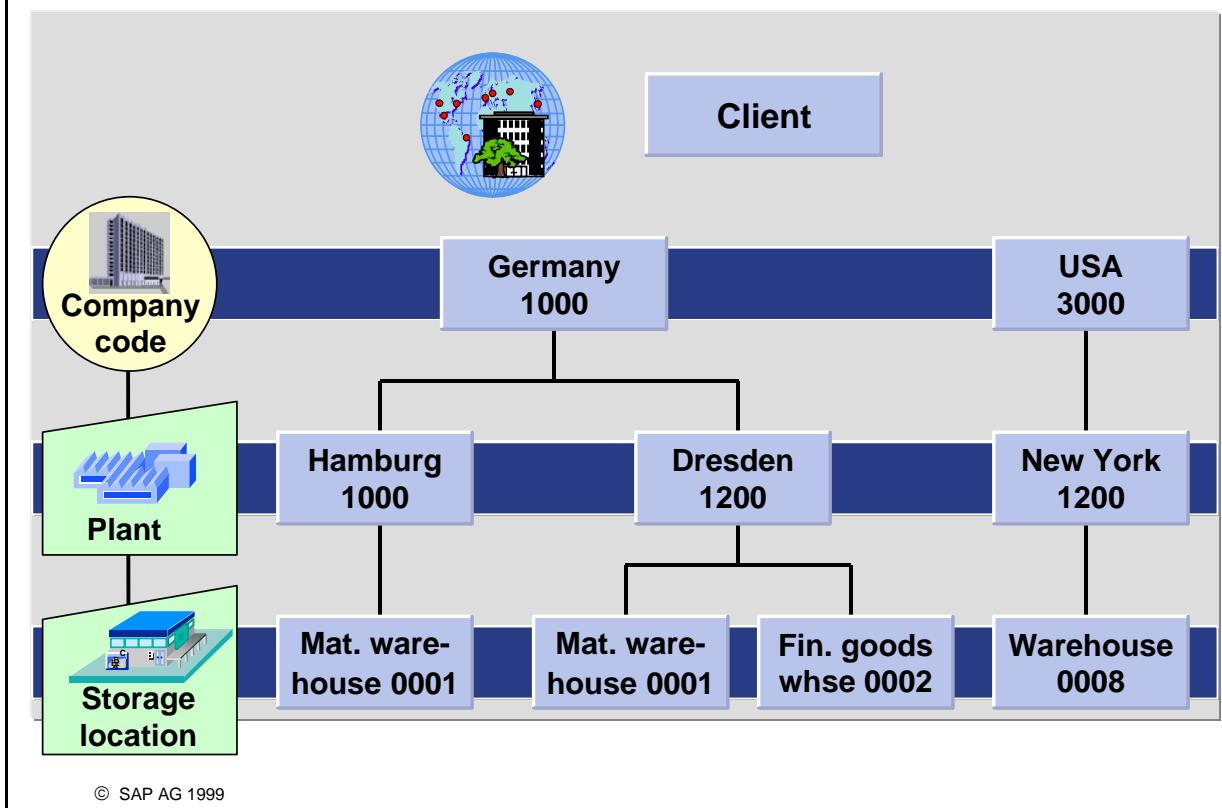
 Conclusion



- One of the first tasks is to model the organizational structure in the company for shipping and the related areas. To do this, you define organizational units and the relationships between them
- Since you process your goods transported by rail separately, you need a special organizational unit for this activity

# Organizational Structure - Logistics

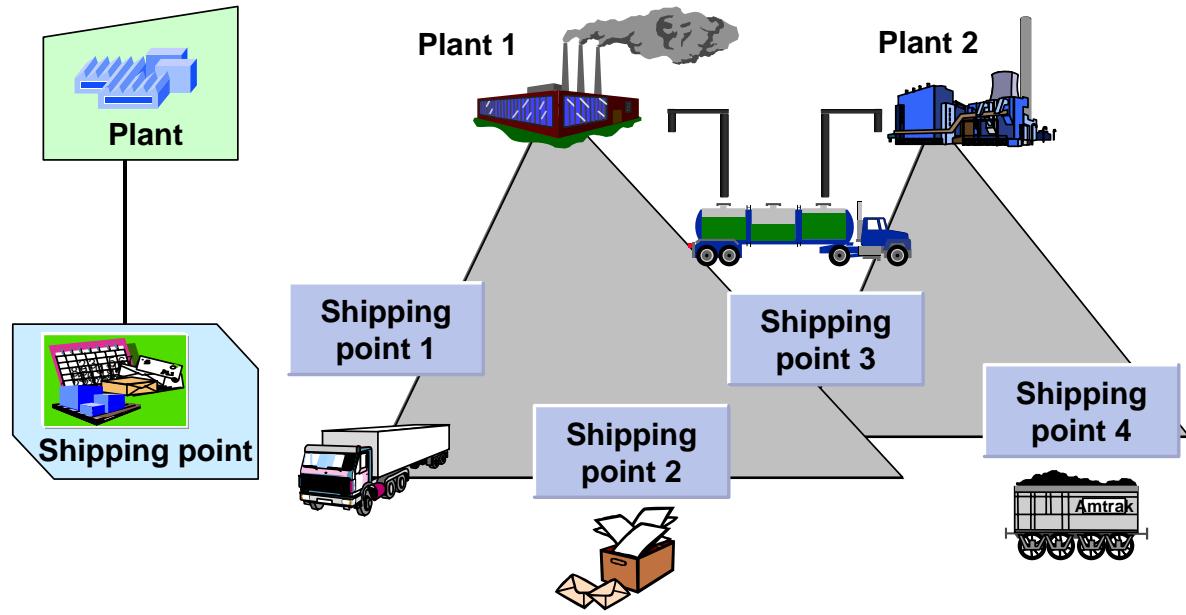
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- You can model the structure of a group with **clients** and **company codes**. A client is often synonymous with a group, while a company code represents an independent accounting unit. Company codes are legally independent from one another.
- The **plant** plays a central role in **logistics**. A plant is a production facility or a location (or collection of locations in one general vicinity) that handles material stock. These individual locations are known as **storage locations**. Stock is managed at the level of the storage location.
- A plant is assigned to only one company code. In this way, you can manage stocks and stock values in the individual companies independently.

## Organizational Structure - Shipping

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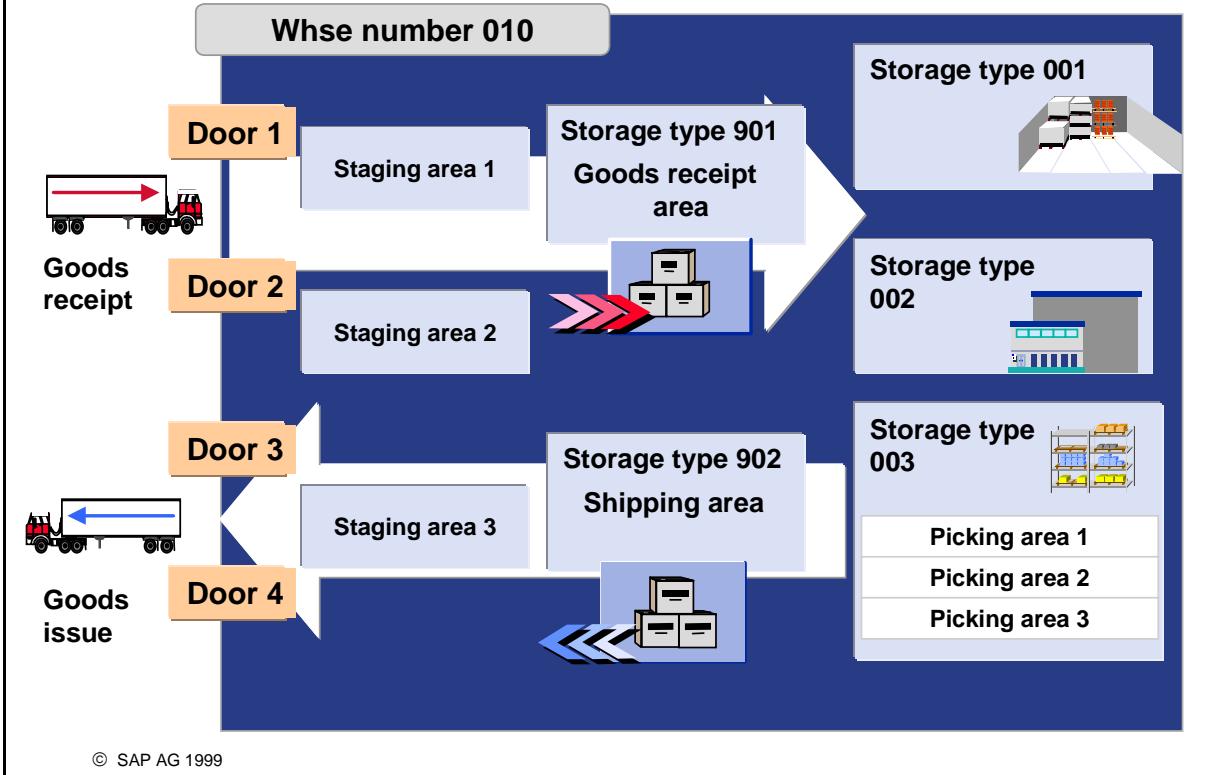


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- A **shipping point** is an independent organizational unit at a fixed location that processes and monitors outbound deliveries as well as goods issue. The shipping point is directly under the client level.
- An outbound delivery is processed from a single shipping point.
- The responsible shipping point is determined in the order at item level.
- A shipping point can process the outbound deliveries of several plants. This is only useful if the plants are located in the same general vicinity.
- Several shipping points can be assigned to one plant. They may, however, have different loading equipment or different processing times.
- The allowed combinations of shipping point and plant are defined in the Customizing application of the enterprise structure.

## Organizational Structure - Warehouse

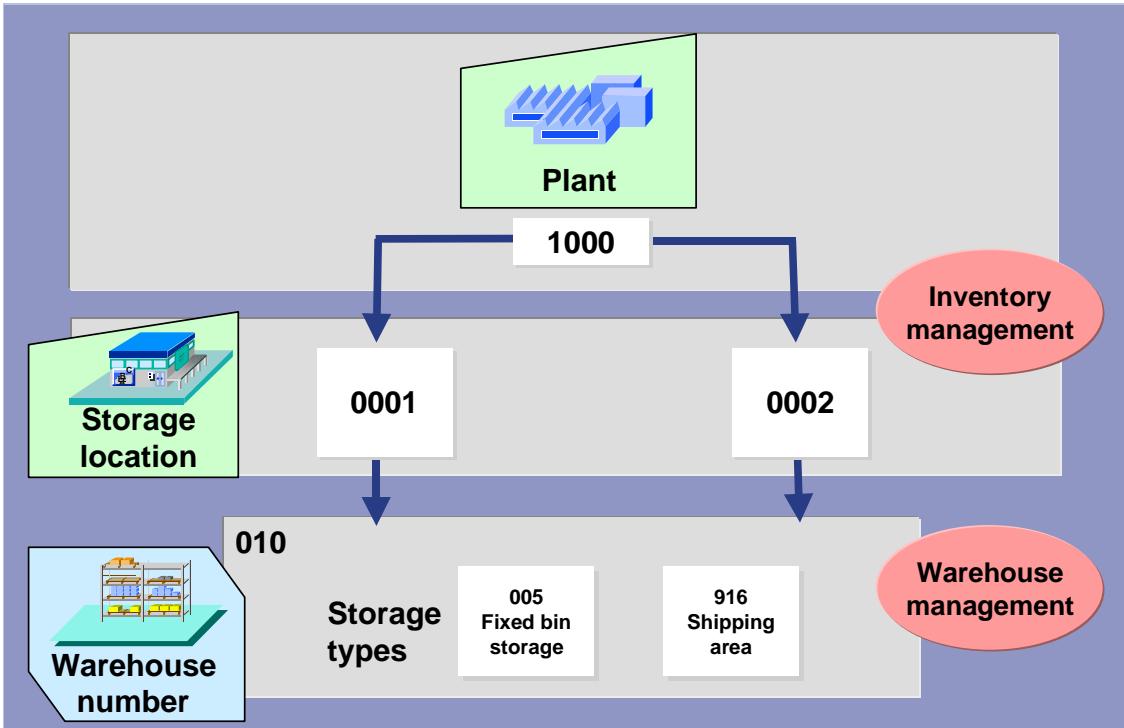
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- In order to achieve efficient processing for goods receipt and goods issue, you can use the following organizational units:
  - **Warehouse number:** The entire warehouse structure is managed under one warehouse number. This number represents the warehouse complex.
  - **Storage type:** The different warehouse areas, which differ with respect to their organizational and technical features, are defined as storage types (for example, high-rack warehouse with random storage, picking warehouse with fixed bins, shipping area).
  - **Picking area:** The picking area groups **storage bins** together in the **storage type** from the picking viewpoint. It is the opposite of the storage section, which groups storage bins together from the **putaway** viewpoint. For example, a delivery can be split up into different picking areas to make parallel picking possible.
  - **Staging area:** The staging area is an area in the warehouse where the goods are stored immediately after unloading or shortly before loading.
  - **Door:** A door within a warehouse can be used both for inbound delivery as well as outbound delivery of goods.
- The door and the staging area are already defined in the outbound delivery header. They can be determined automatically, that is, depending on the customer.

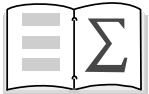
## Connection between Warehouse Number and Plant/Storage Location

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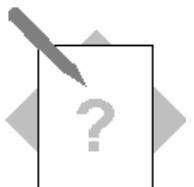
- The linkup of the organizational units in the warehouse to MM Inventory Management takes place through the assignment of the warehouse number to a combination of plant and storage location.
- Several storage locations within a plant can point to the same warehouse number. They thus form the warehouse complex from the different viewpoints of inventory management.



You are now able to:

- **Describe the organizational units relevant to shipping**
- **Define and assign the organizational units in the IMG**

# Exercises

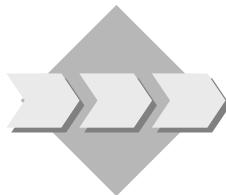


## Unit: Organizational Units



At the end of these exercises, you will be able to:

- Describe the assignment of shipping point to plant
- Define a new shipping point in Customizing



Shipping point X0## is responsible for standard shipping operations. It is already defined in the system.

However, a new shipping point is required for processing refrigerated goods. As a project team member, you are responsible for defining this new shipping point.

- 1-1 What is the role of the organizational unit *shipping point*?

---

---

- 1-2 Find out to which plant or plants shipping point **X0##** is assigned.

---

- 1-3 Now set up a new shipping point for processing refrigerated goods shipments. This shipping point should be near shipping point **X0##**.

- 1-3-1 In your system, create this new shipping point with the key **Y0##** by copying the existing shipping point **X0##**.



Use the copying function for shipping points instead of the function *Define shipping point*. This has the advantage that any dependent tables are automatically maintained by the system as well.

- 1-3-2 Afterwards, change the description of shipping point **Y0##** to ## **Refrigerated shipments Dresden**.

- 1-3-3\* *Optional:*

Maintain the address screen for the shipping point you have just defined.

- 1-4 Make sure that the newly created shipping point **Y0##** works for the same plant as shipping point **X0##** responsible for standard shipping processes.

# Solutions



## Unit: Organizational Units

### 1-1 Organizational unit *shipping point*:

The shipping point creates, processes, and monitors inbound and outbound deliveries. It is responsible for the different shipping activities.

Each inbound or outbound delivery is processed from a single shipping point.

### 1-2 The plant or plants to which shipping point **X0##** is assigned:

Call up the Implementation Guide (IMG):

**Tools → AcceleratedSAP → Customizing → Edit Project**

Choose **Display SAP Reference IMG**.

**Enterprise Structure → Allocation → Logistics Execution → Assign shipping point to plant**

**X0##** is assigned to **plant 1200**.

### 1-3 Set up the *shipping point* for refrigerated goods:

#### 1-3-1 Create shipping point **Y0##** by copying **X0##**.

In the IMG: Enterprise Structure → Definition → Logistics Execution → Define, copy, delete, check shipping point

From the dialog box, choose **Copy, delete, check shipping point**.

**Organizational object → Copy org. object**

From shipping point: **X0##**

To shipping point: **Y0##**

#### 1-3-2 Change the description of shipping point **Y0##** to **## Refrigerated goods Dresden**.

In the IMG: Enterprise Structure → Definition → Logistics Execution → Define, copy, delete, check shipping point

From the dialog box, choose **Define shipping point**.

Find your entry, **Y0##**, and overwrite the description.

1-3-3\* *Optional:*

Maintain the address screen for the new shipping point.

***In the IMG: Enterprise Structure → Definition → Logistics Execution → Define, copy, delete, check shipping point***

From the dialog box, choose ***Define shipping point***.

Select the line with the entry **Y0##** and choose the ***Address*** button.

- 1-4 Make sure that the newly created shipping point **Y0##** works for the same plant as shipping point **X0##** responsible for standard shipping processes.

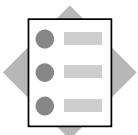
***In the IMG: Enterprise Structure → Allocation → Logistics Execution → Assign shipping point to plant***

Plant **1200**: Shipping point **Y0##**

When the shipping point was copied, the system maintained the existing entry at the same time. (see Exercise 1-3-1)

## Contents:

- **Delivery types**
- **Item categories in deliveries**
- **Determining item categories in deliveries**
- **Copying control**
- **Shipping-relevant controls in Customizing for Sales**

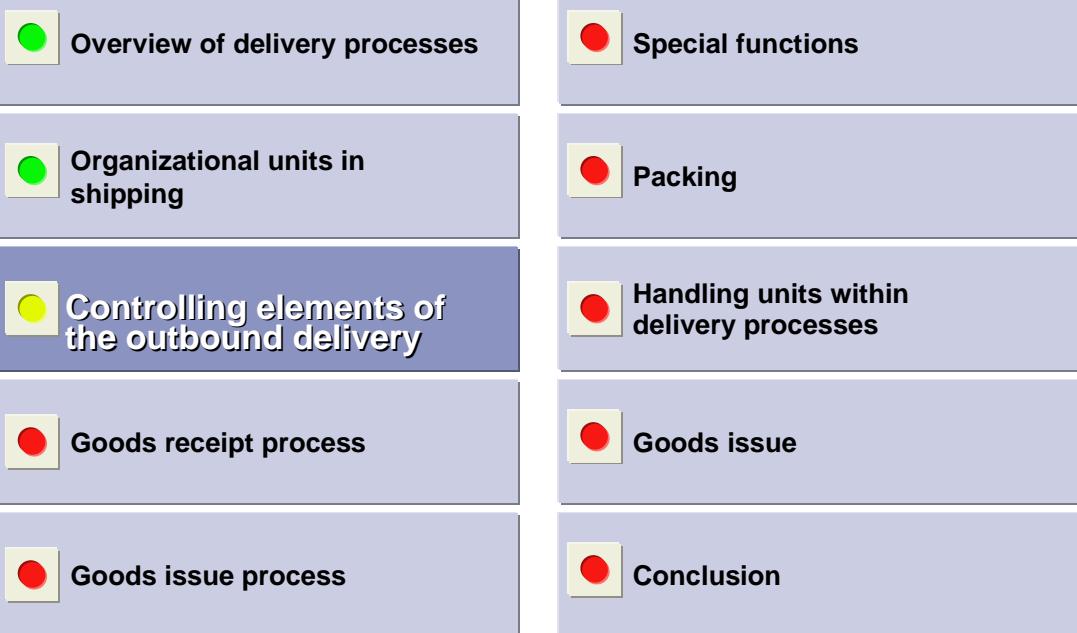


**At the conclusion of this unit, you will be able to:**

- Give an overview of the standard delivery types
- Explain delivery control at header and item level
- Describe item category determination in outbound deliveries
- Describe the relationship between the sales order and the outbound delivery

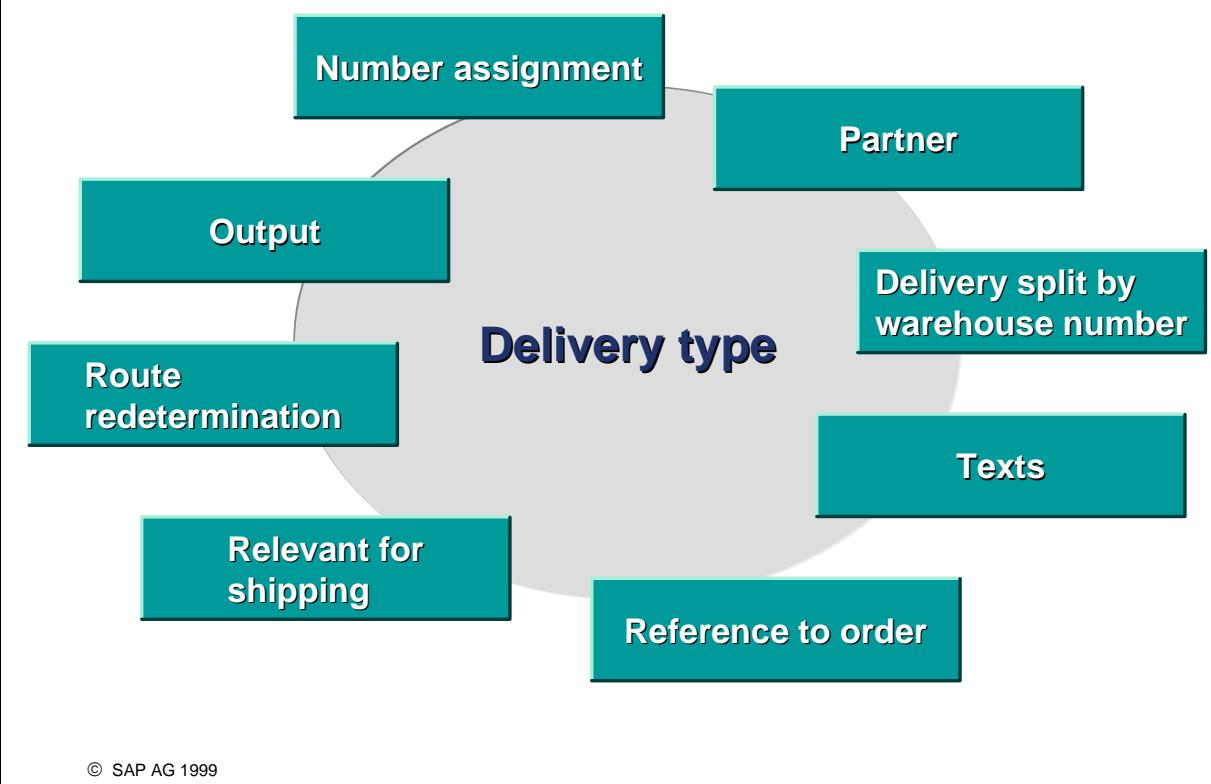
# Controlling the Delivery: Course Overview Diagram

SAP





- In shipping, you model different business transactions using different delivery types, so you will need separate delivery types for processing express deliveries, stock transfers, returns delivery, and so on.
- The different delivery types usually require different processing within shipping. For example, returns deliveries do not require any picking activities.



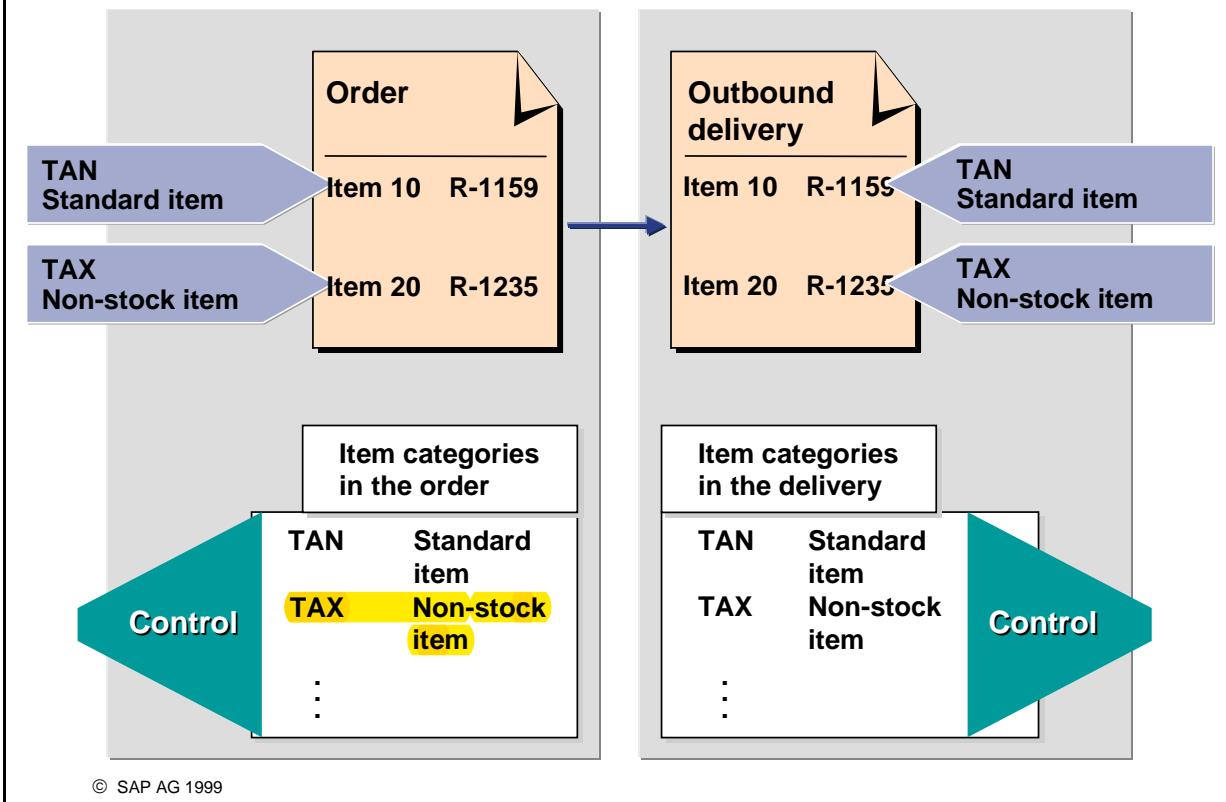
- The **delivery type** controls the entire delivery. You see the delivery type in the delivery header.
- The delivery types take into account the various business transactions in delivery processing. The delivery types defined in the standard system include:
  - EL: Inbound delivery (shipping notification)
  - LB: Delivery for subcontract order
  - LD: Decentralized shipping (used in decentralized shipping in connection with R/2 RV)
  - LF: Outbound delivery
  - LO: Delivery without reference (no sales order necessary in order to create a delivery)
  - LP: Delivery from project
  - LR: Returns delivery
  - NL: Replenishment delivery
- Using control elements, you can configure each delivery type to carry out different functions. You can adjust the delivery types in the standard system to meet your business requirements. However, if major adjustments are required, we recommend that you create a new delivery type.



- The **delivery item category** controls how **delivery items** are **handled and processed** during the **shipping process**. The control elements available provide a high degree of automatic determination and checking.
- You can also configure the item categories to meet the specific requirements of your system installation.

## Copying Item Categories from the Order

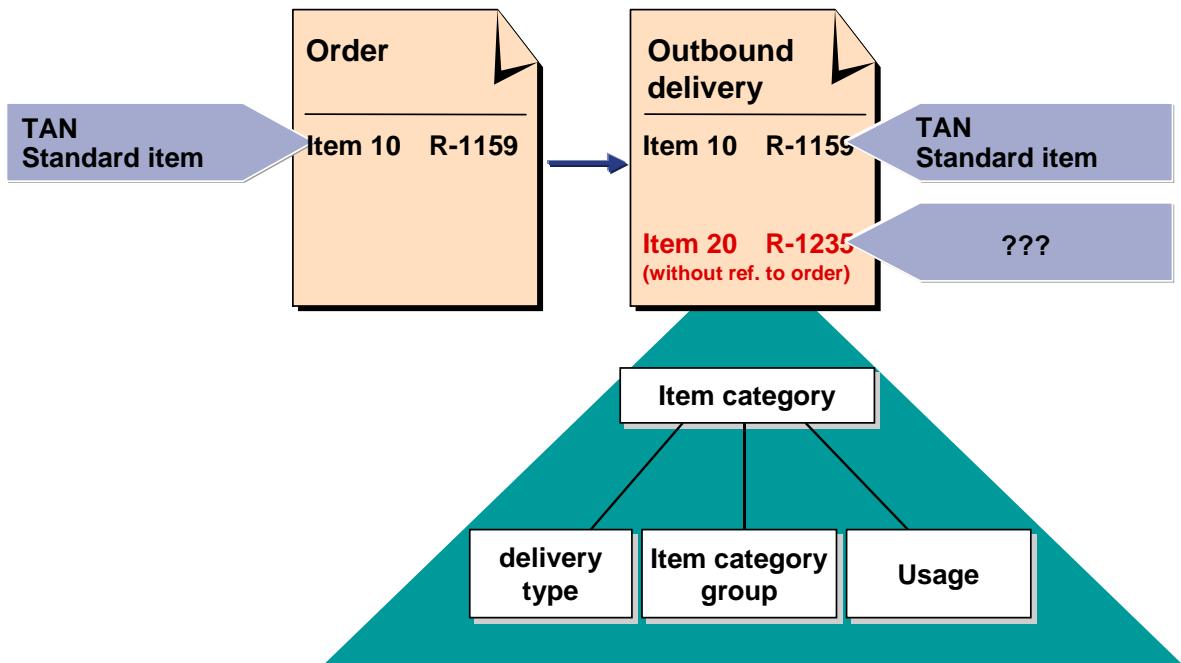
SAP



- When you copy an order item to a delivery, the system copies the item category of the order item to the delivery item.
- If an **order item category** or the **schedule line assigned** to it is **relevant for delivery**, the same item category is defined for the delivery process.

## Determining Item Categories in Deliveries

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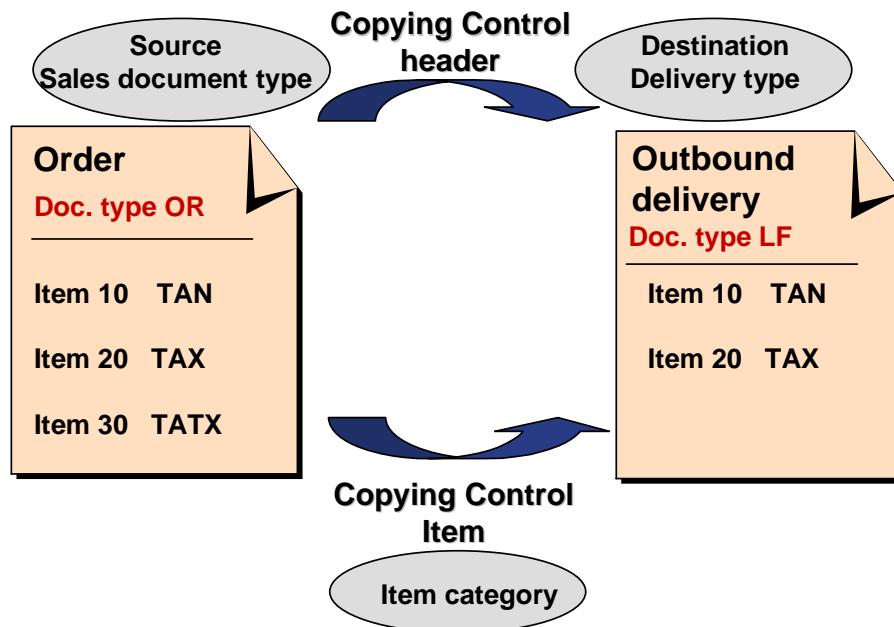


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- The system cannot copy item categories for order-independent items in the delivery (for example, packing material) or for deliveries without reference to an order (delivery type LO).
- In this case, the system determines an item category for the delivery according to the assignments specified in Customizing. For determining the item category, the system takes into account the delivery type as well as the item category group (from the material master of the item).
- Additional usages are set internally for some functions, such as:
  - PACK for generating packing items
  - CHSP for a batch split
  - PSEL for product selectionFor the delivery items resulting from these functions, the system can determine a different item category.

## Copying Control

SAP

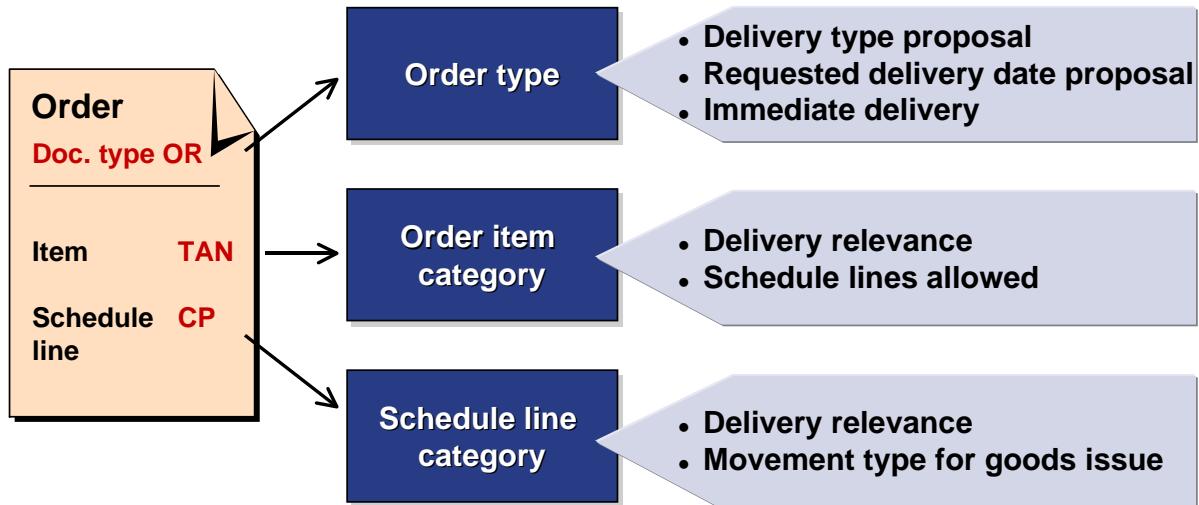


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- In the copying control table you specify:
  - Which sales and distribution document types can be copied to which delivery types
  - Which item categories are copied from reference documents
- You can also specify:
  - Under what conditions data is copied from the order to the outbound delivery
  - Under what conditions several orders can be combined in an outbound delivery
  - Which data is to be transferred
  - Whether the reference should be recorded in the document flow
- Order items that are due for delivery that have the same shipping criteria are shipped together. Required shipping criteria include the shipping point, the route, and the ship-to party.  
Certain shipping criteria in the standard system are optional and can be removed as splitting criteria from the copying control table.  
You can also define additional splitting criteria that do not allow joint shipping if the defined fields have different values.

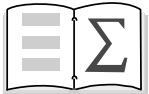
## Shipping-Relevant Customizing in Sales

SAP



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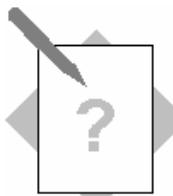
- You control order types by specifying:
  - Which delivery type is proposed for the outbound delivery
  - Whether a requested delivery date is proposed in the order and how far it is in the future
  - Whether the outbound delivery is automatically created in the background when the order is saved
- Delivery relevance on the order item category level is valid only for text or value items. You can set a text item as relevant for delivery, for example, so that it will be copied into the outbound delivery from the standard order and recorded in the delivery note.
- Physical deliveries using the interface to the MM Inventory Management component are only possible if schedule lines are used. This is why in this standard case schedule lines must be allowed for the order item category, and the schedule line category must be set as relevant for delivery.
- The goods issue movement type (or goods receipt movement type for returns deliveries) is defined at the schedule line category level.



You are now able to:

- Give an overview of the standard delivery types
- Explain delivery control at header and item level
- Describe item category determination in outbound deliveries
- Describe the relationship between the sales order and the outbound delivery

# Exercises

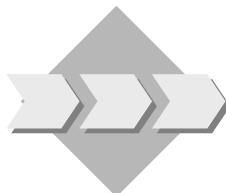


## Unit: Controlling Elements of the Outbound Delivery



At the end of these exercises, you will be able to:

- Describe how to control key shipping functions at header and item level in the delivery
- Describe how to set item category determination and copy control for delivery types.



In your company, you model various operations using shipping functions. You therefore need different delivery types and item categories in order to control the different elements of the delivery.



**Do not change the standard Customizing settings! Use only your own delivery type ZL## for testing and making changes.**

- 1-1 Decide at what level you define the following controls (delivery type or item category): To do this, look for the relevant fields in Customizing.

1-1-1 *Number range* for deliveries in the case of internal number assignment

---

1-1-2 *Picking relevance* of an item in the delivery

---

1-1-3 *Packing requirement* of a material in the delivery

---

1-1-4 Whether a *preceding document* is required for the delivery, and what type

---

- 1-2 When you create an outbound delivery with reference to a sales order, the system automatically determines the delivery type.
- 1-2-1 Where is this configured? In other words, how does the system know which delivery document type to use?
- 
- 1-2-2 Your orders of type **ZA##** (trade fair ## order) should always be delivered using express deliveries (**ZL##**). Make the relevant settings in Customizing.
- 1-3 In copy control, define the permitted combination of sales document type and delivery type.  
Look in Customizing to see which order types can be delivered using delivery type **ZL##**.
- 
- 1-4 The system automatically determines the item categories of the delivery.
- 1-4-1 What does the system take into account when it determines the item category in the delivery? Identify items that:
- (a) Already come from the sales order
- 
- (b) Are created in the delivery
- 
- 
- 
- 
- 1-4-2 In Customizing, find out which item category the system proposes when you create an additional item with material from the item category group **NORM** in the delivery type **ZL##**.
-

1-5\* Optional:

Now check your Customizing settings.

1-5-1 Create an order using the order type trade fair ## order (**ZA##**).

Sold-to party: **T-L64A##**

Purchase order number: **##-4-1**

Req. delivery date: **Tomorrow**

Material: **T-AU2##**

Quantity: **12**

1-5-2 Deliver the order. What is the delivery type of the outbound delivery?

---

1-5-3 Add another item to the outbound delivery. To do this, use material **T-AU3##**. What is the item category of this item?

---

1-5-4 Save the outbound delivery. What is the number of the outbound delivery?

---

# Solutions



## Unit: Controlling Elements of the Outbound Delivery

- 1-1 Levels at which you define controls (delivery type or delivery item category):
  - 1-1-1 *Number range* for deliveries in the case of internal number assignment:  
Delivery type
  - 1-1-2 *Picking relevance* of an item in the delivery:  
Delivery item category
  - 1-1-3 *Packing requirement* of a material in the delivery:  
Delivery item category
  - 1-1-4 Whether a *preceding document* is required for the delivery, and what type:  
Delivery type
- 1-2 Determine delivery type:
  - 1-2-1 Proposal for delivery type:  
The proposal for the delivery type comes from the respective definition in the **sales document type**.  
*In the IMG: Sales and Distribution □ Sales □ Sales Documents □ Sales Document Header □ Define Sales Document Types*  
Go to the detail screen of an order – the standard order (OR), for example.  
Delivery type: **LF**
  - 1-3-2 Delivering order type ZA## (trade fair##order) using express delivery ZL##.  
*In the IMG: Sales and Distribution □ Sales □ Sales Documents □ Sales Document Header □ Define Sales Document Types*  
Go to the detail screen for **ZA##** (trade fair##order):  
Delivery type: **ZL##**

1-3 Copying control:

*In the IMG: Logistics Execution  Shipping  Copying Control  Specify copy control for deliveries*

Position: **Delivery type ZL##**

**You see that delivery type ZL## as the source document has both the trade fair order ZA## and standard order OR assigned to it.**

1-4 Item category determination:

1-4-1 Determining the item category in the delivery:

(a) Items that already come from the sales order:

The key for the item category in the respective order item is copied as the key for the delivery item category.

(b) Items that are created in the delivery:

Here, an item category search must first be executed in the delivery; the following influencing factors play a role:

delivery type, item category group from the material master, possibly also usage, item category of the higher level item (if one exists).

*In the IMG: Logistics Execution  Shipping  Deliveries  Define item category determination in deliveries*

1-4-2 Item category determination for ZL## and item category group NORM:

*In the IMG: Logistics Execution    Shipping    Deliveries    Define item category determination in deliveries*

Position:

Delivery type:              ZL##

Item category group:        NORM

The system propose the item category **DLN**.

1-5\* Optional: Check the Customizing settings:

1-5-1 Create trade fair##order:

*Logistics*  **Sales and Distribution**  **Sales**  **Order**  **Create**

Order type: **Trade fair##order (ZA##)**

1-5-2 Delivering the order:

*In the sales document: Sales document → Deliver*

*In the outbound delivery: Header → Administration tab:*

The delivery type should be **ZL##**.

1-5-3 Create an item in the outbound delivery:

Enter an item of material T-AU3##.

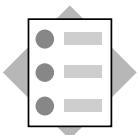
The system should determine the item category **DLN**.

1-5-4 Save the delivery:

The number has to lie within the number range 20000000 to 24999999.

## Contents:

- **Goods receipt process using inbound delivery**
- **Defining confirmation of inbound delivery**
- **Inbound delivery creation**
- **Goods receipt posting for inbound delivery**

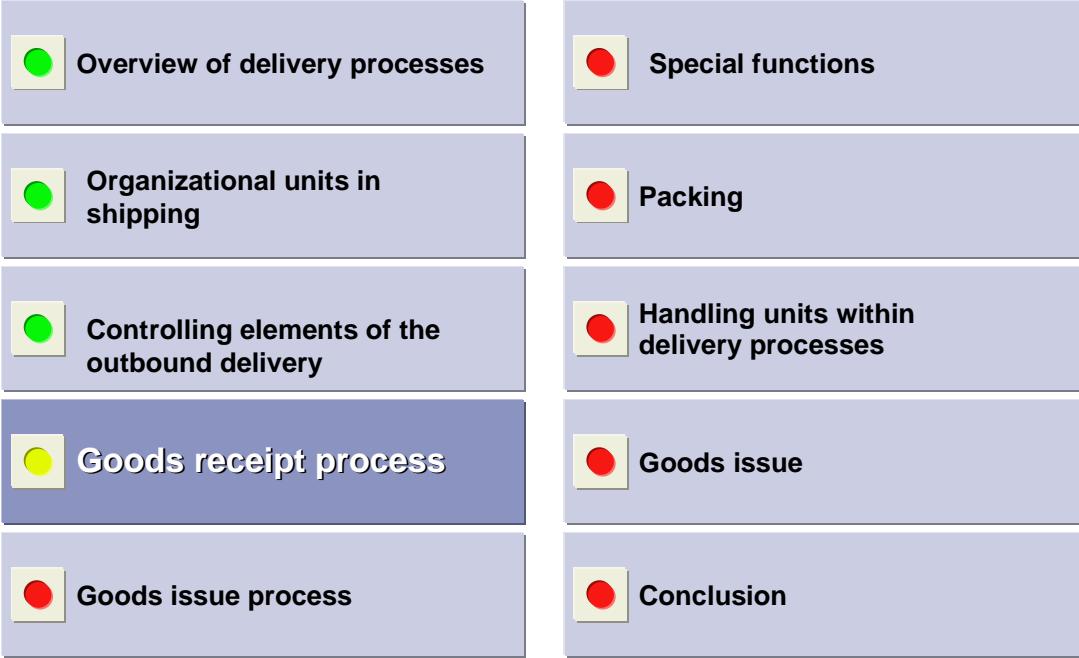


**At the conclusion of this unit, you will be able to:**

- **Describe the goods receipt process using inbound delivery**
- **Define confirmation of inbound delivery**
- **Create and change inbound deliveries**

# Goods Receipt Process: Course Overview Diagram

SAP

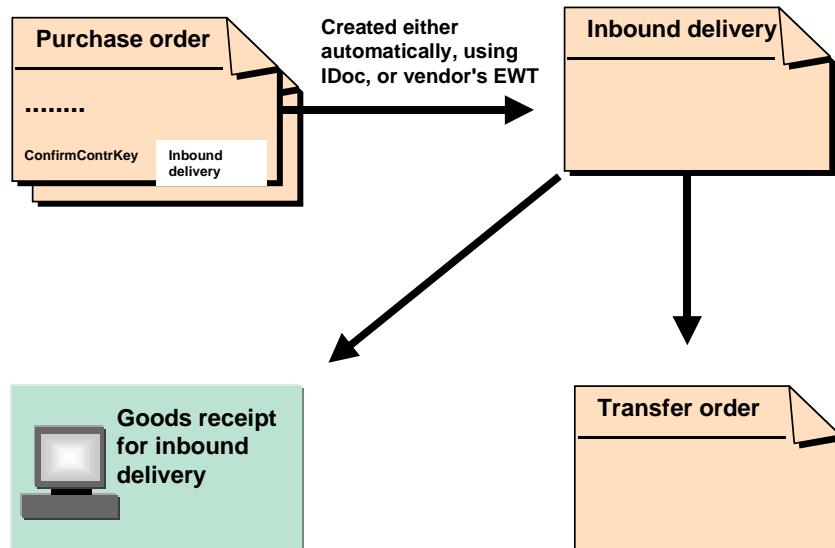




- Your company's vendors announce the delivery of the goods you have ordered using an inbound delivery document
- Your vendors can handle the inbound delivery creation as a service
- The goods delivered are put away first, before the goods receipt is posted with reference to the inbound delivery

# Goods Receipt Process

SAP



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- Inbound deliveries can be created with reference to purchase orders.
- You can do this using several purchase orders, entire purchase orders or even partial quantities of purchase order line items.
- The inbound delivery then serves as the basis for further activities, such as transfer order creation, packing and goods receipt posting.
- Inbound shipments are planned on the basis of inbound delivery documents.

## Prerequisites for Inbound Delivery Creation

SAP

Standard purchase order			Vendor	C.E.B. Berlin	Document date	July 7, 2000																								
		Delivery/Invoice	Conditions	Texts	OrgData	Communication																								
PurchOrg	1000																													
Purch. group	001																													
Company code	1000																													
<table border="1"> <thead> <tr> <th>Pos</th> <th>Material</th> <th>Short text</th> <th>PO quantity</th> <th>B...</th> <th>T</th> <th>Delivery date</th> <th>.....</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>R-1150</td> <td>Disk drive</td> <td>5</td> <td>pc</td> <td>T</td> <td>July 20, 00</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>							Pos	Material	Short text	PO quantity	B...	T	Delivery date	.....	10	R-1150	Disk drive	5	pc	T	July 20, 00									
Pos	Material	Short text	PO quantity	B...	T	Delivery date	.....																							
10	R-1150	Disk drive	5	pc	T	July 20, 00																								
Item [10] R-1150, Disk drive, 3.5", HD																														
Schedule lines		Conditions	Confirmations	Condition...	.....																									
ConfirmControl		Inbound delivery	OrderConf.		<input type="checkbox"/>	ConfirmReq.																								

Enables inbound delivery creation

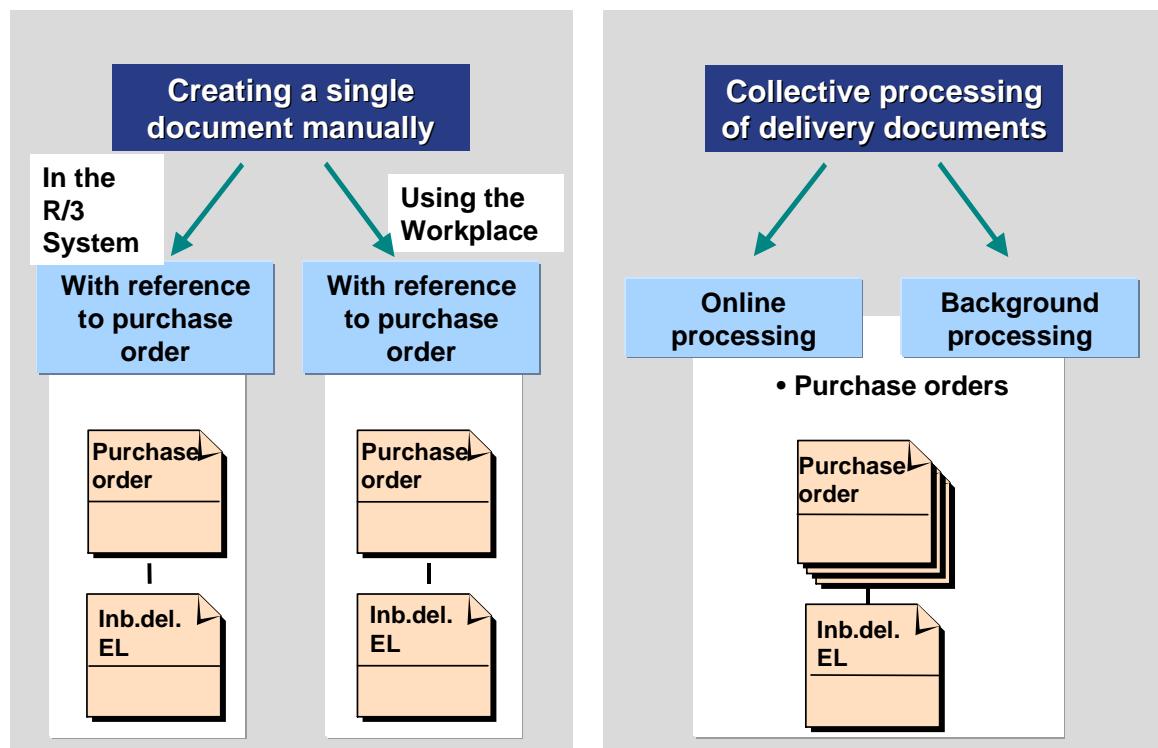
The screenshot shows a SAP Purchase Order (PO) screen. At the top, it displays a standard purchase order for vendor C.E.B. Berlin on July 7, 2000. Below this, there are tabs for Delivery/Invoice, Conditions, Texts, OrgData, and Communication. Under the Delivery/Invoice tab, purchase organization (PurchOrg) is set to 1000, purchase group (Purch. group) to 001, and company code to 1000. A table below lists a single item: position 10, material R-1150, short text 'Disk drive', PO quantity 5, unit pc, delivery date July 20, 00. An item note '[10] R-1150, Disk drive, 3.5", HD' is shown. Further down, under the Conditions tab, there is a 'ConfirmControl' section. The 'Inbound delivery' checkbox is checked. A callout box points to this checkbox with the text 'Enables inbound delivery creation'. Other fields in the ConfirmControl section include 'OrderConf.', an empty checkbox, and 'ConfirmReq.'

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- Purchase order items that are to be included when the inbound delivery is created must have a confirmation control key.
- The confirmation control key governs whether confirmations are expected for specific purchase order items and whether these confirmations are relevant for goods receipt or materials planning.
- If a material document is to be created when the goods receipt posting for the inbound delivery is carried out, then the goods receipt assignment must be defined in the confirmation control.

## Options for Creating Inbound Deliveries

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- You can create an inbound delivery with reference to a purchase order, and you also have the option of doing this using the Workplace.
- If you use collective processing, you can deliver goods for all types of purchase order to be shipped. In this case, the system automatically creates multiple inbound deliveries. This can take place either online or in the background.

# Inbound Deliveries using the Workplace

SAP

The screenshot shows the SAP Employee Workplace interface in Microsoft Internet Explorer. The title bar reads "Employee Workplace - Microsoft Internet Explorer". The main content area displays two windows side-by-side:

- Liste der Bestellungen:** A grid showing purchase orders with columns: Einkaufsbeleg, Position, Lief. Matri., Material, Kurztext, Bestellmenge, Bestellmengeneinheit, Avisierte, Lieferdatum, Bruttogew. The data includes:

Einkaufsbeleg	Position	Lief. Matri.	Material	Kurztext	Bestellmenge	Bestellmengeneinheit	Avisierte	Lieferdatum	Bruttogew.
4500007447	10	99-120	HD Helm mit Speziallackierung		8	ST	0	20.07.2000	20.07.2000
4500007446	10	R-1160	Festplatte, 4,3 GB		15	ST	0	19.07.2000	19.07.2000
4500007445	10	R-1150	Disketten Laufwerk, 3,5", HD		45	ST	0	19.07.2000	19.07.2000
- Liste der angekündigte Anlieferungen:** A grid showing delivery notices with columns: Meine Liefern, Lieferungen, Anlieferungsnummer, Gesamtgewicht, Gewichtseinheit, Volumeneinheit, Transportmittelart, Ladegruppe, Transp. Mittel, Liefer. The data includes:

Meine Liefern	Lieferungen	Anlieferungsnummer	Gesamtgewicht	Gewichtseinheit	Volumeneinheit	Transportmittelart	Ladegruppe	Transp. Mittel	Liefer.
heute angelegt									

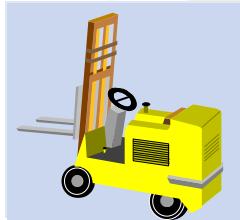
At the bottom left, it says "© SAP AG 1999".

- A vendor can provide the service of creating inbound delivery documents for their purchase orders using the Workplace.
- The prerequisites for this are:
  - You need a **Workplace System** in addition to the **R/3 System**
  - Your **vendor needs a user in both the R/3 System and the Workplace System**
  - The **vendor is assigned a special role that only allows them to create and change inbound delivery documents for their purchase orders**

# Inbound Delivery Monitor

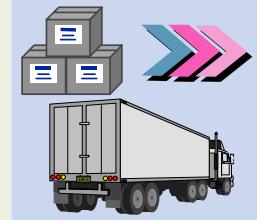
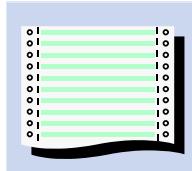
SAP

Carry out and monitor  
inbound delivery activities

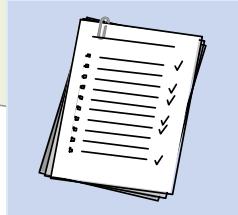


Stock  
putaway

List of inbound deliveries



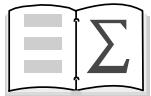
Goods receipt



Confirmation

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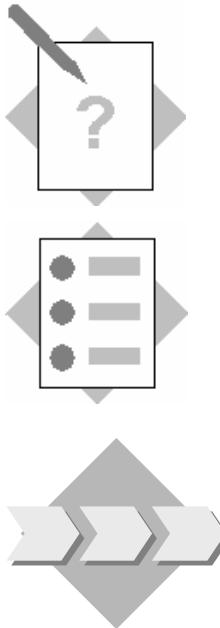
- The **inbound delivery monitor** list displays all the **deliveries that are still to be processed or that have just been processed**.
- You can choose from numerous criteria to **select** the required documents. The system displays a list of the selected inbound deliveries, and you can perform subsequent functions from this list. In addition, you can call up **information** in the delivery environment.
- You can define user-specific variants (selection variants or display variants) for selecting and displaying documents.
- You can use the **inbound delivery monitor** to monitor and implement inbound delivery activities in the same way.



### You are now able to:

- Create inbound deliveries with reference to purchase orders
- Explain how to create inbound deliveries using the Workplace
- Post goods receipt for inbound deliveries

# Exercises



## Unit: Goods Receipt Process

### Topic: Creating inbound deliveries

At the end of these exercises, you will be able to:

- State the prerequisites for inbound delivery creation
- Create inbound deliveries with reference to purchase orders

You create inbound deliveries for purchase orders to enable you post delayed goods receipt. You process the inbound deliveries and post the goods receipt for the inbound delivery.

- 1-1 You can create inbound deliveries for purchase orders so that the goods receipt is posted for the inbound delivery and not for the purchase order.

What prerequisites must you meet to be able to create inbound deliveries with reference to purchase orders?

---

---

- 1-2 You create an inbound delivery for the purchase order for your vendor T-K12A##, so that the goods are put away in your warehouse before the goods receipt is posted in inventory management.

Before each part task, check the stock situation for material T-AU3## in plant 1000 / storage location 01##.

1-2-1 Stock:\_\_\_\_\_

Create the inbound delivery with reference to the purchase order for your vendor T-K12A##, which has two items, and save the inbound delivery.

Inbound delivery number:\_\_\_\_\_

1-2-2 Stock:\_\_\_\_\_

The goods have arrived at your company and you can carry out the putaway.

Create the transfer order for the putaway.

*Warehouse number:* **1##**

*Delivery:* **as above**

*Foreground/backgrnd:* **Background**

Transfer order:\_\_\_\_\_

1-2-3 Stock:\_\_\_\_\_

The warehouse employee confirms that all materials have been put away in the correct quantities. Confirm the transfer order.

TO number: **as above**

*Warehouse number:* **1##**

*Foreground/backgrnd:* **Background**

1-2-4 Stock:\_\_\_\_\_

Post the goods receipt for the inbound delivery; to do this, call up the inbound delivery to change it.

Finally, check the stock situation again.

Stock:\_\_\_\_\_

# Solutions



## Unit: Goods Receipt Process

### Topic: Creating inbound deliveries

- 1-1 Prerequisites for inbound delivery creation:

The purchase order item requires a confirmation control key for you to be able to create an inbound delivery.

- 1-2 Creating inbound deliveries:

Logistics->Logistics Execution->Inbound process->Goods receipt for inbound delivery ->

Stock overview:

***Materials Management->Inventory Management->Environment-> Stock->Stock Overview***

1-2-1 Stock: **0** pieces

Creating inbound deliveries:

***Inbound delivery ->Create->Single documents***

**Vendor:** **T-K12A##**

**Delivery date:** **today**

Select the two items that belong to the same purchase order and choose the **Copy selection** button.

**Save.** Inbound delivery number: \_\_\_\_\_

1-2-2 Stock: **0** pieces

Create transfer order:

***Putaway → Create Transfer Order → For Inbound Delivery***

**Warehouse number:** **1##**

**Delivery:** **as above**

**Foreground/backgrnd:** **Background**

Transfer order: \_\_\_\_\_

1-2-3 Stock: **0** pieces

Confirm transfer order

***Putaway → Confirm Transfer Order → Single Document → In One Step***

TO number: **as above**

*Warehouse number:* **1##**

*Foreground/backgrnd:* **Background**

1-2-4 Stock: **0** pieces

Goods receipt posting:

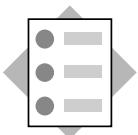
***Post Goods Receipt → Inb.Delivery Indiv.Document***

Choose *Post goods receipt*

Stock: **100** pieces

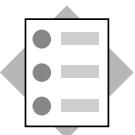
## Contents:

- **Shipping point determination**
- **Route determination**
- **Scheduling**
- **Route schedules**
- **Creation of outbound deliveries**
- **Processing of outbound deliveries**
- **Picking**



**At the conclusion of this unit, you will be able to:**

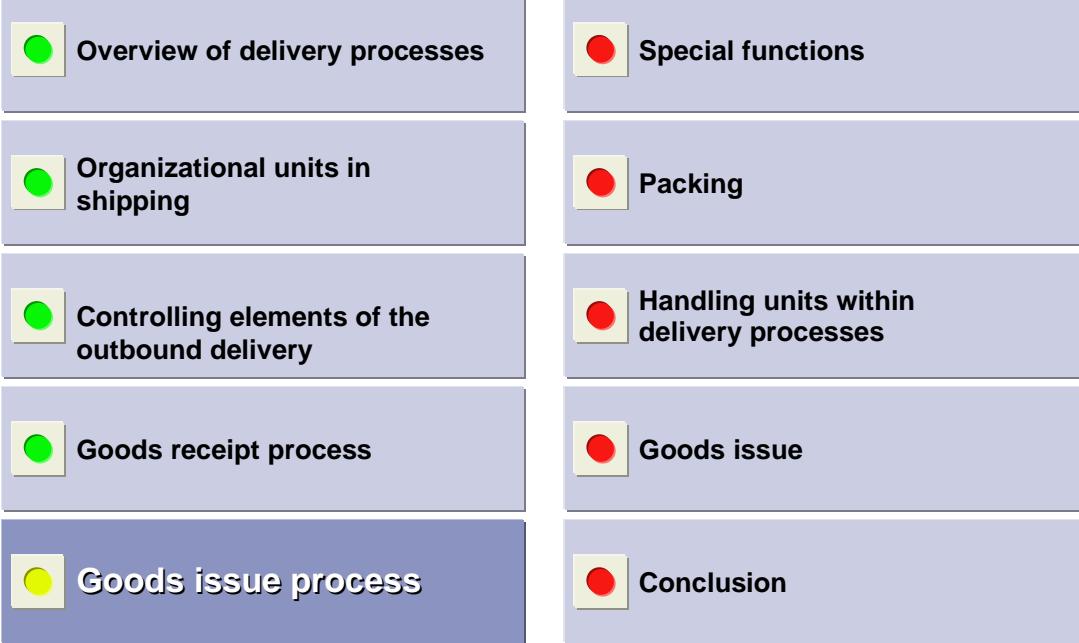
- **Configure shipping point determination**
- **Configure route determination**
- **Describe the function and elements of a route schedule**
- **Understand how scheduling is controlled**
- **Explain the differences between precise and daily scheduling**
- **Create delivery documents using collective processing**



- Describe the criteria for delivery split and order combination
- Describe picking location determination
- Create output based on the outbound delivery
- Use the outbound delivery monitor for processing outbound deliveries
- Describe the picking process using Lean WM
- Create transfer orders manually and using collective processing

# Goods Issue Process: Course Overview Diagram

SAP



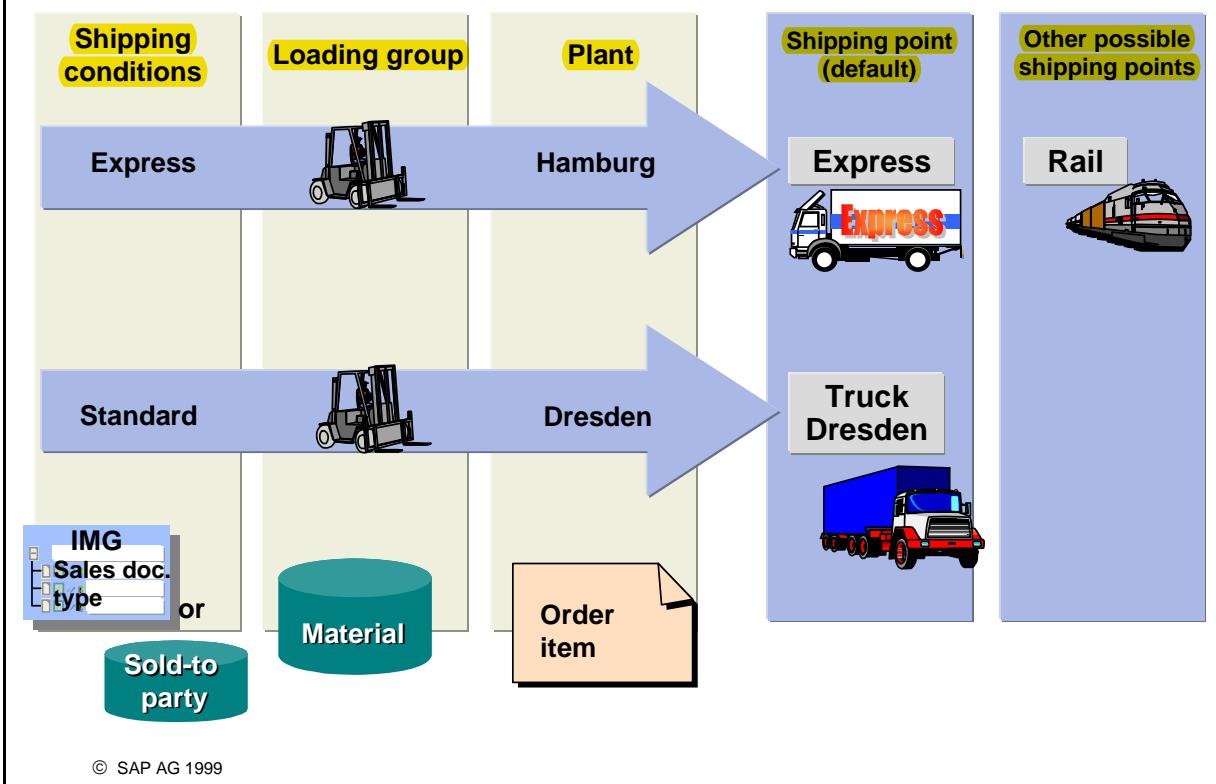


### Configure the system to meet the following requirements of your company:

- The system determines the shipping point and route required for the corresponding processes
- Outbound deliveries are created using collective processing, which groups together sales orders with identical shipping criteria
- The documents required for the shipping process are created based on the delivery document
- In your company, you have a fixed storage bin from which the goods are picked
- You need to be able to print several outbound deliveries on one pick list, to enable simpler picking

## Shipping Point Determination

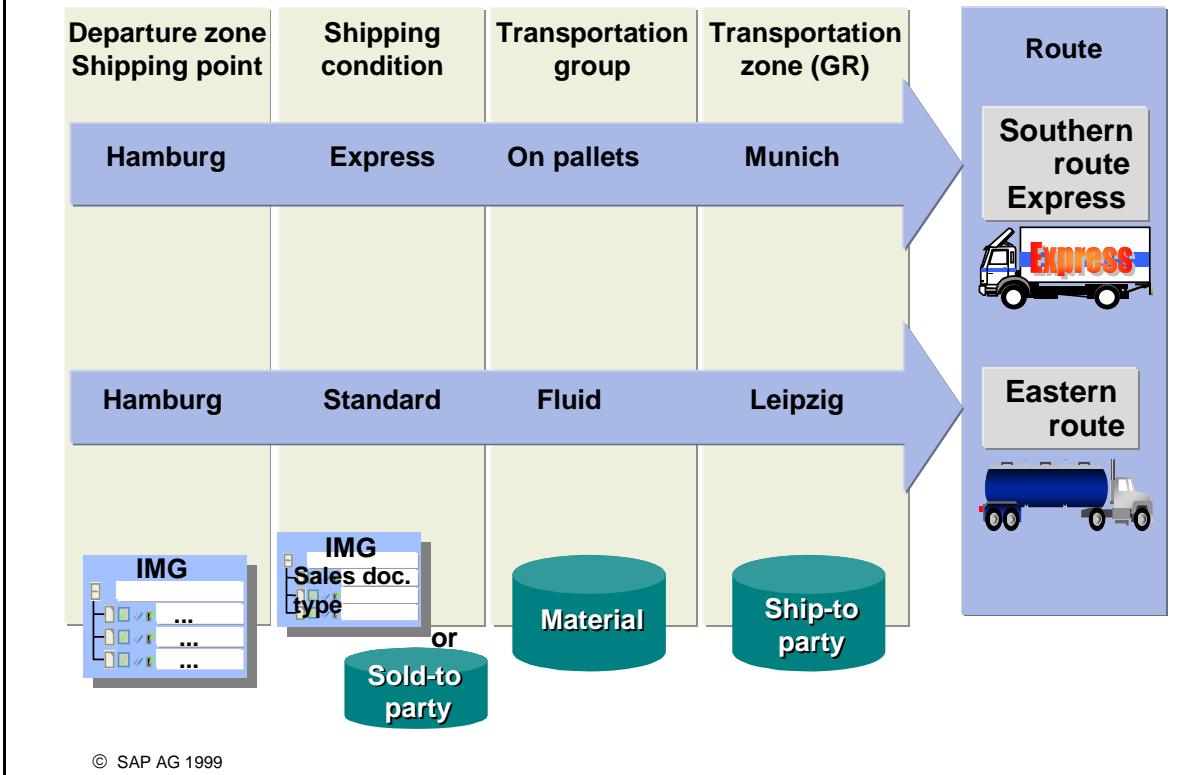
SAP



- A **shipping point** is determined for **each order item**. The system automatically proposes a shipping point that you can change within given limits.
- The shipping point depends on the following criteria:
  - The **delivering plant** that is determined for each order item (from the **customer-material info record**, the **ship-to party record**, or the **material master record**)
  - The **shipping requirements** (for example, express) contained in the **Shipping Conditions** field
  - The **required loading equipment** contained in the **Loading Group** field in the material master
- The shipping condition is **proposed from** the **sales document type** if a shipping condition has been assigned to it. If not, the shipping condition is proposed from the master record of the **sold-to party**.
- An outbound delivery is always processed by one shipping point. You cannot change the shipping point in the outbound delivery.
- When an order is processed for delivery by the shipping point, the system only copies into the outbound delivery those order items that are defined for this shipping point. Order items with different shipping points are therefore not copied into the same outbound delivery.

## Route Determination

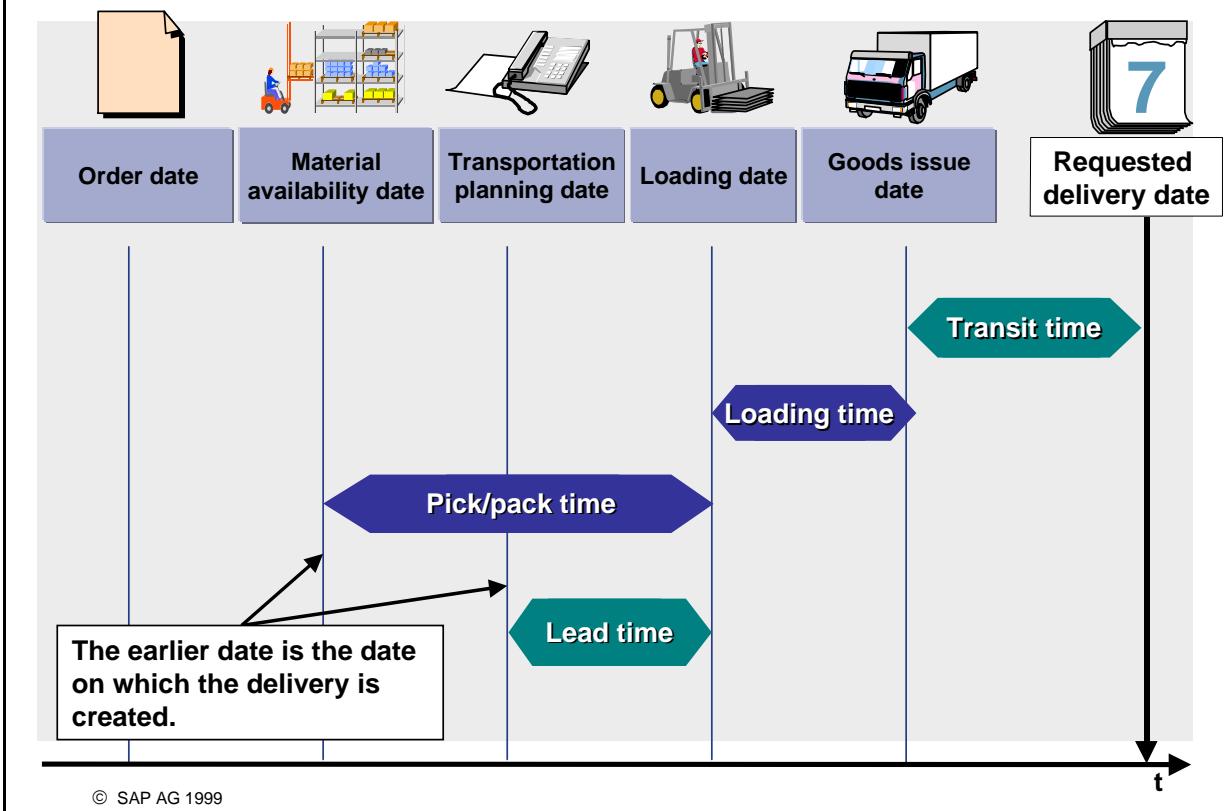
SAP



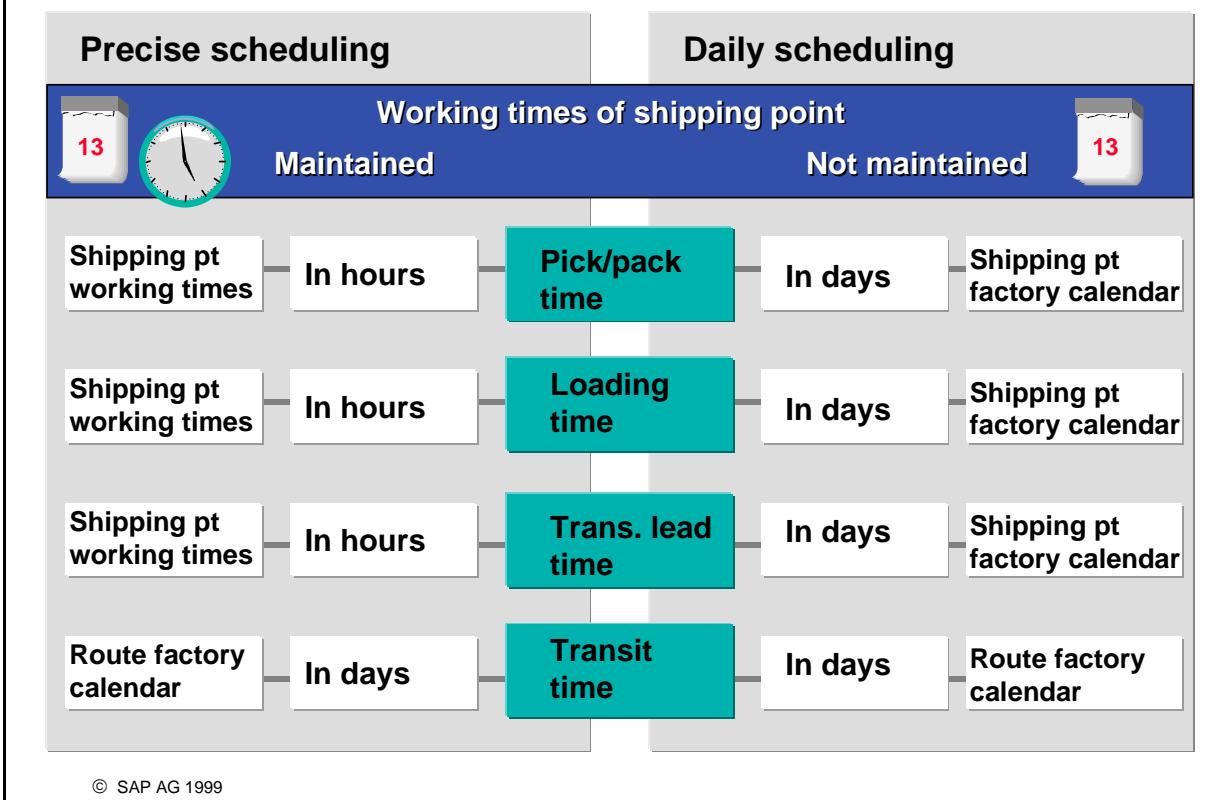
- **Route determination** is carried out in the **order item** and depends on:
  - The country and the **departure zone** of the shipping point (assigned in Customizing)
  - The **shipping condition** defined in the sales document type or entered in the sold-to party
  - The **transportation group** assigned to the material
  - The country and the **transportation zone** of the ship-to party (assigned in the customer master)
- You can manually overwrite the route determined in the order item.
- You can **redetermine the route** in the **outbound delivery** **based on the weight**. Whether the route is redetermined depends on the configuration of the delivery type.

## Scheduling

SAP



- When you create an order, the system can determine the required material availability date based on the delivery date requested by the customer. The goods to be delivered must be available for shipping at this point in time.
- Scheduling takes into account the following times:
  - Transit time: Time required in order to ship a delivery to the ship-to party
  - Loading time: Time required for loading the goods
  - Pick/pack time: Time required for picking, packing, and so on
  - Transportation lead time: Time required for organizing the transportation
- Next, the system performs **backward scheduling** in the order. If the result is a date in the past, the system automatically performs **forward scheduling**, which requires the confirmation of a new requested delivery date. The same happens if the material is not available by the material availability date.
- When you create an outbound delivery you can carry out forward scheduling again. This is generally done when the material availability date determined in the order falls in the past by the time you create the outbound delivery (delay when creating the order). You can specify for each delivery type whether scheduling should be **redetermined**.
- For each shipping point, you decide whether the system performs precise or daily scheduling. When you maintain the "working hours" for the shipping point, scheduling takes place according to working hours and the results are displayed down to the minute.



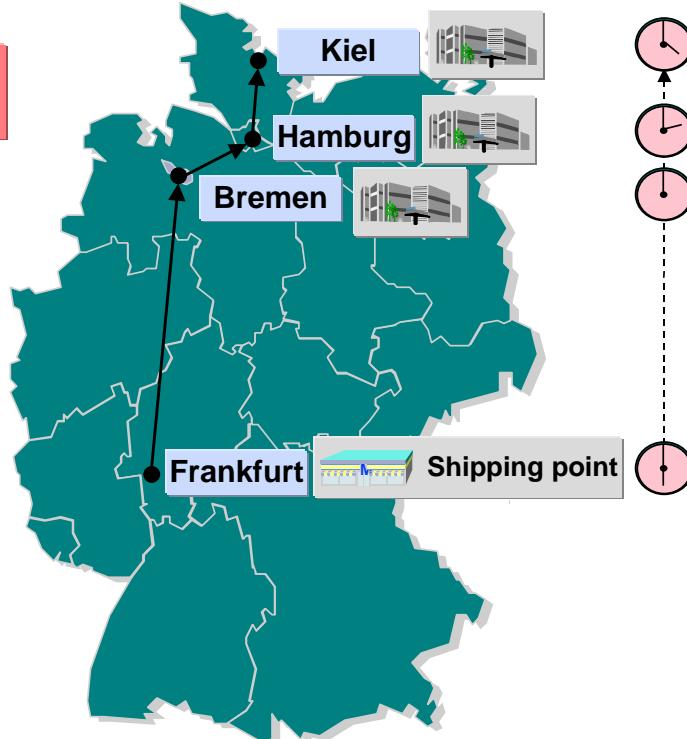
- In **precise scheduling**, the system calculates and displays the results of scheduling **down to the minute**. In **daily scheduling**, the system uses days, hours, and minutes for calculation, but only **displays the resulting date**.
- You can determine which scheduling logic the system should use for each **shipping point**. If you have maintained the working times of the shipping point, the system performs precise scheduling.
- The **working hours** of a shipping point consist of a calendar, which must agree with the factory calendar stored for the shipping point, and a shift sequence. The shift sequence defines the shifts for each week day, and the shifts define the times for starting and finishing work.
- In precise scheduling, pick/pack and loading times are specified in hours and minutes. The working times of the shipping point are taken into account during scheduling.
- **The route is used to determine the transportation lead time.** Precise scheduling uses the working times of the shipping point, and daily scheduling uses the factory calendar of the shipping point.
- The route is also used to determine the transit time. Both types of scheduling use the factory calendar of the route to determine when the route is taken.

## Route Schedules

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### Route Schedule Region North – Tuesday

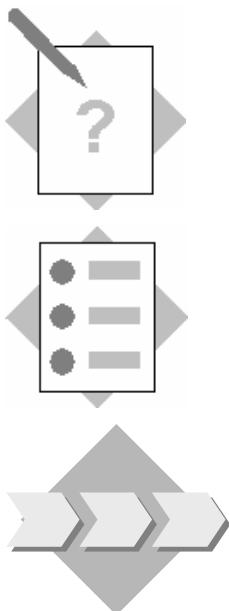
<b>Route:</b>	North region
<b>Departure day and time:</b>	Every Tuesday, 6:00
<b>Ship-to party:</b>	Customer 311 (Kiel) Customer 387 (Bremen) Customer 415 (Hamburg)
<b>Itinerary:</b>	Customer 387 6 hrs Customer 415 2 hrs Customer 311 2 hrs



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- You can use a **route schedule** to organize **outbound deliveries** from a particular shipping point to different ship-to parties (for example, customer or subsidiary companies) that occur regularly and frequently in the same sequence for a certain route.
- Route schedules can also be used as selection criteria for the individual steps in shipping processing. For example, you could pick all the deliveries that belong to the same route schedule together. You can form a group of deliveries from the delivery monitor.
- The route schedule basically contains:
  - A **route**
  - A weekday as the **departure date** and a **departure time**
  - A list of **ship-to parties**
  - Optional: An **itinerary**
- You can use route schedules in sales orders, stock transfer orders, and outbound deliveries. The system determines them automatically.
- In Customizing, you can define whether a route schedule should be assigned per shipping point, order type, purchasing document type (and delivering plant), and delivery type.

# Exercises



**Unit:** Goods Issue Process

**Topic:** Shipping points and route determination; scheduling

At the end of these exercises, you will be able to:

- Configure the settings for determining the respective shipping point.

Up to now, all the deliveries have been processed by shipping point X0##. Now you want to ensure that materials that must be refrigerated are automatically processed by your newly-created shipping point for refrigerated goods.

1-1 Up to now, all your deliveries have been processed by shipping point X0##.

Find the table for determining the shipping point in Customizing.

Which table entry has been used in the orders so far to determine the shipping point?

---

1-2 You have decided to make the processing of refrigerated goods recognizable by the selection of an appropriate loading group. Your shipping point for refrigerated goods Y0## is to process deliveries for order items with loading group 0004. Set up shipping point determination so that the shipping point for refrigerated goods is proposed when the following combination occurs. Also allow shipping point X0## as an alternative:

Ship. cond.	<i>Loading group</i>	Plant	<i>Shipping point</i>	Alternative <i>Shipping point</i>
50##	0004	1200	Y0##	X0##

2-1 Routes are used in various ways, depending on requirements. For simple delivery processing, you do not need to maintain stages for routes.

Maintain a new entry for route determination in the order. The system should determine the route **Refrig##** in the following situation:

Shipping point:	<b>Y0##</b>
Customer:	<b>T-L64A##</b>
<i>Shipping condition:</i>	<b>50+##</b>
Transportation group	<b>0007</b>

3-1 In Customizing, check the scheduling for your *shipping point for refrigerated goods Y0##*.

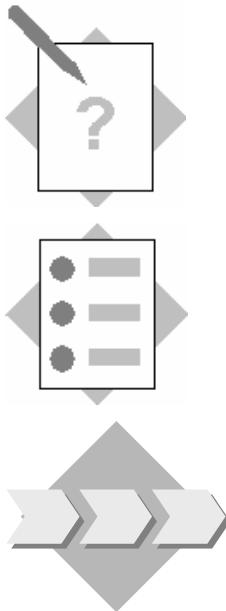
3-1-1 Does the shipping point use daily or precise scheduling? How do you know?

---

3-1-2 Configure precise scheduling for shipping point **Y0##** by assigning **Working Hours Germany 2 Shifts** to it.

3-2-2 The pick/pack time and loading time each take **two and a half hours**. Define these times for the shipping point.

# Exercises



**Unit:** Goods Issue Process  
**Topic:** Practical Example (*optional*)

At the end of these exercises, you will be able to:

- Test the settings using a practical example

Once you have made the corresponding settings, you want to test whether the system really does determine the new shipping point for 'Rail' orders

4-1\* Test the settings you have made in Customizing for orders to be processed by your shipping point for refrigerated goods, and check that you get the results you expect.

4-1-1 Create a trade fair ## order (ZA##):

Sold-to party:	<b>T-L64A##</b>
Purchase order number:	<b>##-5-1</b>
Req. delivery date:	<b>tomorrow</b>
Material:	<b>T-AU4##</b>
Quantity:	<b>15</b>

4-1-2 Which shipping point was determined in the item?

---

4-1-3 Which route was determined in the item?

---

4-1-4 Can the required delivery date be kept?

---

4-1-5 Check the dates and times that were generated.

Delivery date: \_\_\_\_\_

Goods issue: \_\_\_\_\_

Loading date: \_\_\_\_\_

Material avail.date: \_\_\_\_\_

Transportation planning: \_\_\_\_\_

# Solutions



**Unit:** Goods Issue Process

**Topic:** Shipping points and route determination; scheduling

1-1 Shipping point determination:

*In the IMG: Logistics Execution → Shipping → Basic Shipping Functions → Shipping Point and Goods Receiving Point Determination → Assign shipping points*

*Shipping condition:* 50## (determined from customer master)

*Loading group:* 0001 (determined from material master)

*Plant:* 1200 (determined from customer master)

*Shipping point:* X0##

1-2 Shipping point determination for shipping point Y0##.

*In the IMG: Logistics Execution → Shipping → Basic Shipping Functions → Shipping Point and Goods Receiving Point Determination → Assign shipping points:*

Choose *New entries*, and enter the following data:

SC	LGrp	Plant	PrSh	PrSh
70##	0004	1200	Y0##	X0##

2-1 Route determination:

*In the IMG: Logistics Execution → Shipping → Basic Shipping Functions → Routes → Route Determination → Maintain Route Determination*

**Position:**

*Shipping point:* Y0##

*Customer:* T-L64A##

Select this entry and, from the dialog structure, choose *Route determination without weight group (order)*.:

Choose *New entries*

*Shipping condition:* 50##

Transportation group 0004

Proposed route: Refrig## and **Save**

3-1 Scheduling for shipping point Y0##.

3-1-1 Type of scheduling:

*In the IMG: Logistics Execution → Shipping → Basic Shipping Functions → Scheduling → Delivery Scheduling and Transportation Scheduling → Define Scheduling by Shipping Point:*

**Detail screen** for shipping point Y0##:

Daily scheduling is used, because the **Working times** field is blank.

3-1-2 Set up precise scheduling:

*In the IMG: Logistics Execution → Shipping → Basic Shipping Functions → Scheduling → Delivery Scheduling and Transportation Scheduling → Define Scheduling by Shipping Point:*

**Detail screen** for shipping point Y0##:

In the **Working times** field, use the possible entries pushbutton to select:  
**Working time – Germany – Two shifts**

3-2-2 Define pick/pack and loading time:

**Loading time – working hours: 2:30**

**Pick/pack time – working hours: 2:30**

# Solutions



**Unit:** Goods Issue Process  
**Topic:** Practical Example (*optional*)

4-1\* Test the settings made in the previous exercises:

4-1-1 Create trade fair ## order:

**Logistics → Sales and Distribution → Sales → Order → Create**

**Order type:** Trade fair##order

4-1-2 Shipping point in the item:

Choose the shipping overview (**choose Shipping tab**):

**Shipping point:** Y0##

4-1-3 Route in the item:

Stay in the shipping overview.

**Route:** **Refrig##**

4-1-4 Req. delivery date:

Select the item and choose

**Goto → Item → Schedule lines** (or choose **Schedule lines button**)

In this case, the system has not generated a further schedule. The required delivery date can therefore be confirmed as deadline for the delivery.

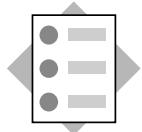
4-1-5 Dates and times:

Select the item and choose

**Goto → Item → Schedule lines** (or choose **Schedule lines button**)

**Schedule lines button**)

For the schedule, go to the detail screen for shipping (choose **Shipping**).

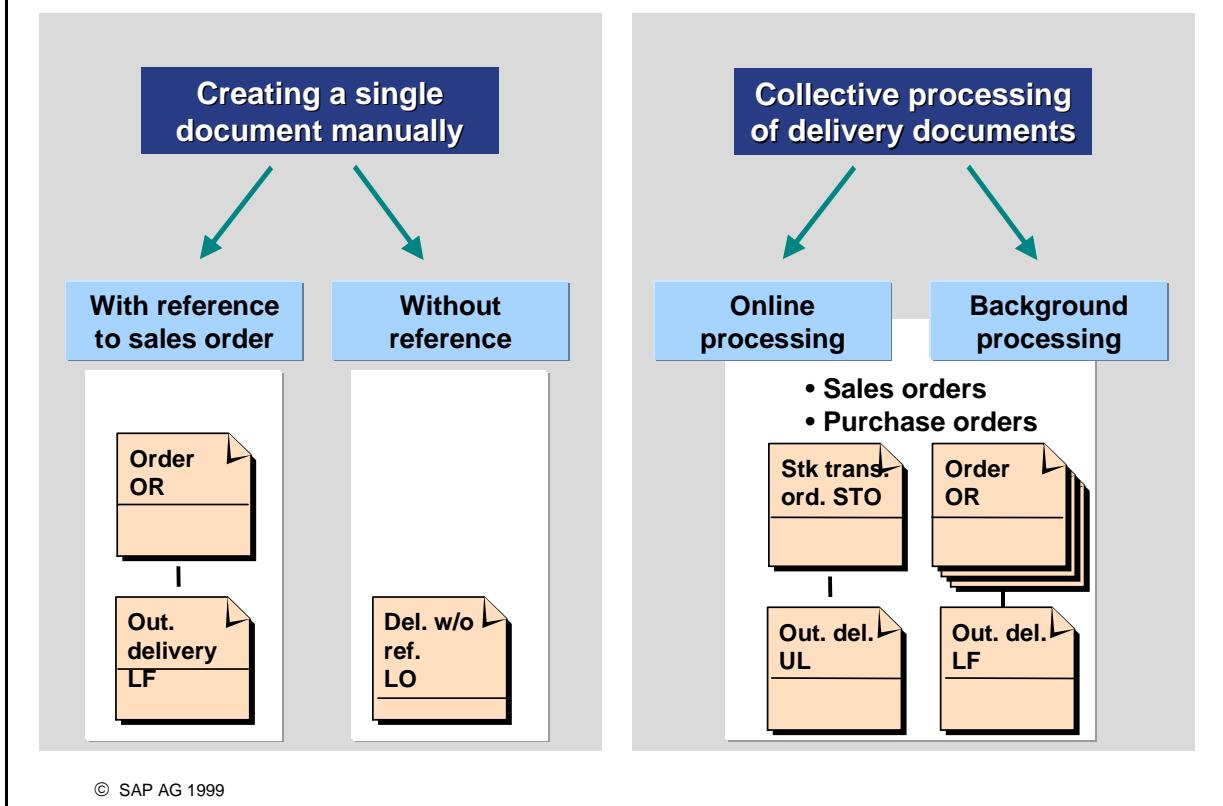


**At the conclusion of this topic, you will be able to:**

- **Create outbound deliveries using collective processing**
- **Change and add to outbound deliveries**
- **Monitor the shipping activities required within the goods issue process**

## Options for Creating Outbound Deliveries

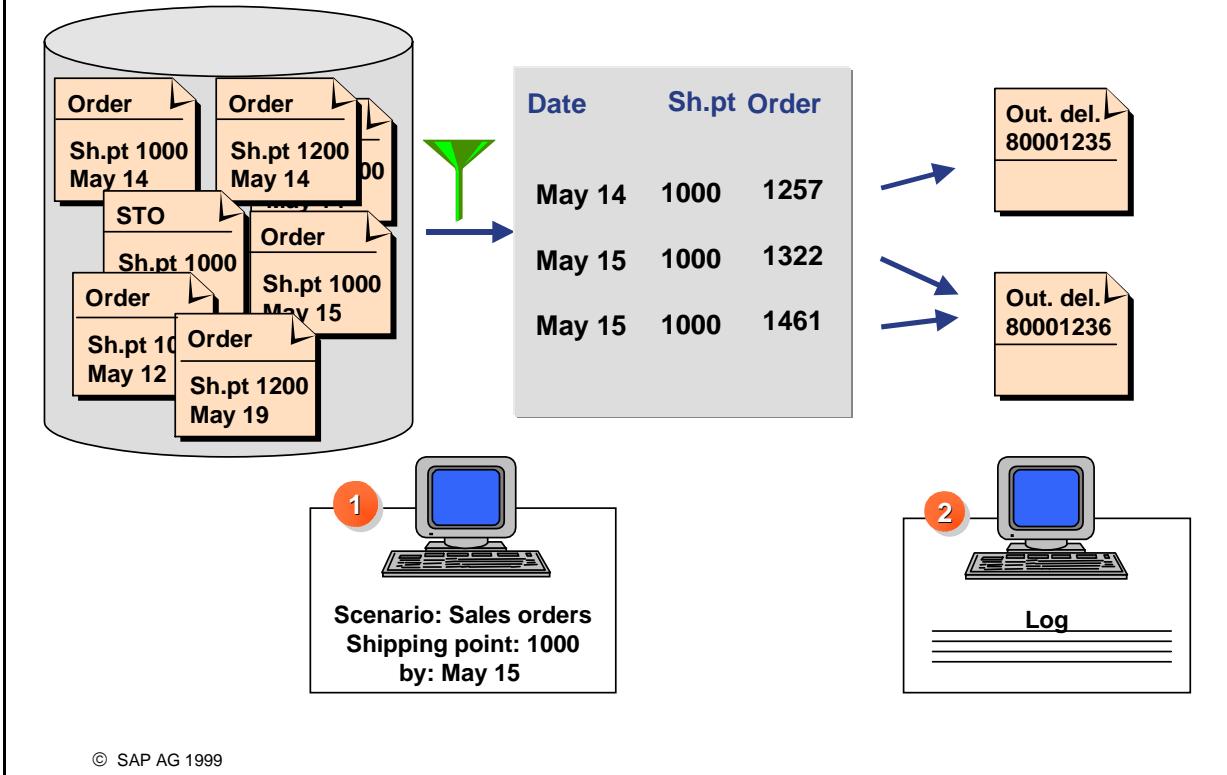
SAP



- You can create an outbound delivery **manually** with or without reference to a particular order. However, if you create a delivery manually, you cannot deliver purchase orders or other requests.
- If you use **collective processing (delivery list)**, you can deliver goods for all types of shipping documents. In this case, the system automatically creates multiple outbound deliveries. This can take place online or in the background (overnight, for instance).

## Delivery List

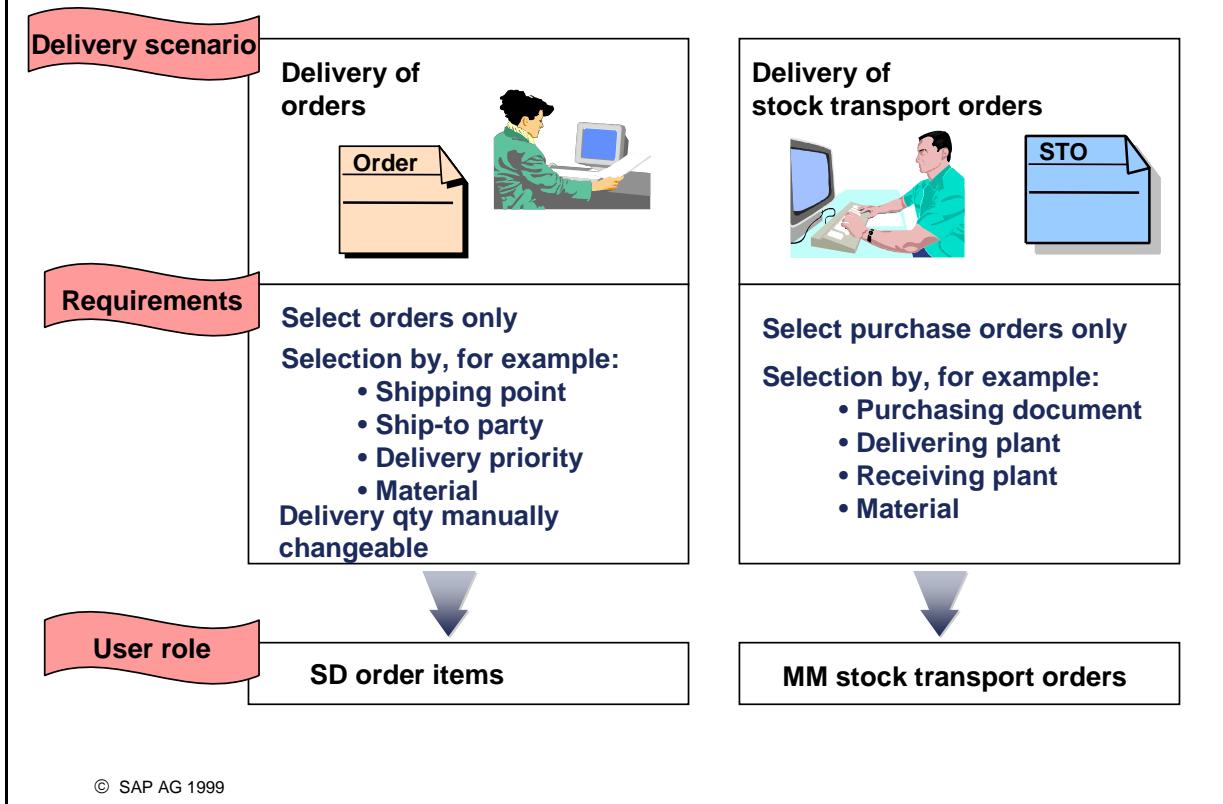
SAP



- The **delivery list** is a list of all operations requiring deliveries.
- You use different criteria to **select** the documents to be delivered using collective processing. Next, the system automatically creates the outbound deliveries. If the shipping criteria are the same, the system combines the documents to form one outbound delivery. Alternatively, the system may split an operation into several outbound deliveries.
- You can model the different business processes for deliveries using **delivery scenarios**. When you process the delivery list, you just need to choose a scenario.

## Examples of Delivery Scenarios

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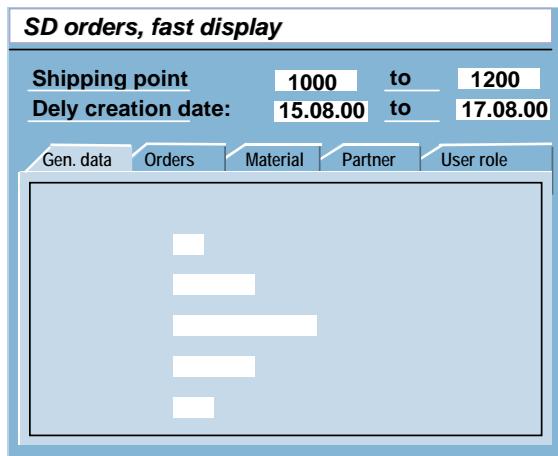


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- A **delivery scenario** models a business process for delivering the goods to fulfill different types of orders. For example, there is a delivery scenario which lets you complete deliveries for SD orders by item. The delivery scenarios are already defined in the R/3 System.
- The requirements resulting from the delivery process are modeled using **user roles** (also called list profiles). They enable you to fine-tune your processing of the delivery list. They let you control the scope of selection, the display of the delivery list, the type of delivery, and so on.
- In the standard system, a user role is assigned to each delivery scenario. You can maintain the user roles in Customizing.
- If users always or frequently work with the same scenario, they can configure it to meet their personal requirements and use it as their default scenario (user-specific delivery scenario).

## Selecting and Displaying the Delivery List

SAP



**SD orders, fast display**

Shipping point 1000 to 1200  
Dely creation date: 15.08.00 to 17.08.00

Gen. data Orders Material Partner User role

**Docs due for delay: SD orders**

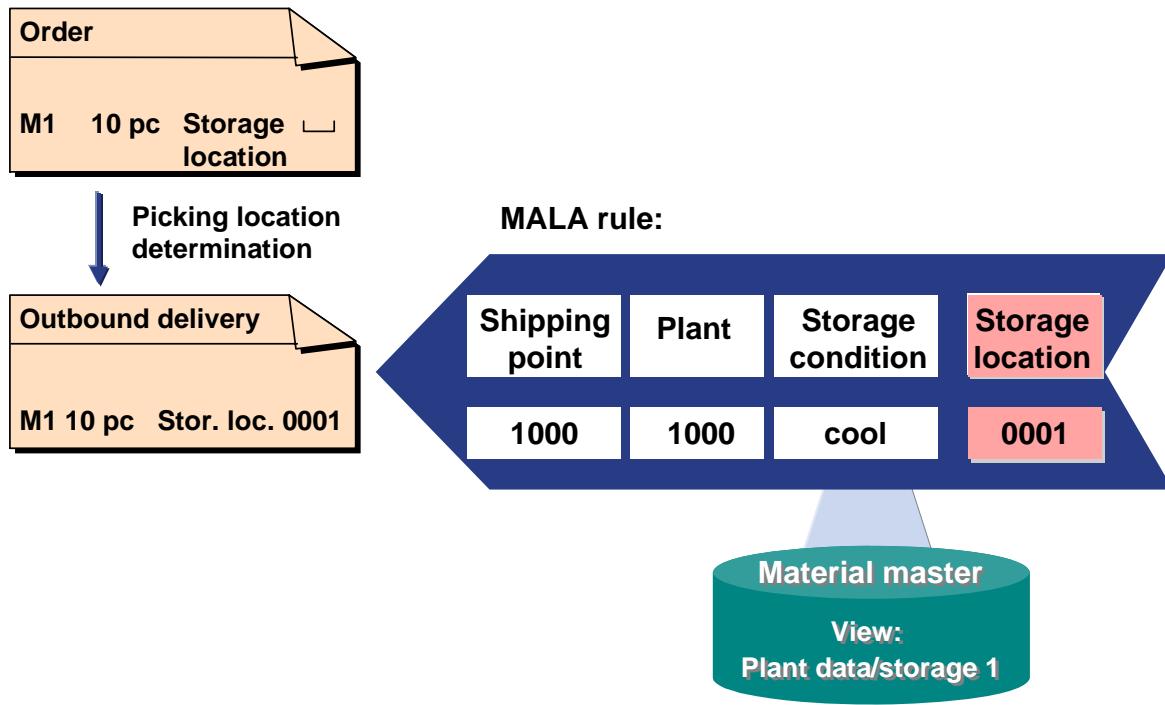
Source	Sh.pt	Route	DS	Plant	
●○○ 5613	1000	R124	1	1000	
○○○ 5634	1000	R124		1000	
●○○ 5645	1200	R125		1200	
●○○ 5678	1100	R334		1100	
○○● 5688	1200	R124	1	1200	
●○○ 5689	1000	R233		1000	
○○● 5691	1000	R123		1000	
●○○ 5698	1200	R125		1200	

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- The different criteria for **selecting documents due for delivery** are displayed on tabstrips. The number of tabstrips and the selection criteria differ according to delivery scenario and user role.
- Users can define variants in their user-specific scenarios and thus create **user-specific selection criteria**.
- After you have made your selection, the system displays a **list of all the documents due for delivery** that correspond to your selection criteria. The settings in the user role also affect how the list is displayed.
- Within the list, there are many ABAP List Viewer (ALV) **functions** available, such as sort, sum, and filter.
- From the list, you can create deliveries online or in the background and branch to the relevant documents.
- You can also change the display of the list while you are using it by accessing **display variants**.

## Determining the Picking Location

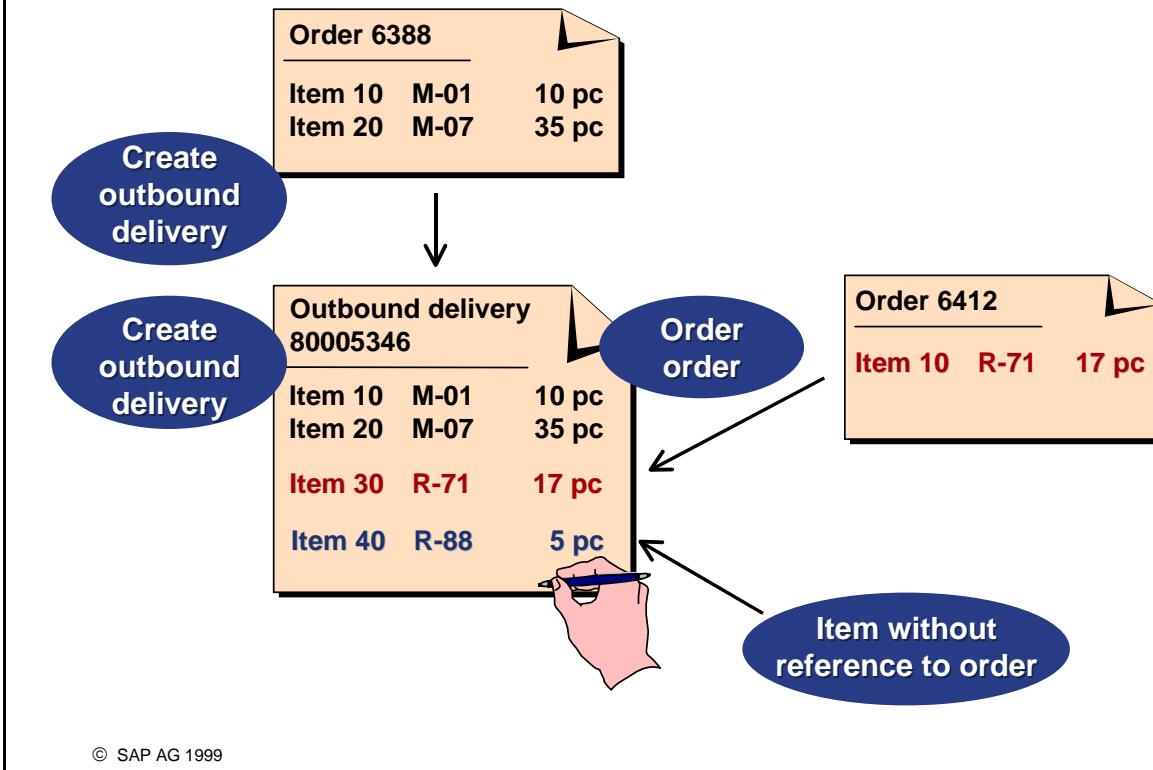
SAP



- If no storage location for picking is specified in the order item, the system determines the storage location when it creates the outbound delivery and copies it into the delivery item. The storage location entered in the order item is copied into the outbound delivery.
- The system determines the **picking location** based on a **rule** defined in the delivery type. The following rules are shipped in the standard system:
  - MALA: The picking location is determined based on the shipping point, the delivering plant, and the material's storage condition defined in the material master.
  - RETA and MARA: These rules are mainly used in trade scenarios.
- You can also define your own rules for the picking location search.
- The picking location search is activated for each delivery item category.

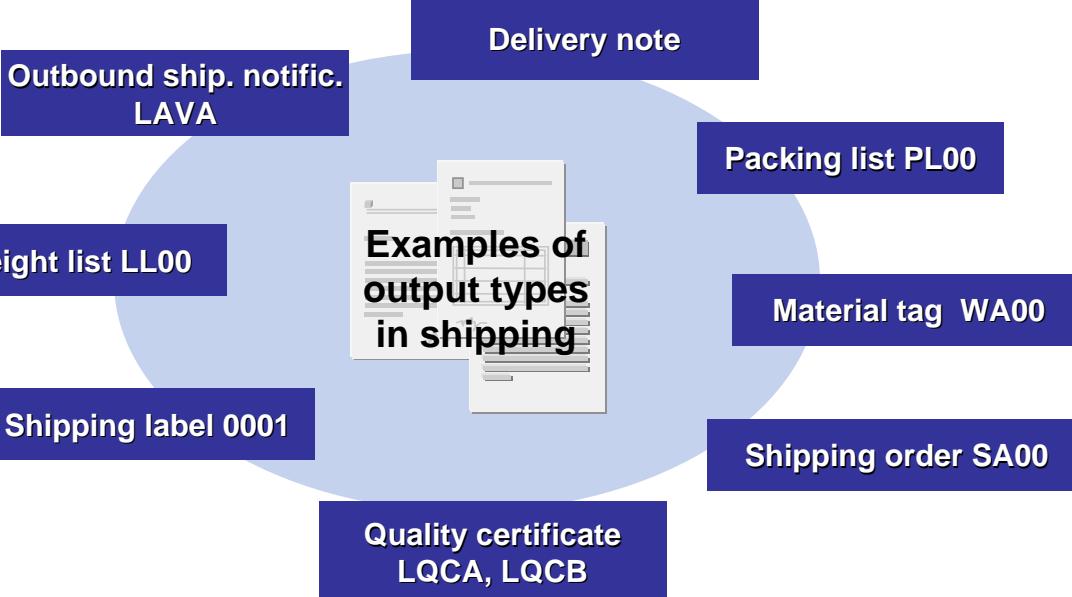
## Changing and Adding to the Outbound Delivery

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- You can **change** or **add to** delivery documents after saving. However, you should ensure that information such as ship-to parties and shipping points are not changeable once you have created the outbound delivery.
- For example, you can add items to the outbound delivery. These items can refer to other orders (**deliver order** function). For adding order items, the same splitting criteria apply as for combining orders during collective processing.
- You can also add order-independent items to the outbound delivery. For this item, the system determines an item type using the usual rules (see unit *Controlling Elements of the Outbound Delivery*).



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- The term **output** refers to a **communication tool** that supports the exchange of information between you and your partners.
- Output can be sent from different objects (for example, outbound delivery, group of outbound deliveries, shipping unit).
 

The delivery note and the packing list are created on the basis of the outbound delivery, and the freight list on the basis of a group of outbound deliveries.
- You can set **output determination** using different criteria. Here the condition technique provides you with flexible control options.
 

With this technique, you transmit the features of the output: For example:

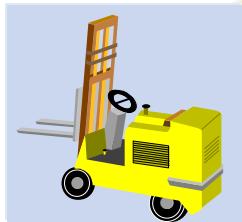
  - How the output is to be sent (transmission medium, for example, print output, fax, EDI)
  - When the output was created (send time)
  - To whom the output was sent (partner/partner role)
  - For print output: To which printer the output was sent
- In the outbound delivery, we distinguish between header and item output.
 

Header output refers to the entire document (for example, delivery note); item output can be created for each document item (for example, inspection certificate).
- You can print labels or tags for shipping units.
- Sample forms are provided for output types in the standard system. You can adapt these to suit your own, company-specific requirements.

# Outbound Delivery Monitor

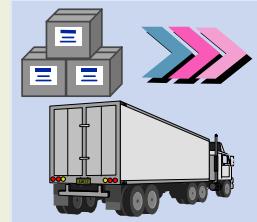
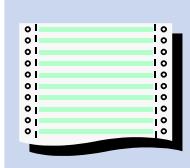
SAP

## Carry out and monitor delivery activities

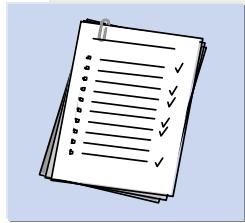


Picking

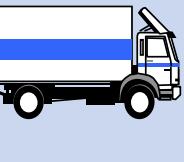
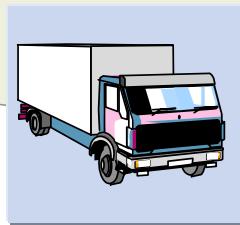
### Delivery list



Goods issue



Confirmation



Loading

### Transportation planning

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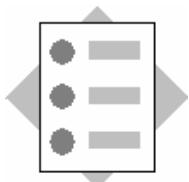
- The **outbound delivery monitor** list displays all the **deliveries that are still to be processed or that have just been processed**.
- You can choose from numerous criteria to **select** the required documents. The system displays a list of the selected outbound deliveries, and you can perform subsequent functions from this list. This includes processing output types for shipping, such as the delivery note. In addition, you can call up **information** in the delivery environment.
- You can define user-specific variants (selection variants or display variants) for selecting and displaying documents.
- You can also use the outbound delivery monitor to execute important subsequent functions together in the background for multiple lists (for example, creating transfer orders for picking, or posting goods issue).
- You can use the **inbound delivery monitor** to monitor and implement inbound delivery activities in the same way.

# Exercises



## Unit: Goods Issue Process

### Topic: Delivery List



At the end of these exercises, you will be able to:

- Create several outbound deliveries at the same time using collective processing
- Describe the criteria for order combination or delivery split



You only create a single outbound delivery specifically for a particular sales order in exceptional circumstances. For your daily operations, you automate your processes and deliver similar orders together. To do this, you work with the worklist for shipping, which is called the *delivery list*.

1-1 In the shipping point that processes standard operations, **X0##**, you work with the delivery list to create outbound deliveries for sales orders. You now want to create outbound deliveries for all orders that are due to be shipped this week (**from the start of the week until today**).

1-1-1 Since you want to fully deliver sales orders only, choose the scenario *Sales orders* for collective processing.

On the selection screen, make the necessary entries to select the orders you want to deliver.

1-1-2 Now select all of the proposed orders and choose *Create delivery in background*.

1-1-3 Display the log.

How many deliveries were created? \_\_\_\_\_

Give a reason for the result.

---

1-2\* *Optional:*

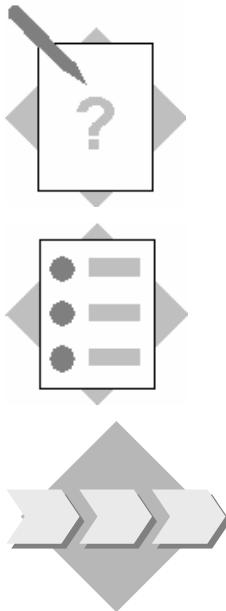
You now want to look at the log for this collective processing run, but you have already left the transaction.

Go to the log and make the selection using your user name.

Type of collective run: **L**

Started by: **LO610-##**

# Exercises



**Unit: Goods Issue Process**  
**Topic: Determining the Picking Location**

At the end of these exercises, you will be able to:

- Check the settings for picking location determination

When you commence the picking process, you should know from which storage location the goods are to be taken. For automatic storage location determination, both the physical storage criteria and material requirements for storage conditions play a role.

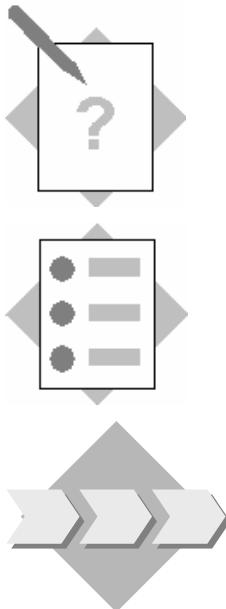
- 2-1 When you defined the shipping point for refrigerated goods **Y0##**, you used the copy function and copied the entries into dependent tables. This also affected the settings for determining the picking location. These settings were already maintained for the copy source (shipping point **X0##**).

Check that the same storage location is determined both for shipping point **X0##** as well as for shipping point **Y0##**.

Check the following combinations for determining the storage location:

<i>Shipping point</i>	<i>Plant</i>	<i>Storage condition</i>	<i>Storage location</i>
<b>Y0##</b>	<b>1200</b>	<b>Blank</b>	
<b>Y0##</b>	<b>1200</b>	<b>01</b>	
<b>Y0##</b>	<b>1200</b>	<b>02</b>	

# Exercises



**Unit:** Goods Issue Process

**Topic:** Outbound delivery monitor (optional)

At the end of these exercises, you will be able to:

- Display lists of outbound deliveries being processed

During shipping processing, you often need an overview of the outbound deliveries that have been created.

You also use lists and worklists for different shipping activities, such as picking, loading, or posting goods issue.

- 3-1 You want to display all outbound deliveries that were created this week in your shipping point **X0##**.
  - 3-1-1 Create a list of outbound deliveries in the outbound delivery monitor. Make your selection using your shipping point **X0##** and the delivery creation date (**start of this week until today**).
  - 3-1-2\* Sort the list by delivery date in descending order.
  - 3-1-3\* Send the list to another group in the class.

Display incoming mails:

*Office → Workplace → Inbox → Unread documents*

# Solutions



**Unit:** Goods Issue Process

**Topic:** Delivery List

1-1 Process delivery list:

1-1-1 Processing the collective run using the sales orders scenario:

*Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Create → Collective Processing of Documents for Shipment → Sales Orders*

On the selection screen, make the following entries to select the orders you want to deliver:

Shipping point: X0##

Delivery creation date: Start of the week until today

Create the outbound deliveries:

1-1-2 Choose **Select all** to select all the orders.

Choose **background**

(Menu: **Edit → Create delivery in background**)

1-1-3 Display the log:

Choose Log for delivery creation

(Menu: **Goto → Create delivery log**)

The system created at least two outbound deliveries.

Reason: Not all order items had the same values in the fields that are compared (split criteria). For example, the orders have different ship-to parties.

1-2\* *Optional:*

Display the log for the collective run:

*Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Lists and Logs → Collective Processing Log*

Type of collective run: L

Started by: LO610-##

→ **Execute**

# Solutions



**Unit:** Goods Issue Process  
**Topic:** Determining the Picking Location

- 2-1 Check picking location determination for shipping point Y0##:

*In the IMG: Logistics Execution → Shipping → Picking → Determine Picking Location → Assign picking locations*

**Position: Shipping point Y0##**

<i>Shipping point</i>	<i>Plant</i>	<i>Storage condition</i>	<i>Storage location</i>
<b>Y0##</b>	<b>1200</b>	<b>Blank</b>	<b>0001</b>
<b>Y0##</b>	<b>1200</b>	<b>01</b>	<b>0001</b>
<b>Y0##</b>	<b>1200</b>	<b>02</b>	<b>0001</b>

# Solutions



**Unit:** Goods Issue Process

**Topic:** Outbound delivery monitor (*optional*)

3-1 Display outbound deliveries for shipping point X0##:

3-1-1 Delivery monitor: Outbound delivery list:

***Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Lists and Logs → Outbound Delivery Monitor***

Choose ***List outbound deliveries***

Choose ***Execute***.

3-1-2\* Sort list:

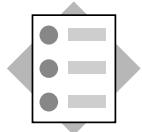
Position the cursor on the ***Delivery date*** column and choose ***Sort in descending order***.

3-1-3\* Send the list to another group:

***List → Send...***

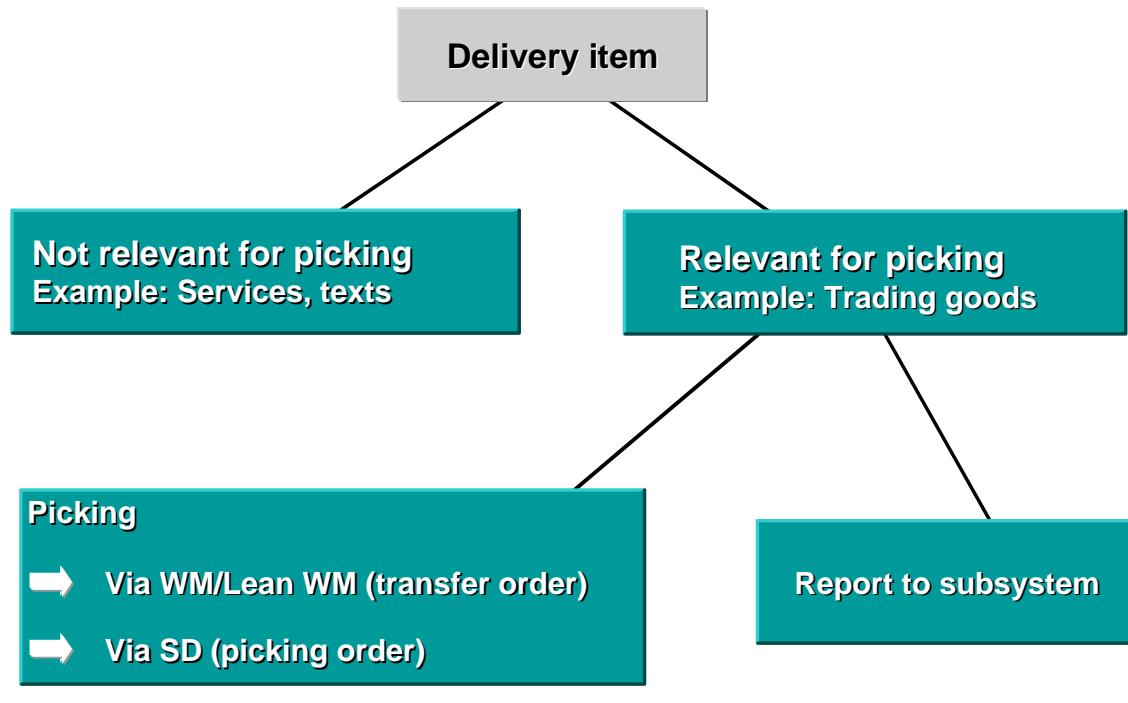
Enter LO610-## as the recipient and choose the recipient type ***SAP user name***. SAP user name.

Choose ***Send***.



**At the conclusion of this topic, you will be able to:**

- **Describe the picking process using transfer orders**
- **Create transfer orders manually and using collective processing**
- **Confirm transfer orders**

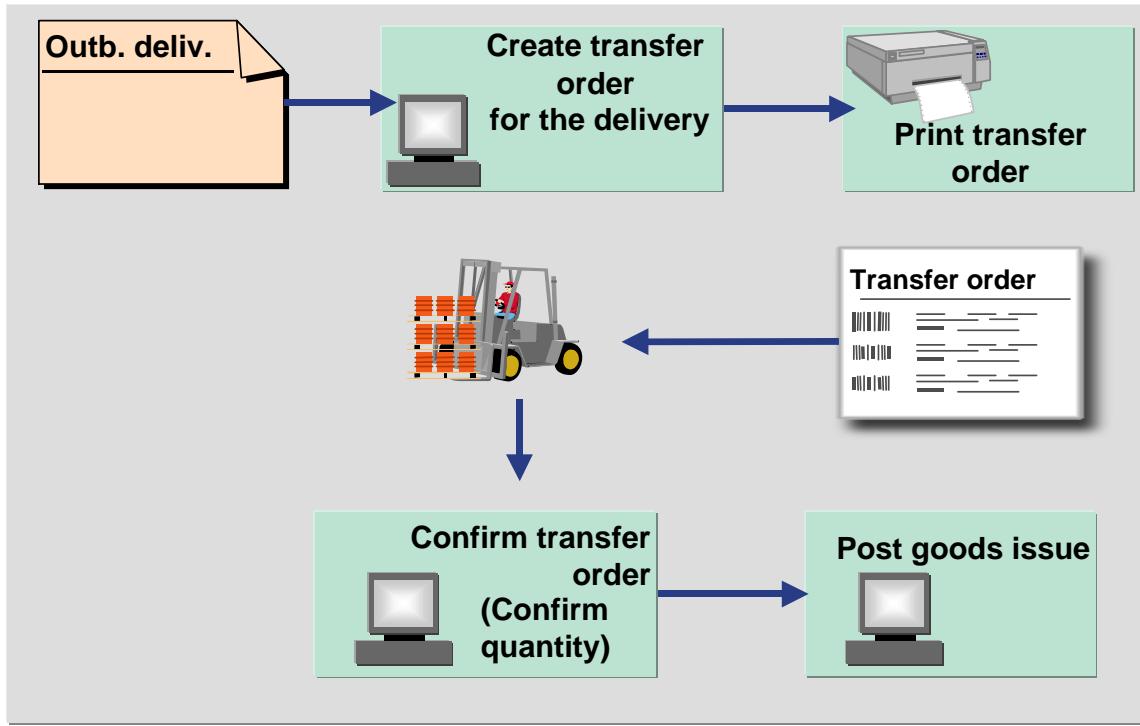


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- **Picking** is the process of preparing goods for delivery to the customer with special attention paid to dates, quantity, and quality.
- You specify for each delivery item category whether it is **relevant for picking**.
- Often, picking takes place using the printout of a **picking list**. SAP recommends that you use the functions of the WM transfer order. For this purpose, you do not need to implement the complete WM system; Lean WM is sufficient.
- Using **Lean WM** means using a small part of the functionality of the R/3 component WM (Warehouse Management).
- With the help of the output control for the outbound delivery, you can also transmit data to a subsystem that is implemented for the picking process.
- In the standard configuration of the system, the prerequisite for posting goods issue is that picking-relevant items are completely picked. This means that the delivery quantity and the pick quantity in the outbound delivery must be the same.

## Picking Process Using WM / Lean WM

SAP

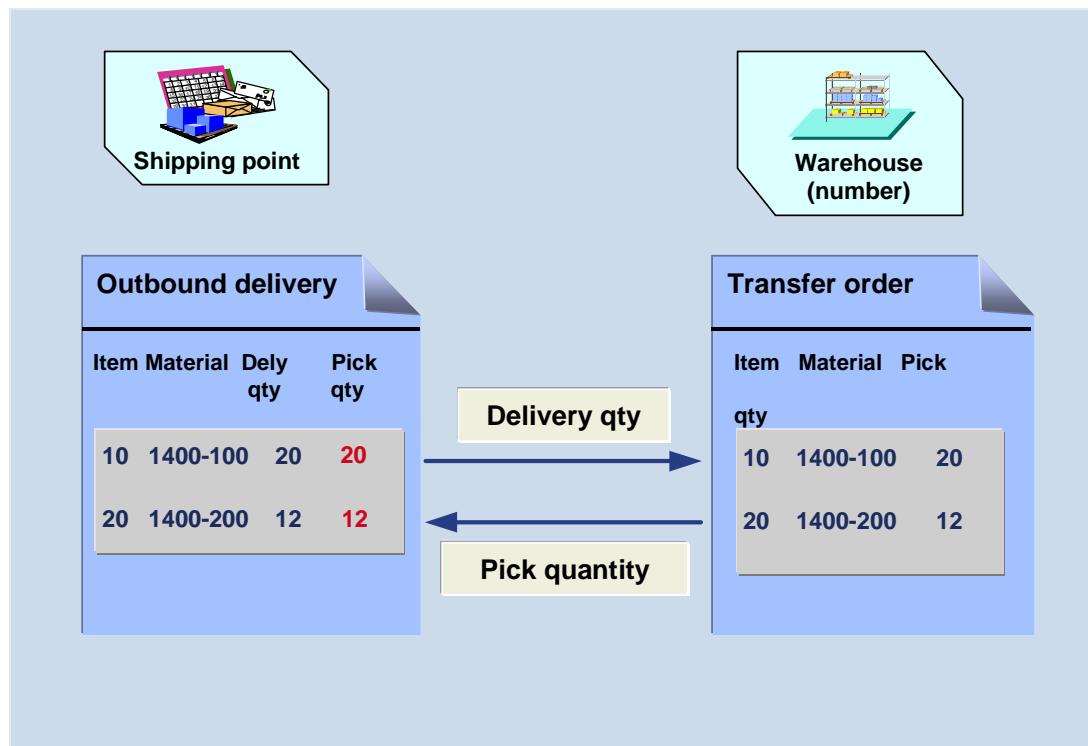


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- To use WM in picking (either full WM or Lean WM), you create a transfer order (TO).
- The **transfer order** is a document with which the goods movements within a warehouse complex can be initiated and monitored. You create one or several transfer orders on the basis of the items to be picked using WM.
- Afterwards, you **print** out the **transfer order**. This step can be executed automatically by the system.
- Instead of printing the transfer order as a picking list, you can transfer the data of the transfer order to an external system using portable data capture or to a warehouse control unit.
- By **confirming the transfer order**, you verify the quantities removed from the warehouse. If you are working with a confirmation requirement, you must perform this step separately. If there is no confirmation requirement, the system automatically confirms the quantities when you create the transfer order.
- Finally, you can post the goods issue. This completes the shipping process.

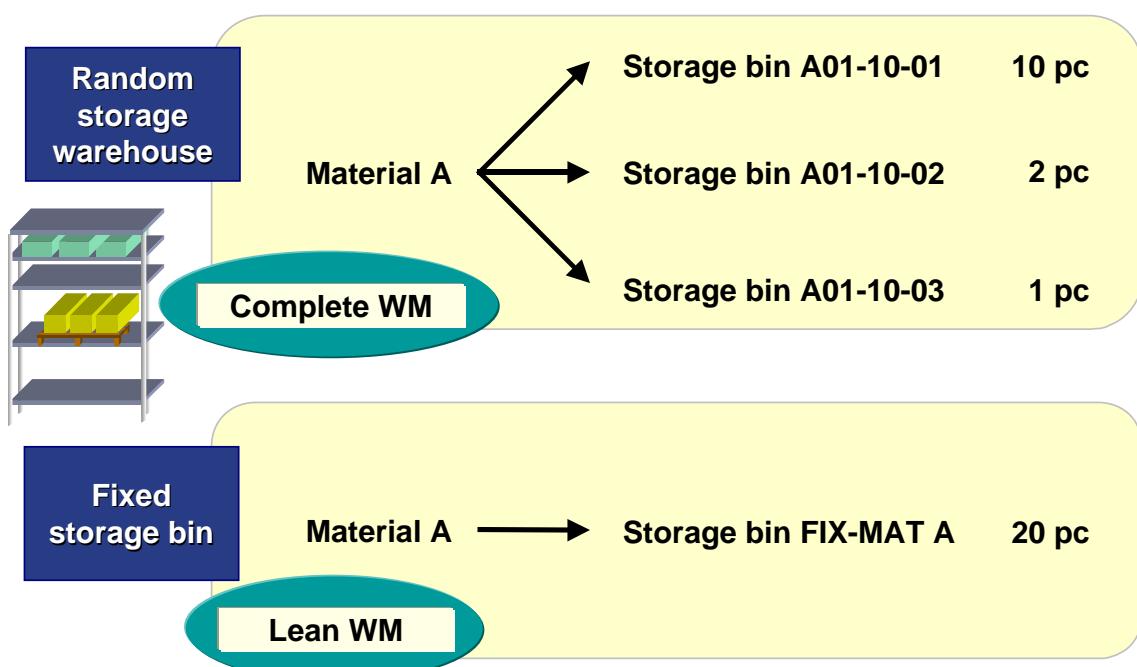
# The Transfer Order

SAP



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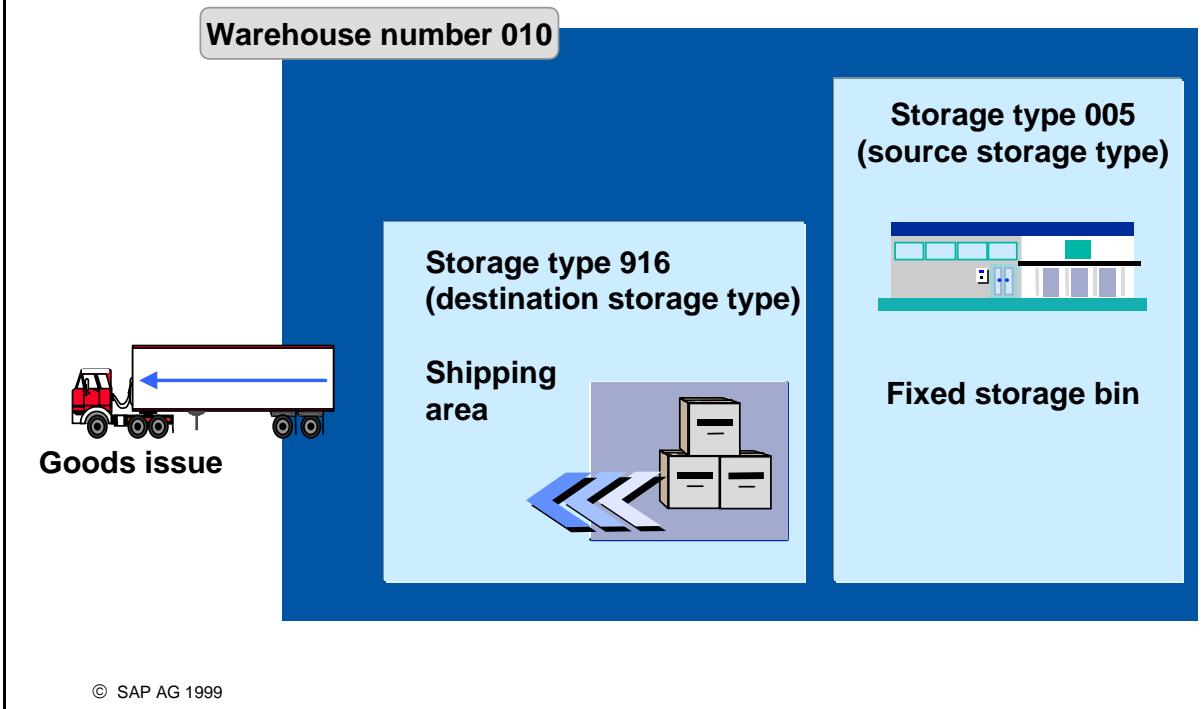
- A **transfer order** is an instruction to move materials from a source storage bin to a destination storage bin within a warehouse complex.
- Transfer orders include the following **information**:
  - Material number
  - Quantity to be moved
  - Source and destination storage bin
- When you create the transfer order, the system automatically copies the delivery quantity from the outbound delivery to the transfer order as the picking quantity.
- The picking quantity in the outbound delivery is entered automatically when you create the transfer order. In Lean WM, the picking quantity is initially the same as the delivery quantity.



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- If you have a **warehouse with random storage**, you need to use the **WM System** with full functionality. Since a material can be stored in different storage bins or even several storage bins at the same time, precise inventory management at the level of the storage bin is required.
  - **Lean WM** does not have inventory management at the level of the storage bin and is therefore more suitable for **fixed bin warehouses**. In a fixed bin storage area, the material is always in the same storage bin.
  - To print the storage bin in the picking document, you must maintain the respective data in the material master in the view "Storage 1". Maintenance of further warehouse data and the Warehouse Management views is not required.
  - Some of the WM functions not included in Lean WM are listed below:
    - Storage sections
    - Reserve storage bins
    - Strategies for putaway and picking
    - Replenishment
    - Inventory at storage-bin level
- This considerably reduces implementation effort.

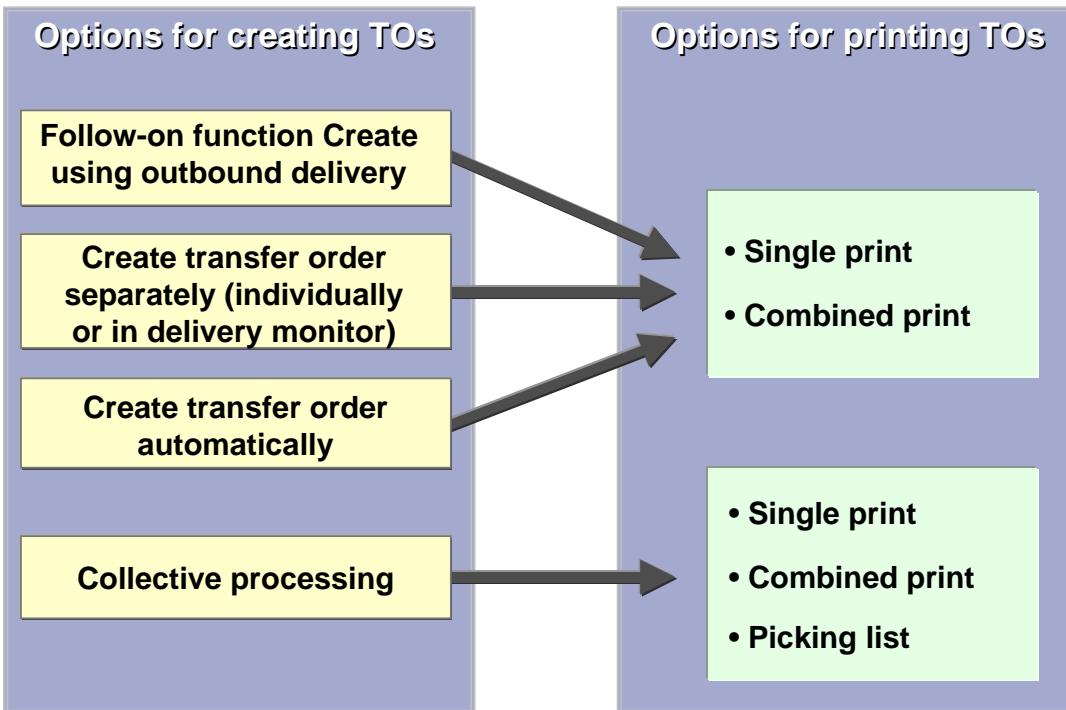
## Example: implementation of Lean WM in a fixed bin warehouse



- Possible depiction of the **warehouse structure of a fixed bin** in the SAP System if **Lean WM** is in use.
  - For Lean WM you need at least one **warehouse number** and at least one **storage type** from which picking takes place and one storage type in which goods are stored (for example, picking storage type as source storage type, shipping zone as destination storage type).
  - In the picking storage area, you can have storage bins grouped together from the stock removal viewpoint (for example, to distribute the workload evenly). **Picking areas** can be defined for each warehouse number and storage type.
  - In addition to the picking area, there are other organizational units in the warehouse. These are the **staging areas** and the **doors**. They are defined in the outbound delivery or determined by the system and they can also be printed out on the picking documents.
  - You can activate Lean WM in Customizing at the warehouse number level.
  - You assign a warehouse number to a combination of plant and storage type. In this way, the organizational units in the warehouse are linked up to MM Inventory Management. Also, through this assignment, a status for WM activities is assigned to the respective items in the outbound delivery.

# Creating and Printing Transfer Orders

SAP

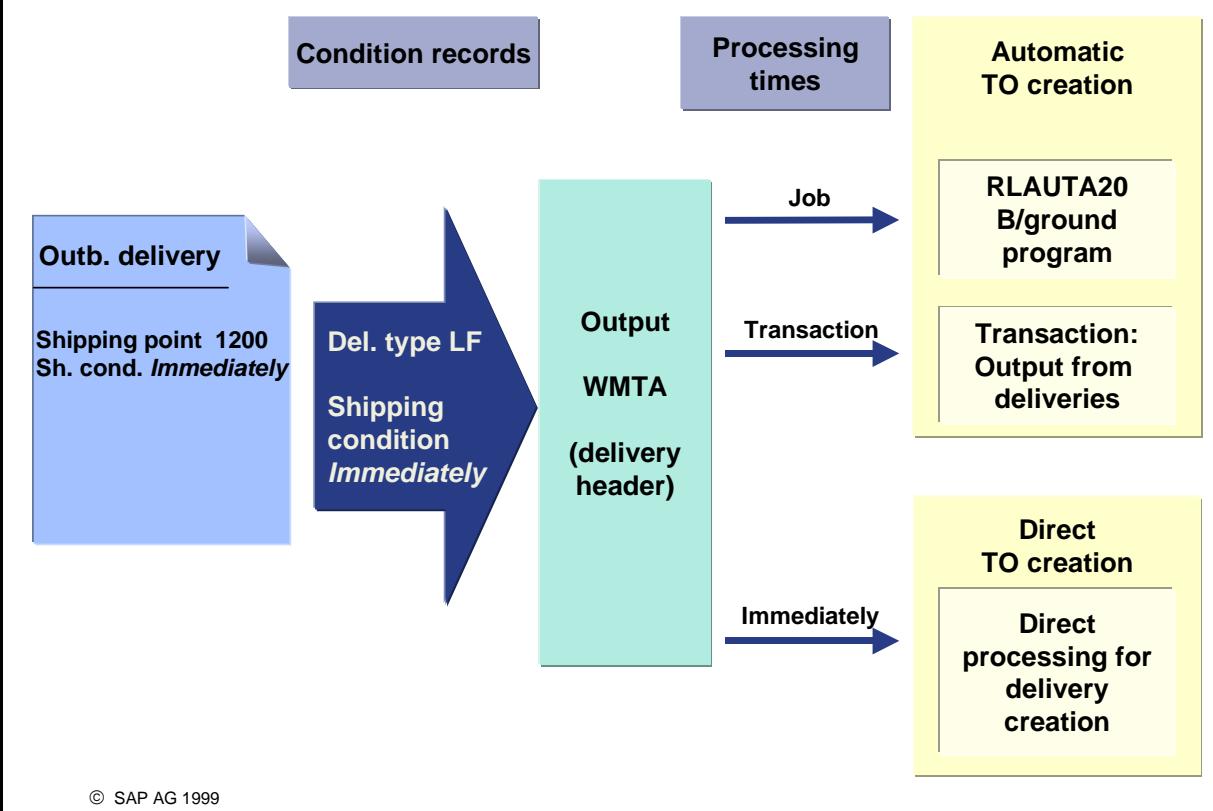


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- There are several ways of **creating a transfer order** (TO). They differ only in the degree of automation involved.
- In individual cases, it is possible to create the transfer order as a follow-on function from the delivery.
- You can also create transfer orders separately. To do this, create the transfer order either with reference to a specific outbound delivery, or use the delivery monitor to create transfer orders for several deliveries at the same time.
- The procedure "**automatic/direct TO**" is suitable if you want to have the transfer order created automatically from each outbound delivery, without manual involvement or effort.
- Using the **collective processing procedure**, you can group several outbound deliveries together for the purpose of creating the transfer orders.
- In WM, you have the following **options for printing** using a print code:
  - Single print: One page for each TO item (for example, item-by-item processing in the warehouse)
  - Combined print: One list for the entire transfer order (also called "combined list")
  - Pick list: One list for several transfer orders that were created in collective processing

## Automatic/Direct Creation of Transfer Orders

SAP



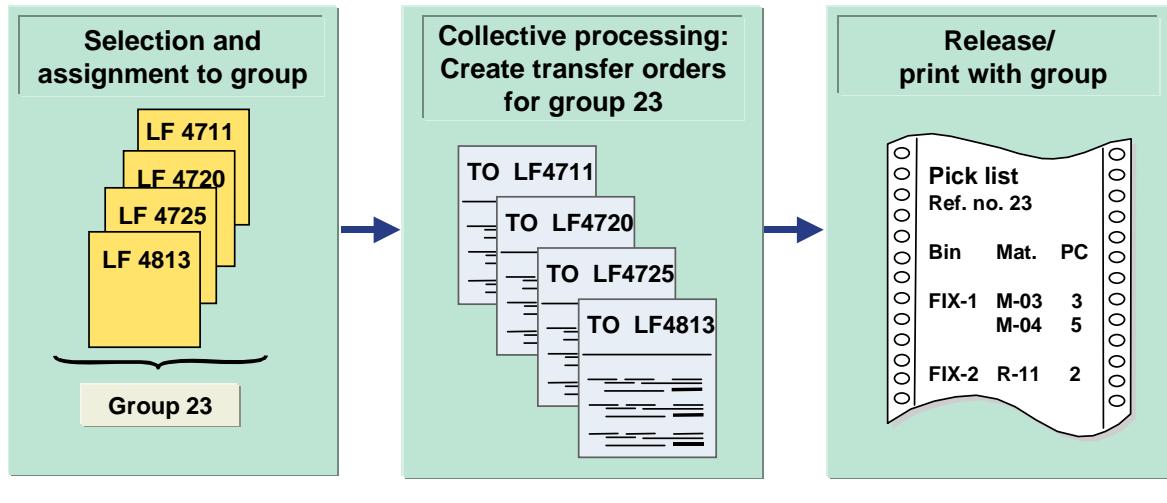
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- If you do not wish to issue the items of several outbound deliveries in *one* picking list, we recommend automatic or direct transfer order creation.
- You initiate this processing type through the output control of the outbound delivery. With the condition technique, you can have the system determine output type WMTA at the header level of the outbound delivery when the delivery is being created. The prerequisite for this is that at least one item of the outbound delivery is relevant for WM. The combination "Delivery type / Shipping point" (1st access) or "Delivery type" (2nd access) is responsible for determining the output in the standard system.
- The processing of output type WMTA initiates the creation of the transfer order.
- Depending on the send time of output type WMTA, you can have different processing types:
  - Automatic transfer order creation: Time 1-3 (processing later)  
In this case, the output is either processed via a selection program in the background or manually using the transaction "Output from deliveries", which can also be planned in the background. During automatic transfer order creation, the output process is independent of outbound delivery creation.
  - Direct transfer order creation: Time 4 (processing immediately)  
Here, processing is initiated immediately after outbound delivery creation.

# Collective Processing in the Outbound Delivery Monitor

SAP

## Outbound Delivery Monitor

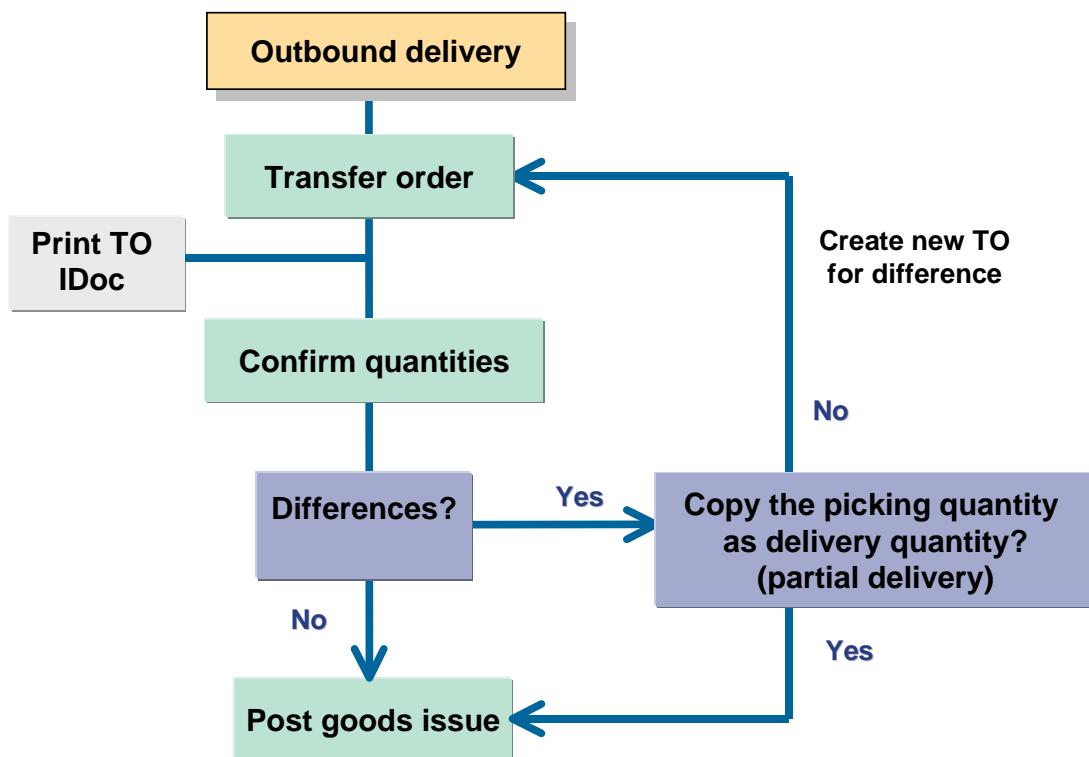


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- To optimize the picking process, you can also create a **picking list** for several outbound deliveries. This list is then sorted, for example, by storage bin or material, depending on the settings in Customizing. This simplifies, to a considerable degree, the actual search work for the picker in the warehouse.  
The prerequisite for creating the picking list is that the transfer orders have not already been created individually.
- Use the **collective processing procedure** to create these picking lists:
  - From the outbound delivery monitor, select the outbound deliveries and create a group for them.
  - Create the transfer orders with reference to the group. This creates a transfer order for each outbound delivery assigned to the group.
  - Depending on the settings for print control, the picking list is printed automatically by the system or manually by the picker who calls up this function.

## Differences when Picking Using WM

SAP

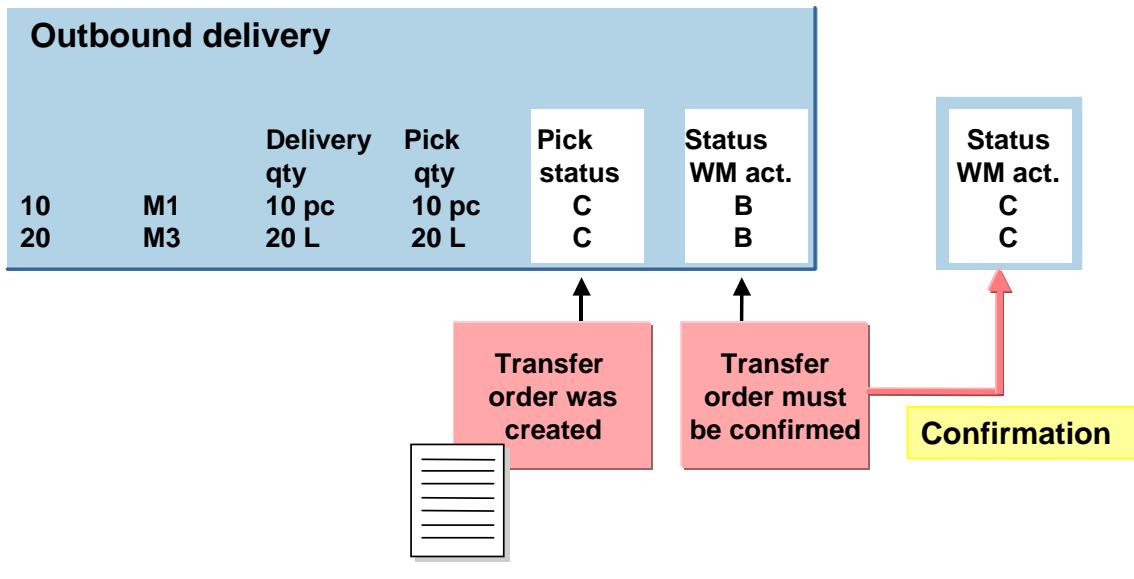


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- In picking, **differences** may occur between the quantity actually removed and the delivery quantity. However, you can only post a goods issue if the picking quantity and delivery quantity are the same.
- One option is to **copy the picking quantity as the delivery quantity** and perform a **partial delivery**. In the order, the status is set to *partially delivered*, and a new delivery is created for the remaining items.
- Alternatively, you can choose **subsequent picking**. In this case, you create a new transfer order for the difference.

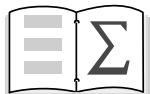
## Confirming Transfer Orders

SAP



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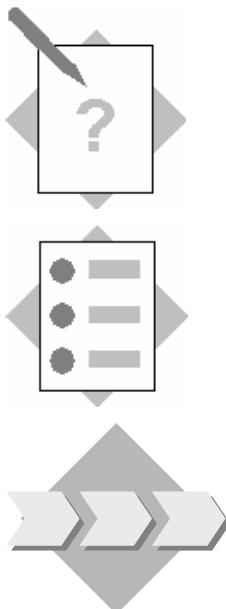
- When you create the transfer order, the system sets the delivery quantity as the picking quantity so that the **picking status** is set to C (= fully picked).
- If you wish to have the system record the fact that the picking procedure is complete, you can set the **confirmation requirement**.
- You must confirm the transfer order and therefore also the picked quantities (*Pick qty* field) before the goods issue is posted.
- If you have organized your warehouse so that picking causes changes to the outbound delivery in only a limited number of cases, and the confirmation takes place on time, you can limit this step to the deliveries to be changed and also work without the confirmation requirement.
- During confirmation, it is possible to report differences in quantities. You can record the cause for the difference in the system by entering a difference indicator.
- As soon as confirmation is complete, the status of the WM activities is set to 'C', regardless of the confirmed quantity. Only the pick quantity affects the picking status.
- In Customizing, you define the confirmation requirement for each storage type. It will suffice if you set either the "stock removal" (picking) in the source storage type or the "stock placement" (putaway) in the destination storage type as requiring confirmation.



You are now able to:

- Configure shipping point and route determination
- Understand how scheduling is controlled
- Describe the function and elements of a route schedule
- Create delivery documents using collective processing
- Create output based on the outbound delivery
- Use the outbound delivery monitor for processing outbound deliveries
- Describe the picking process using Lean WM
- Create transfer orders manually and using collective processing

# Exercises



**Unit:** Picking

**Topic:** Picking Using Lean WM

At the end of these exercises, you will be able to:

- Execute picking in fixed bin storage areas using Lean WM
- Locate the most important Customizing settings for Lean WM

You have a warehouse in which the materials are always located at the same storage bin (fixed bin storage). For your picking activities, you need picking lists, which contain the items for picking and their storage location.

In your shipping points, you pick for several deliveries at the same time to reduce the time employees spend locating items. In this case, you use collective processing to create the transfer orders.

In your shipping points, the goods cannot leave your company without confirmation about the quantities found in the warehouse.

1-1 You want to process activities quickly in your shipping point for refrigerated goods **Y0##**. Therefore, when you create the outbound delivery, you immediately generate a list (combined print) of the materials and quantities to be picked. The goods in the warehouse are confirmed on the basis of this list.

1-1-1 Create a trade fair ## order:

Sold-to party:	<b>T-L64B##</b>
Purchase order number:	<b>##-6-1</b>
Req. delivery date:	<b>today</b>
Material:	<b>T-AU4##</b>
Quantity:	<b>100</b>

Order number: \_\_\_\_\_

- 1-1-2 Create the outbound delivery for the order in shipping point **Y0##**, and on the *Picking* or *Status* tab, display the picking status and the WM status (before you save the delivery).

Picking status: \_\_\_\_\_

WM status: \_\_\_\_\_

- 1-1-3 Save the outbound delivery and create the transfer order in the same workstep. This initiates the printing of the list required for picking.



To do this, use the menu path *Subsequent functions* → *Create transfer order* from the delivery screen.

In the dialog box that appears, choose *Save* to save the outbound delivery.

Enter the following in addition to the default data:

Warehouse number: **012**

Foreground/background proc.: **Background**

To confirm, choose *Enter*.

- 1-1-4 Look at the document flow of the outbound delivery.

What is the overall processing status of the transfer order?

---

Explain this status.

---

- 1-1-5 From the document flow screen, display the transfer order.  
Has the transfer order already been printed and confirmed?

*TO printed:*      **Yes**    **No**

Confirmation:      **Yes**    **No**

- 1-1-6 Branch to the list of your spool orders and display the generated list on the screen.

Record the number of the transfer order: \_\_\_\_\_

- 1-1-7 Proceed to the picking overview screen of the outbound delivery. What are the two status values now?

Picking status: \_\_\_\_\_

WM status: \_\_\_\_\_

- 1-1-8 The picker returns from the warehouse and gives you the list. There are no changes on the list with respect to the quantities. According to your internal procedures, this list is confirmation for you that the picker found the required quantity in the warehouse and removed it from the shelf. Therefore, confirm the transfer order in background processing.

TO number: Determined in exercise 1-1-6

Whse number: **012**

Foreground/background proc.: **Background**

To confirm, choose *Enter*.



You can execute the workstep for entering the TO number manually by copying it from the pick list. It is possible to automate this process by scanning the bar code on the list.

- 1-1-9 Now look at the two status entries in the outbound delivery.

Picking status: \_\_\_\_\_

WM status: \_\_\_\_\_

- 1-1-10 How is the confirmation step documented in the document flow for the outbound delivery?
- 

- 1-2 In shipping point **X0##**, execute picking for several outbound deliveries at the same time. To do this, print out the items to be picked on a combined pick list.

- 1-2-1 Using the outbound delivery monitor, select the outbound deliveries for picking in shipping point **X0##**.

Shipping point: **X0##**

Whse number: **012**

- 1-2-2 For the selected outbound deliveries, form a group with reference to WM.

Group type: **K**

Description: **Picking group ##**

Warehouse number: **012**

Number of the group: \_\_\_\_\_

- 1-2-3 Now start collective processing by creating transfer orders for the group you have just created.



Note:

To obtain a combined pick list, you must create the transfer orders using the transaction *Create transfer order by wave pick*.

If you create the transfer orders from the outbound delivery monitor, you will not obtain a combined pick list.

You should therefore exit the outbound delivery monitor and choose *Create transfer order / By wave pick*.

Warehouse number:

**012**

Group:

**see exercise 1-2-2**

Reference doc cat.:

**L**

Foreground/backgrnd.:

**Background**

- 1-2-4 Branch to the list of your spool orders and display the pick list you just generated on the screen.

- 1-2-5 In one of the processed outbound deliveries, the required quantity was not found in the warehouse.

Confirm the transfer orders for the group number.

Warehouse number:

**012**

Group:

**See exercise 1-2-2**

Foregr./backgr. process:

**Foreground**

First confirm the respective item by entering the actual quantity in the foreground. Position the cursor on the item, choose *Confirm item foreground* and enter both the actual quantity and the difference quantity.

Afterwards, confirm the remaining quantity in one step by choosing *Confirm rem. qty.*

1-3\* *Optional:*

To be able to use the WM system (either in complete form or as Lean WM) during picking, you have already set up the warehouse structure in Customizing in an earlier step.

**Do not change the settings in Customizing. Display them only!**



1-3-1 What is the highest organizational unit in the WM system?

Where do you define this in Customizing?

---

---

1-3-2 Where in Customizing do you activate the WM system?

(Tip: This setting is also set when using Lean WM.)

---

---

1-3-3 Since you have fixed bin storage, it is not necessary to have stock management at bin level beyond the requirements of standard Inventory Management. As a result, you do not need a WM system with complete functionality. It is sufficient to have Lean WM, which also simplifies the implementation effort involved.

Name the two places in Customizing where you define that you want to work with Lean WM instead of full WM.

1. \_\_\_\_\_

2. \_\_\_\_\_

# Solutions



**Unit:** Picking

**Topic:** Picking Using Lean WM

1-1 Picking in shipping point Y0##:

1-1-1 Create trade fair order:

*Logistics → Sales and Distribution → Sales → Order → Create*

Order type: Trade fair##order

1-1-2 Create outbound delivery:

*Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Create → Single Document → With Reference to Sales Order*

Shipping point: Y0##

Selection date: Today's date

Order: Number of the order you just created

Go to the **Picking** or **Status overview** tab.

Picking status: A Not yet picked

WM status: A WM transfer order required

1-1-3 Save the outbound delivery and create the transfer order:

*Subsequent functions → Create transfer order*

In the dialog box that appears, choose **Yes** to save the outbound delivery.

Warehouse number: 012

Foregr./backgr.proc.: Background

To create, choose **Enter**.

1-1-4 Document flow for the outbound delivery:

*Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Display*

*Environment → Document flow*

Overall processing status: Open

Reason: The transfer order has not yet been confirmed.

1-1-5 Display transfer order:

In the document flow, position the cursor on the line for the transfer order and choose **Display document**.

Call up the display of the header fields by choosing **Goto → Header**.

TO printed: **Yes**

(The *TO printed* indicator is selected.)

Confirmation: **No**

(*Confirmation indicator* is not selected)

1-1-6 Display the combined pick list on the screen

**System → Services → Output controller**

Use the default settings on the selection screen.

Choose "**Execute**".

Select the entry and choose **Display**.

Record the number of the transfer order.

1-1-7 Status:

**Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Display**

Picking status: **C** (fully picked)

WM status: **B** (open transfer order item)

1-1-8 Confirmation:

**Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Picking → Confirm Transfer Order → Single Document → In One Step**

TO number: Determined in exercise 1-1-6

Whse number: **012**

Foreground/background proc.: **Background**

To confirm, choose **Enter**.

1-1-9 Status:

**Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Display**

**Choose Picking.**

Picking status: **C** (fully picked)

WM status: **C** (WM transfer order confirmed)

1-1-10 Document flow:

**Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Display**

**Environment → Document flow**

The transfer order now has the overall processing status *Completed*.

1-2 Picking in shipping point X0##:

- 1-2-1 Selected the outbound deliveries from the outbound delivery monitor:  
***Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Picking → Create Transfer Order → Via Outbound Delivery Monitor***
- Shipping point: **X0##**  
Whse number: **012**
- **Execute**
- 1-2-2 Create a group with WM reference:  
Select the outbound deliveries found by the system, and then choose:  
***Subsequent functions → Group → Create with WM reference***
- Group type: **K**  
Description: **Picking group ##**  
Warehouse number: **012**
- 1-2-3 Start collective processing:  
***Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Picking → Create Transfer Order → By Wave Pick***
- Warehouse number: **012**  
Group: **see exercise 1-2-2**  
Reference doc cat.: **L**  
Foreground/backgrnd.: **Background**
- **Start multiple processing**
- 1-2-4 Display the pick list on the screen:  
***System → Services → Output controller***  
Use the default settings on the selection screen.  
Choose **Execute**.  
Select the entry and choose **Display**.
- 1-2-5 Confirmation:  
***Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Picking → Confirm Transfer Order → By Wave Pick***
- Warehouse number: **012**  
Group: **See exercise 1-2-2**  
Foregr./backgr. process: **Foreground**
- **Execute**  
Position the cursor on an item and choose **Confirm item in foreground** (menu **Transfer order ### Confirm in foreground**). **Transfer order → Confirm in foreground**  
In the screen that appears, enter the actual and difference quantity. Confirm the warning message that appears by choosing **Enter**.  
To confirm the remaining items in one step, choose **Confirm remaining items** (menu **Transfer order ### Confirm remaining items**). **Transfer order → Confirm remaining items**)

1-3\* *Optional:*

Customizing settings for Lean WM:

1-3-1 Highest organizational unit in the WM system?

Warehouse number

Define Customizing:

***In the IMG: Enterprise Structure → Definition → Logistics Execution → Define, copy, delete, check warehouse number***

1-3-2 Activate the WM system:

***In the IMG: Enterprise Structure → Allocation → Logistics Execution → Assign warehouse number to plant/storage location***

When you have assigned a warehouse number, the WM system is active for the respective combination of plant and storage location, that is, picking takes place on the basis of a transfer order.

1-3-3 Define Lean WM:

1. ***In the IMG: Logistics Execution → Shipping → Picking → Lean WM → Define control parameters and number ranges for warehouse number***

Choose ***Define control parameters and number ranges for warehouse number.***

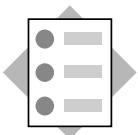
The Lean WM field is active.

2. ***In the IMG: Logistics Execution → Shipping → Picking → Lean WM → Control “plant/storage location/warehouse no.” assignment***

For plant 1200, storage location 0001, and warehouse number 012, the ***Degree of activation Warehouse Mgmt*** field contains “1” (Lean WM is active).

## Contents:

- **Batches**
- **Serial numbers**
- **Pricing in the Outbound Delivery**
- **Splitting an existing delivery**

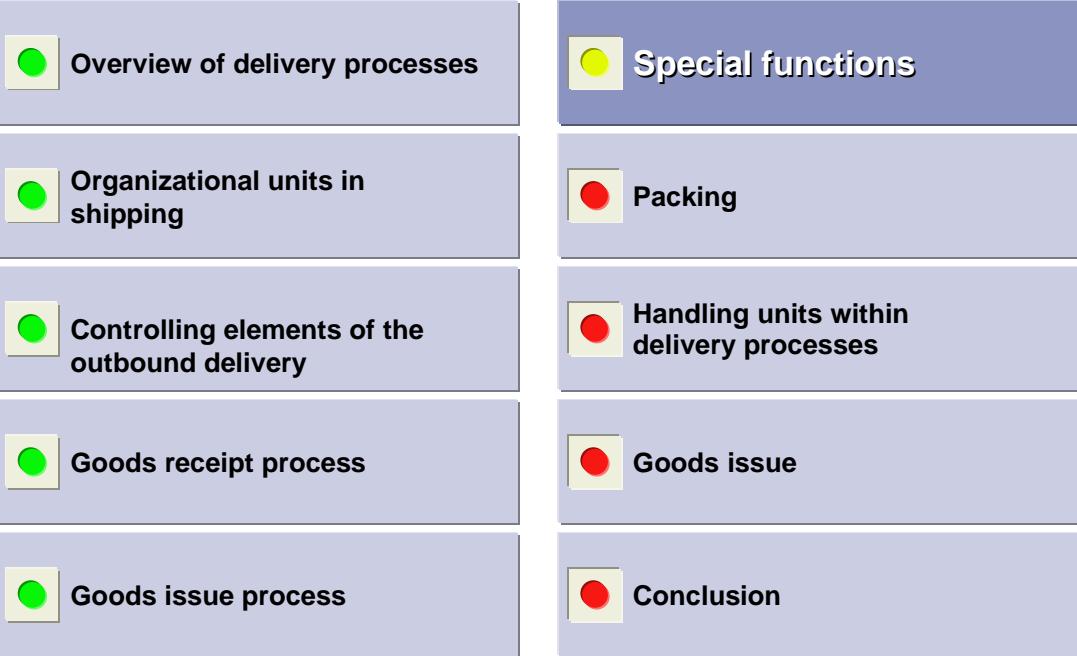


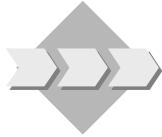
**At the conclusion of this unit, you will be able to:**

- Explain how batches can be specified in the outbound delivery
- Demonstrate serial number assignment in the outbound delivery
- Use pricing in the outbound delivery
- Split an existing delivery into several smaller deliveries

# Special Functions: Course Overview Diagram

SAP

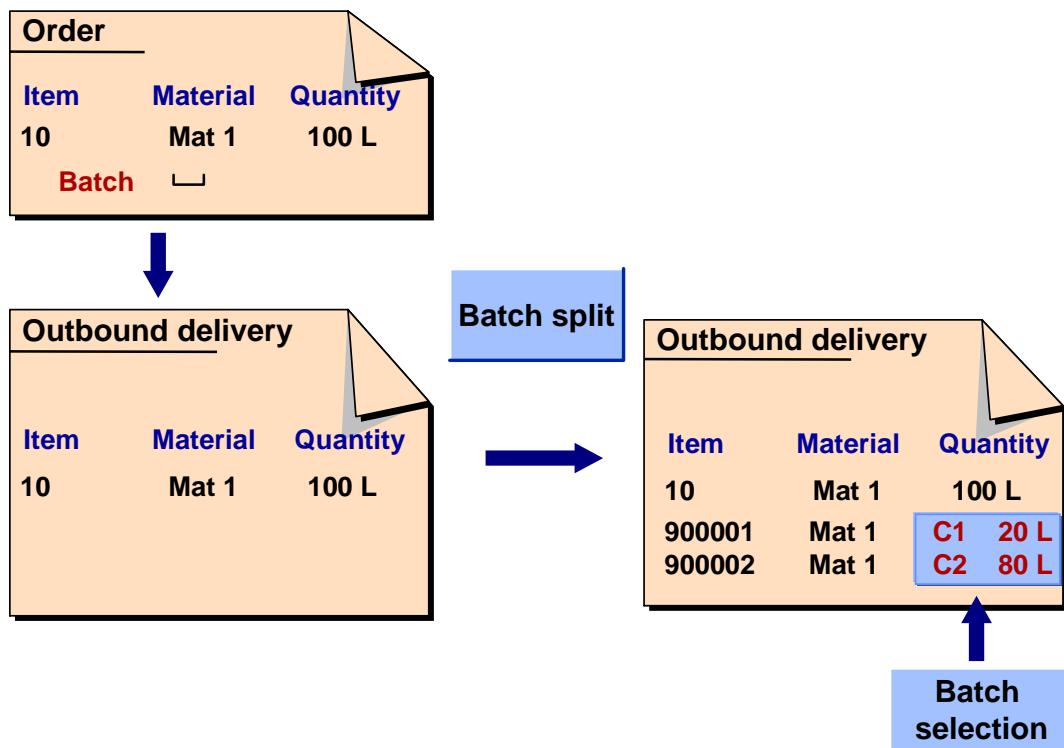




- In your company, batches have to be used for certain materials. You need to specify, in the outbound delivery at the latest, from which batch the material was selected.
- Other materials have serial numbers, which you also need to record at the time of delivery and enter in the system.
- It is often necessary to record shipping costs, such as packing and postage costs, in the delivery document.
- During loading, if you notice that a delivery does not fit into a truck, you have to split it into several smaller deliveries.

## Batches

SAP

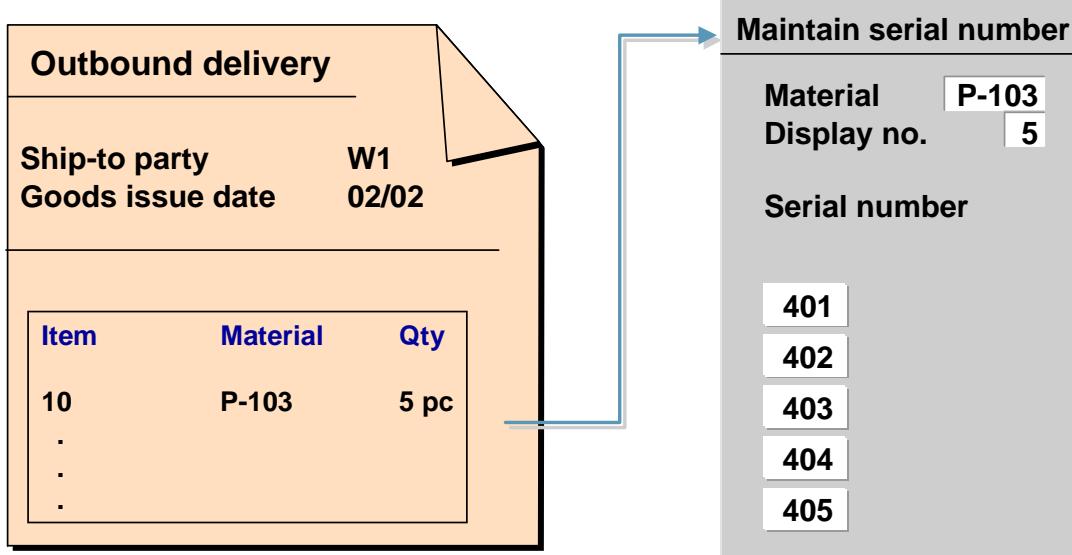


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- You can specify a batch in the relevant detail screen for **materials handled in batches** (whether or not a material is handled in batches is indicated in the material master record in the "Storage 1" and "Purchasing" screens). When delivering a sales order, this batch is copied to the outbound delivery. You cannot change it there.
- If no batch has been specified in the sales order, you can enter one in the picking overview screen of the outbound delivery. You must specify a batch, at the latest, before goods are issued.
- Use the batch split function if the delivery quantities of an item are to be taken from different batches. You can carry out **batch splits** as follows:
  - Manually in the batch split screen of the delivery item
  - When creating the outbound delivery using **automatic batch determination** (this function must first be activated in the delivery item category)
  - Through manual batch determination in the batch split screen
  - In the Warehouse Management component
- Course L0955 covers batch management in detail.

## Serial numbers

SAP

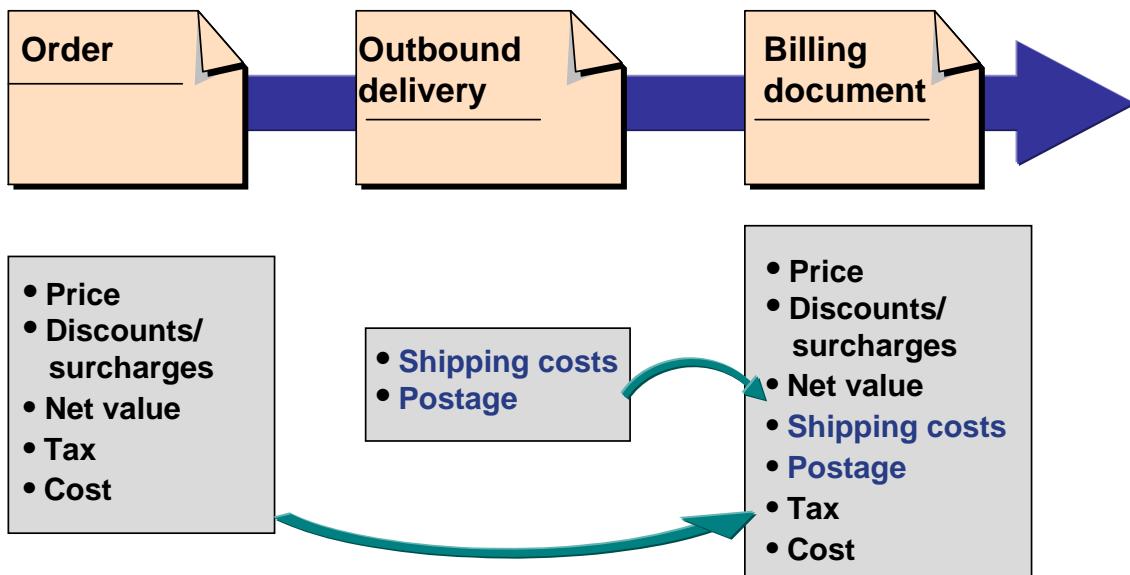


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- You can assign a unique **serial number** to each material. This allows you to **monitor goods movement for individual materials**, for example, when selling materials to a customer. Using serial numbers you can also manage the maintenance of individual materials more easily in the system. You must first create equipment master records, however, for these materials.
- To use serial numbers, enter **serial number profiles** in the master record for the relevant materials.
- Serial numbers are usually specified in the delivery item. However, you can also define them in the order.
- You can also have the serial numbers assigned automatically by the system.
- You must specify all serial numbers, at the latest, before posting goods issue.

## Pricing in the Outbound Delivery

SAP

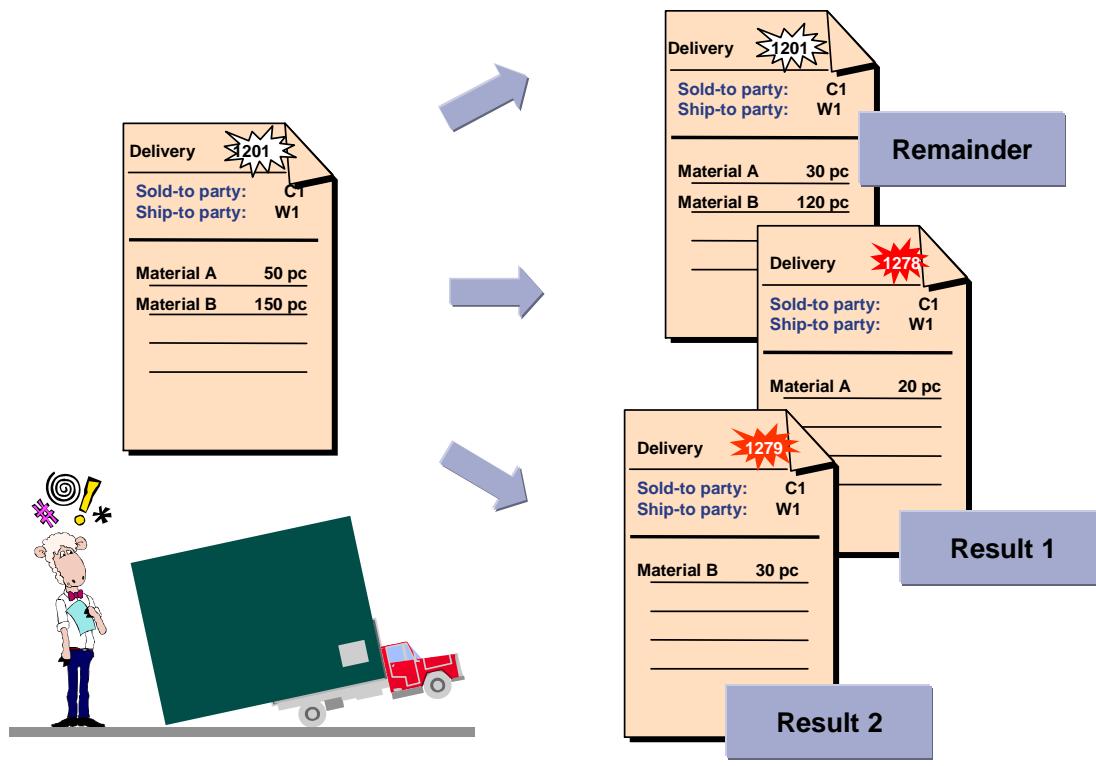


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- The outbound delivery can contain **shipping-related conditions** at header level, such as shipping or freight costs (if you are not using the Transportation component).
- You can enter the condition values manually or determine them using the SD pricing condition technique.  
You can print the conditions on the delivery note as well as transfer them in the billing document, but you cannot transfer them from the preceding documents to the outbound delivery.
- To implement the conditions, use the standard Customizing settings for pricing (condition type definition, maintaining the pricing procedure). Assign the pricing procedure to the delivery type.

## Splitting an existing delivery

SAP



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- You can **split** existing deliveries into several smaller deliveries, which is useful if, for example, there is not enough room in your truck to hold the entire delivery.
- To do this, you can call up a list and select the delivery items, partial quantities of items, or shipping units that are to be taken out of existing deliveries.
- When you split a delivery, you create one or more new deliveries, called results, and the remainder.
- When you call the delivery split, specify a **split profile** to determine the type of split. The split profiles contain control parameters, are defined in Customizing, and assigned to delivery types.

## Delivery Interface - Communication Scenarios

SAP



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- If business partners are involved in the shipping process, or some functions are performed by non-SAP systems, you need to exchange information with these other parties. Normally, EDI messages are used for external communication, and ALE messages are used for internal communication.
- The delivery interface groups together all EDI and ALE messages with reference to the delivery. They are all based on the **same IDoc** (DELVRY02 (4.6A), DELVRY03 (4.6B)).
- DELVRY02 or DELVRY03 is a data structure that consists of segments and contains the fields of the delivery and other fields relevant for shipping, such as route and batch characteristics (see Appendix).
- Filling of the IDoc fields is initiated through output control of the delivery at header level. The system provides appropriate message types for the communication scenarios represented in the standard system.

## Log of Incomplete Items

SAP

Outbound delivery		
<b>Ship-to party:</b> C1		
<b>Route</b>	:	---
Item	Mat.	Storage location
10	M-03	----
20	M-01	0001

→

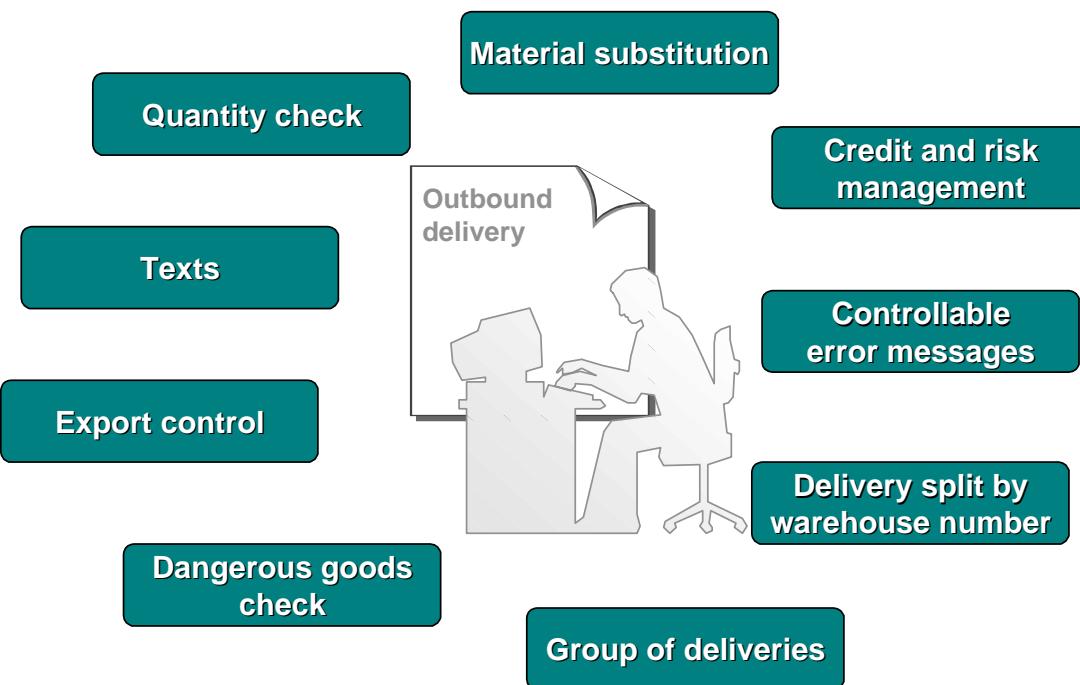
Log of incomplete items	
Item	Short description
10	Route
	Storage location

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- When you call up the **log of incomplete items**, the system checks if the data in the outbound delivery is complete. From the generated list, you can directly branch to the screen for maintaining the incomplete fields.
- You can call the log of incomplete items from delivery processing, or select incomplete delivery documents using a special report. This creates a worklist of documents requiring processing.
- In the outbound delivery, the system can check completeness at both header and item level.
- In **Customizing**, you can control which **fields**, if not entered, cause an outbound delivery to be incomplete and which effects this has on follow-on activities such as picking, packing, goods issue, and billing (for example, packing may be not allowed if the volume in the item is missing). The selection of the fields that cause a delivery to be incomplete depends on the delivery type and the delivery item category.
- In addition, you can set partner functions and texts as required using the corresponding Customizing functions. If specifications for a required partner function are missing in the document or if a required text does not exist, a note is entered in the log of incomplete items.

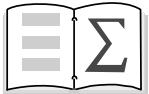
## More Functions in the Outbound Delivery

SAP



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- When both creating and processing deliveries, you can access numerous other functions, which the system can perform either automatically or on request.

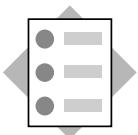


You are now able to:

- Explain how batches can be specified in the outbound delivery
- Demonstrate serial number assignment in the outbound delivery
- Use pricing in the outbound delivery
- Split an existing delivery into several smaller deliveries

## Contents:

- **Packaging materials and handling units**
- **Packing functions**
- **Packing instructions and determination records for packing instructions**
- **Determining permitted packaging material**
- **Subsequent processing for packaging materials**



**At the conclusion of this unit, you will be able to:**

- Define the term 'packaging materials'
- Describe the process for multi-step packing in Sales and Distribution
- Create packing instructions and determination records for automatic packing
- Make the necessary settings for determining permitted packaging material
- Explain the different subsequent processes for packaging material

# Packing: Course Overview Diagram

SAP

 Overview of delivery processes

 Organizational units in shipping

 Controlling elements of the outbound delivery

 Goods receipt process

 Goods issue process

 Special Functions

 Packing

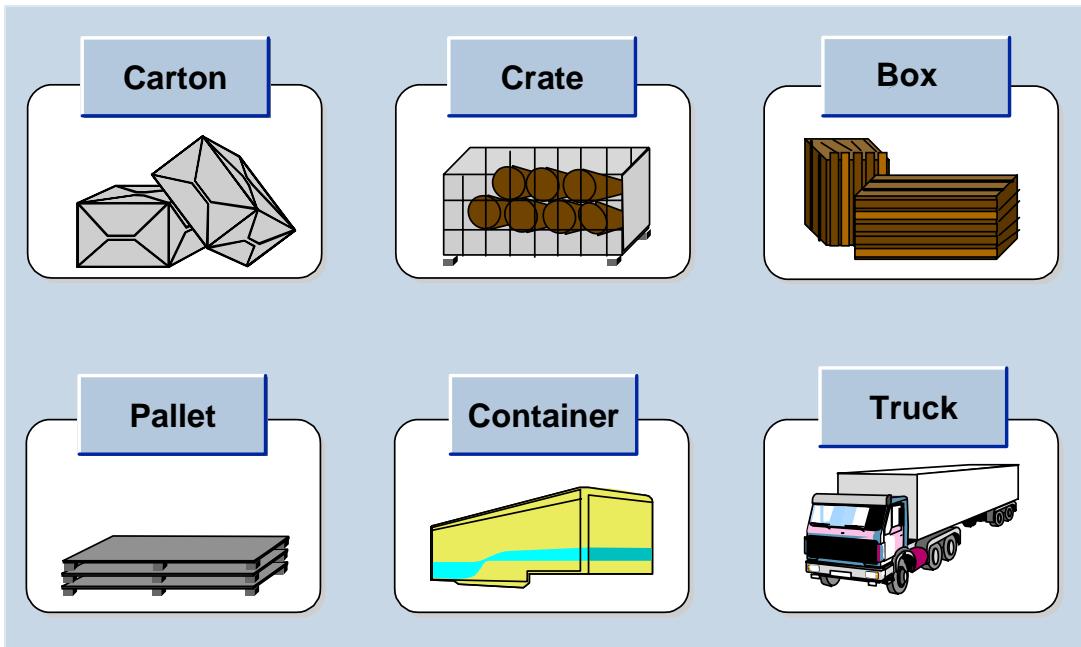
 Handling units within delivery processes

 Goods issue

 Conclusion



- Your company needs to pack some materials in cartons before goods issue. These cartons are then placed on pallets before being shipped.
- For each material, you have to consider the defined requirements for packing them in cartons.
- You need a special label for each package. You also create a packing list for the entire outbound delivery.
- You bill the customer for special boxes. You use returnable packaging processing for the pallets.

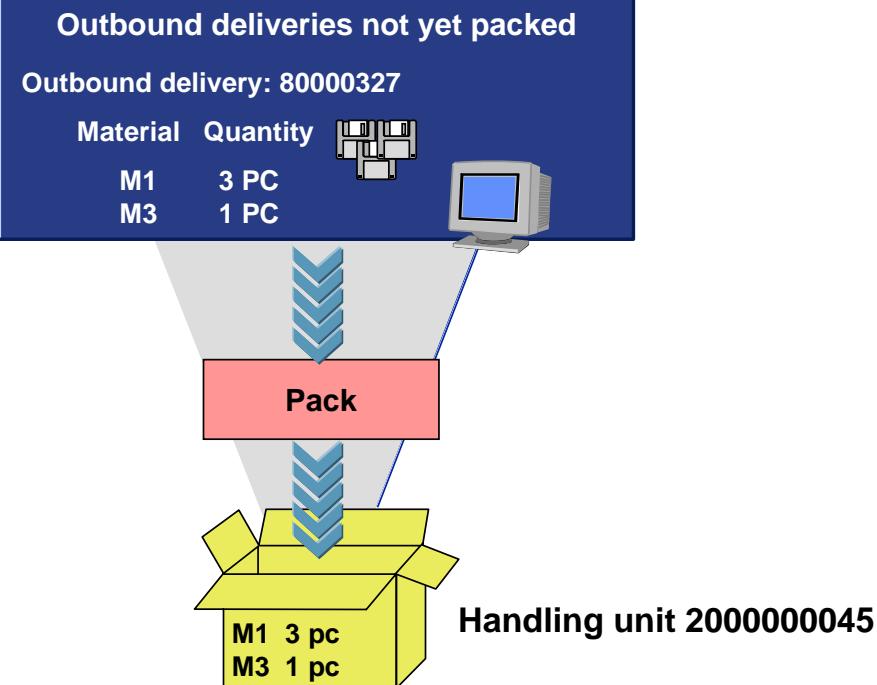


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- **Packaging materials** are materials used for packing or transporting goods (packaging materials).
- In order to store packing information for an outbound delivery in the system, you must first specify a packaging material.
- You must create **material master records** for the different packaging materials. You can use material type VERP for these materials in the standard system. You define special data such as packing weight and volume permitted for each shipping material in the material master. You can activate these fields for each material type.

## Handling Unit

SAP

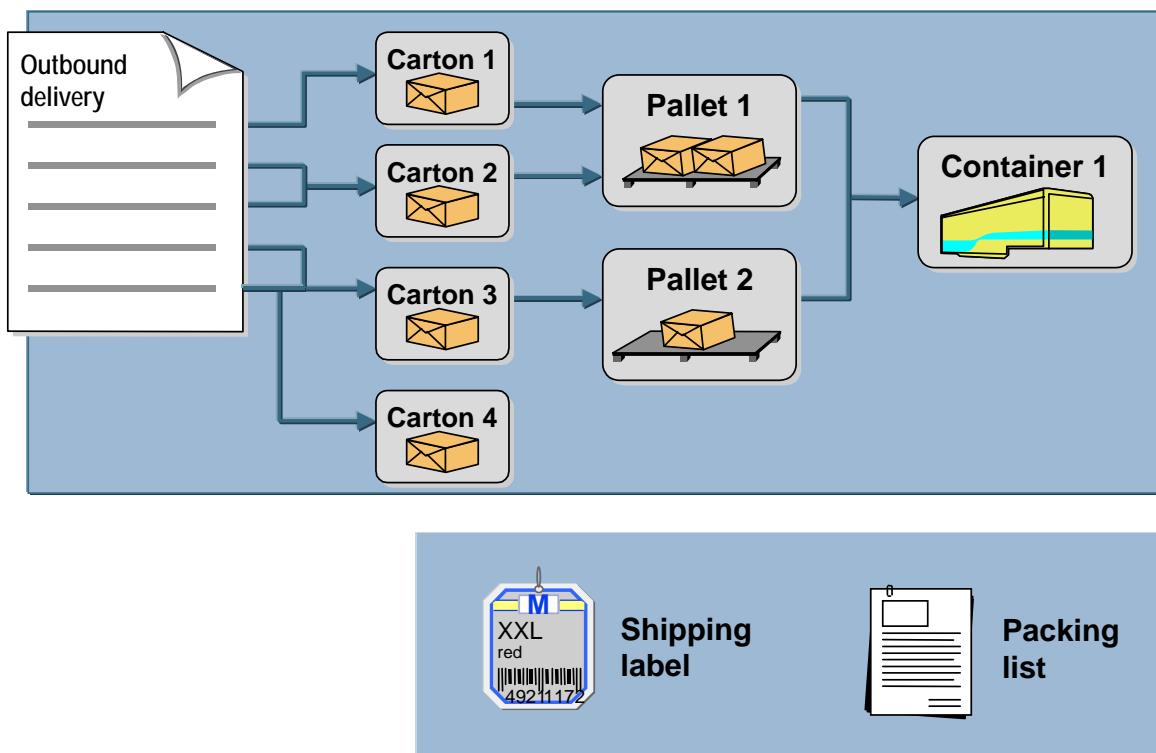


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- You select items from an outbound delivery to be packed in a packaging material known in the system as a **handling unit** (package).
- The handling unit is assigned a unique sequential number from a predefined number range.
- The **handling unit header** contains information on the packaging material used in packing. The overview screen of the packaging material displays the quantities of the delivery items or other handling units.
- Data proposed from the packaging material material master record can be changed or enhanced to include further information such as a pallet number.

## Packing Functions

SAP

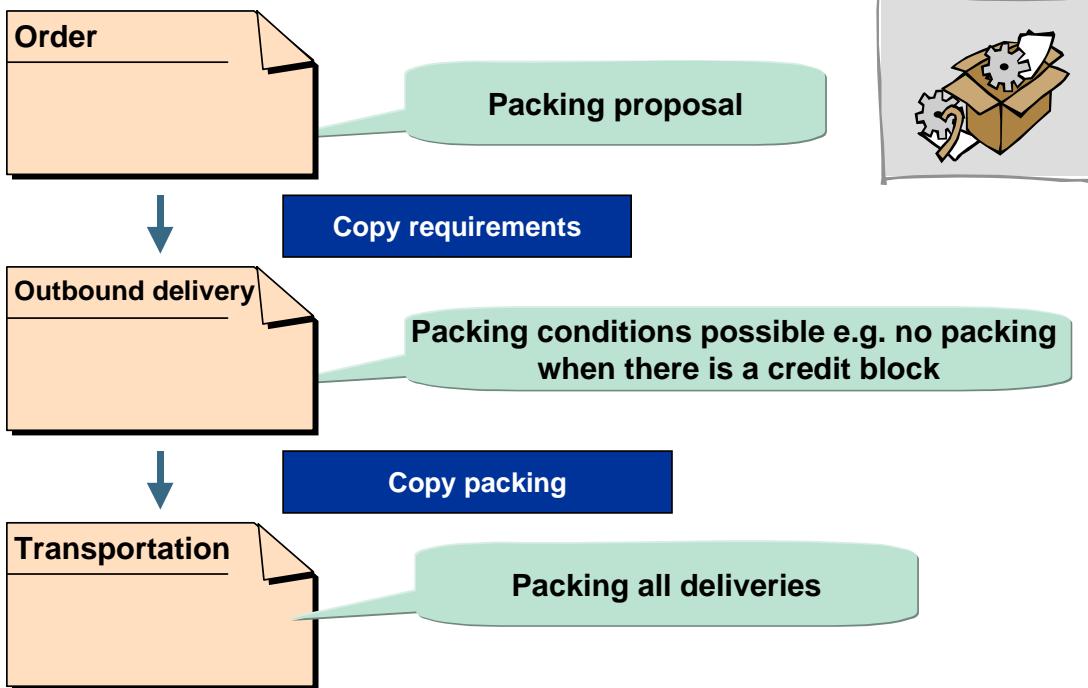


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- **Packing** is the process of assigning delivery items to packaging materials. This produces **handling units**, which can then have more packaging materials added for packing.
- This creates new handling units. You can use as many levels as required (**multi-step packing**).
- You can also unpack items from handling units, or you can break a handling unit down into its constituent parts and then delete it.
- In Customizing, you specify for each delivery item category whether it is **relevant for packing**. The settings are: packing allowed (default), packing not allowed, packing mandatory.  
The packing status is updated for each item in the outbound delivery (example: partially packed / completely packed).
- In the standard system, two **output** types are set up for printing:
  - packing list (at delivery level)
  - shipping label (at handling unit level)You can define your own output types.
- Using the delivery item category, you can specify for items with batch split if the main item (with the accumulated quantity of the batch split items) or the individual batch split items are to be packed. If the individual batch split items are packed, you can identify in which handling unit a specific batch is contained.

# Packing in the Sales and Distribution Process

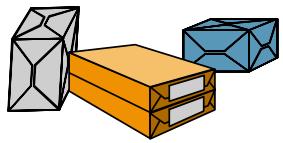
SAP



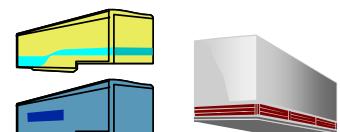
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- The packing function is available:
  - in orders (as packing proposals)
  - in the inbound delivery
  - in the outbound delivery
  - in the shipment document
- The **packing proposal** in the **order** can be copied to the outbound delivery. You control this at the header level in the copy control table for deliveries.
- You can make packing in the outbound delivery subject to certain **conditions**. To do this, you need to make settings in Customizing (standard setting: packing cannot be carried out when the delivery has been blocked by the credit check).
- You can change packing in the outbound delivery as long as you have not posted the goods issue.
- Packing in the outbound delivery is copied to the **shipment**. You can then choose to pack all the deliveries together.
- Using user exits you can specify rules for automatic packing during outbound delivery creation. The resulting proposal contains the packaging materials and the contents of each handling unit. Automatic packing is activated for each delivery type.

## Packaging material types

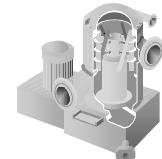


Pack. mat. type CARTONS



Pack. mat. type CONTAINER

## Material grouping for packaging materials



Material grouping for packaging materials 'CARGO'

Packaging material grouping

Material grouping in terms of packing

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- Similar packaging materials are grouped together in **packaging material types**.
- For each packaging material type, you can define **controls** in Customizing. You can use these, for example, to specify the output determination procedure for output from handling units (such as shipping labels).
- The **material grouping for packaging materials** is used to group together materials that have similar packing requirements (for example, materials requiring the same packaging materials).

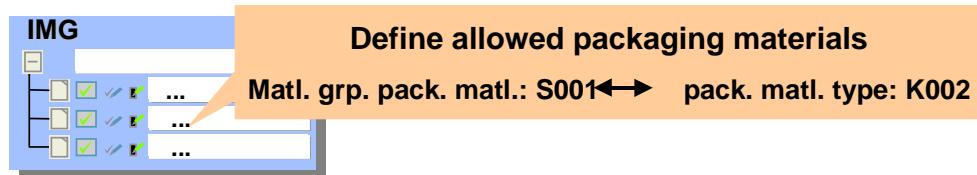
# Proposed Packaging Materials

SAP

## Material to be packed



## Packaging materials



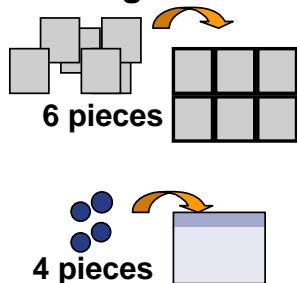
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- You can display the **allowed packaging materials** for a material to be packed. The packaging materials are proposed from the table *Allowed packaging materials for each material group* which you maintain in Customizing.
- The system checks whether the packaging material being used for packing is allowed.
- However, if the field *Material group: packaging materials* has not been maintained in the material master, this material can be packed in any packaging material - depending on the weight and volume check.

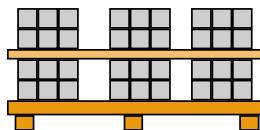
## Packing Instructions

SAP

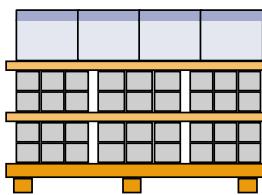
### 1 Packing instruction



### 2 Intermediate layer



### 3 Mixed load



### 4 Lid



**Packing material, rounding rules, minimum quantities, ...**

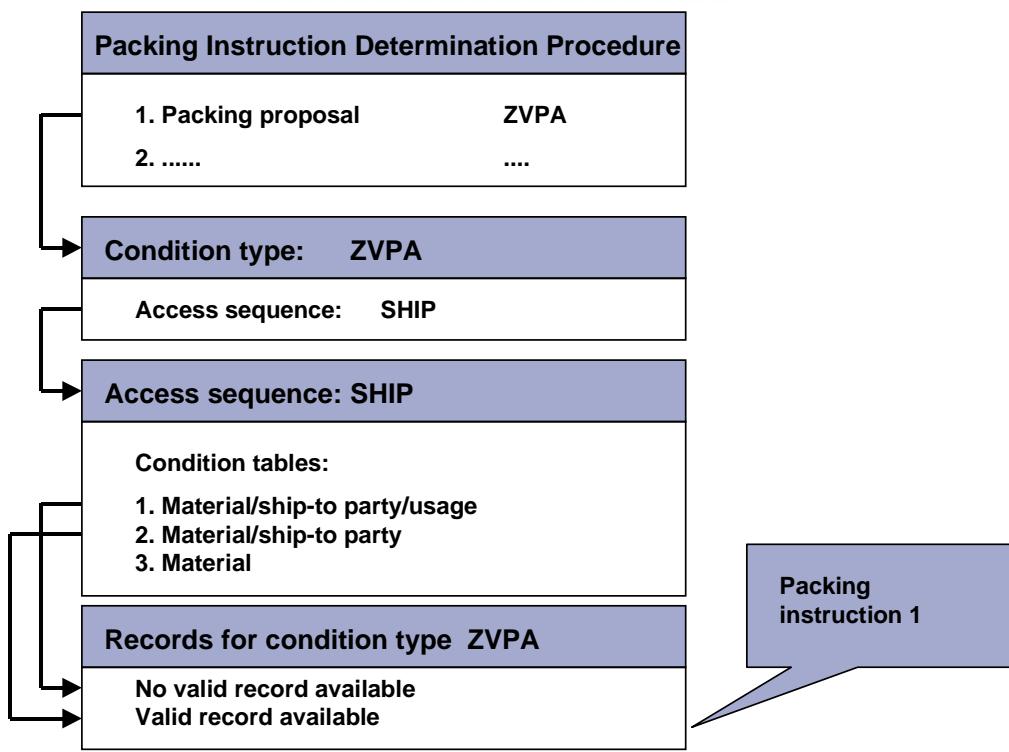
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■ Packing instructions consist of:

- Packing materials
- Materials to be packed
- Text items
- Subordinate packing instructions
- Rules concerning rounding, minimum quantities, and so on
- Definition of a check profile
- And so on

## Packing Instructions (2)

SAP

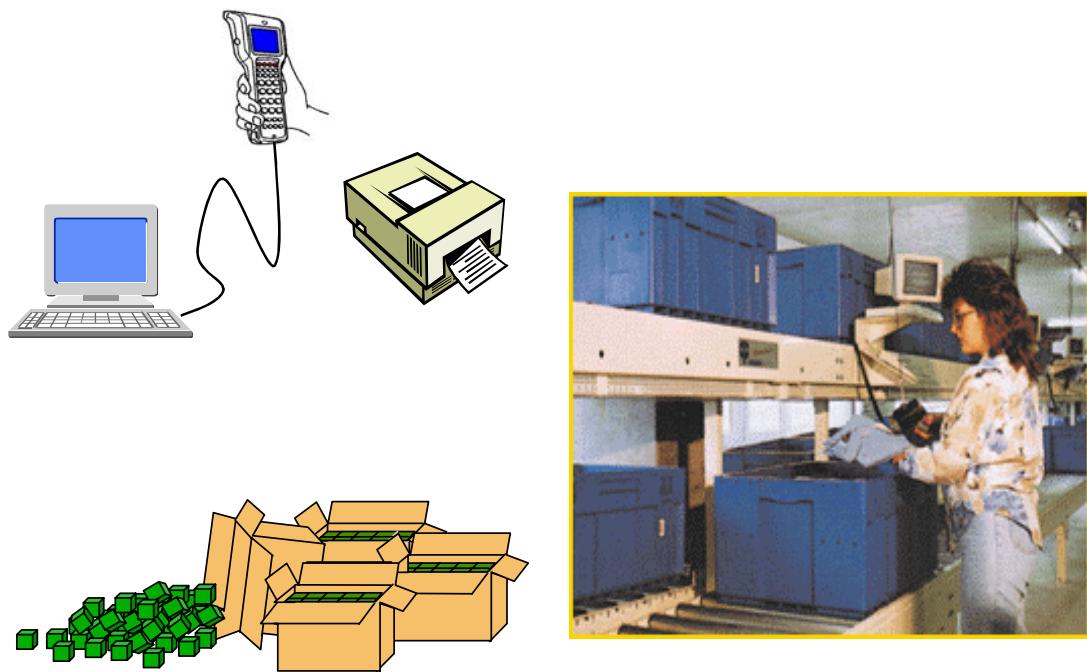


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- Packing instructions can be used as packing proposals for online processing or as packing rules for automatic packing.
- Packing instruction determination is carried out using the condition technique, for which you must define a corresponding procedure and condition types. Three standard access sequences are provided for you to use when maintaining condition types.
- Automatic packing can be implemented using either packing instructions and/or customer enhancements ('packing sessions').

## Packing Station

SAP

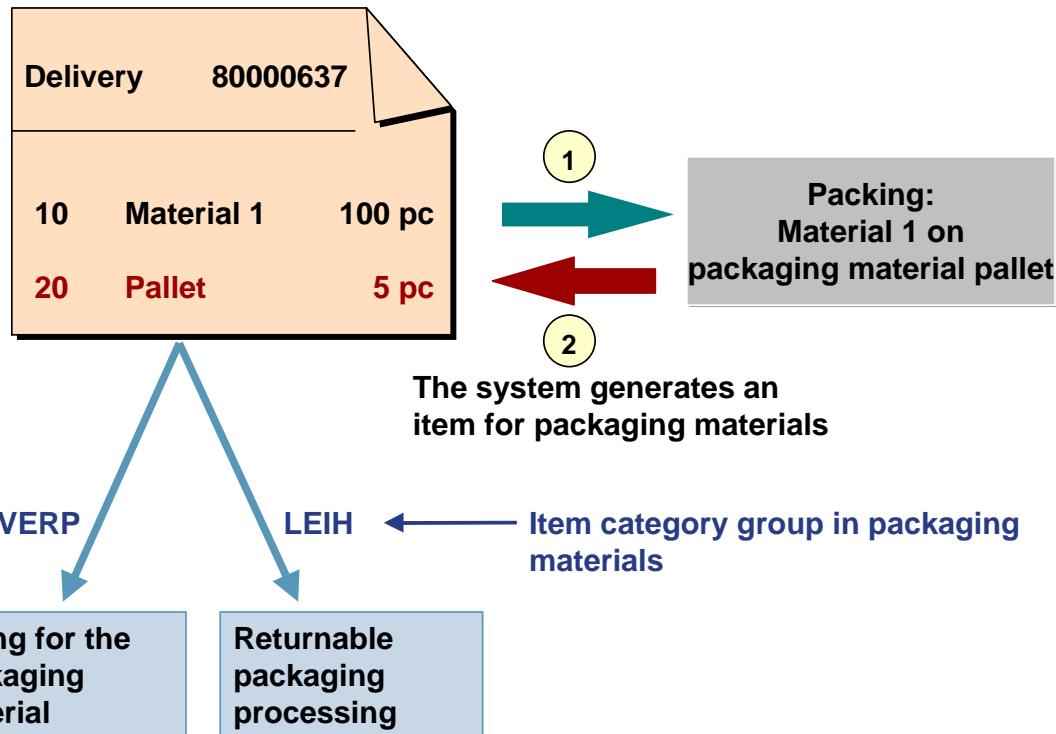


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- Deliveries and handling units can be packed using a packing station.
- You can connect a keyboard scanner and scales to the packing station computer to enable rapid and precise data entry. You can also print shipping labels at the packing station in order to label handling units immediately.
- Each packing station can be controlled individually using the terminal ID, and can therefore be used to carry out different processes.
- Employees use this new functionality to enter the packaging materials actually used in the packing process.

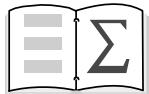
## Subsequent Processing for Packaging Materials

SAP



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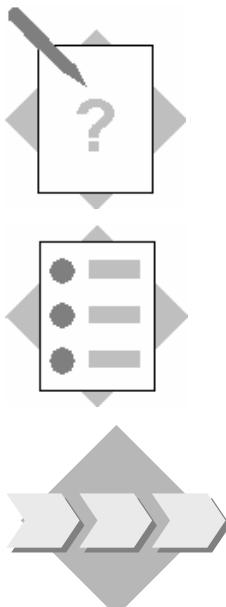
- You may need to **manage stock for packaging materials**. To allow you to do this, the system can generate a separate **item in the outbound delivery** for each packaging material.
- To automatically generate items for packaging materials:
  - You must set item category determination in Customizing. In this context, table entries with PACK usage are relevant.
  - The delivering plant must be determined using the plant determination rule in the packaging material type or must be entered manually.
- You can bill the customer for the packaging materials, or you can use returnable packaging materials that are not billed.
  - In the first case, you must create the packaging materials in the material master record with item category group VERP. The item category determination procedure in the standard system determines item category DLN. These items can then be copied to the billing document.
  - You must create returnable packaging materials in the material master record with item category group LEIH (item category TAL is determined). When goods issue is posted, the materials are transferred to special stock for the customer (or special stock partner, e.g. the forwarding agent). These items will not be copied to the billing document.
- Note: In subsequent processing of returnable packaging, use order type returnable packaging pickup (LA) then returns delivery (RE). Or, if the packaging is kept by the customer, order type returnable packaging issue (LN) then billing.



### You are now able to:

- Define the term 'packaging materials'
- Describe the process for multi-step packing in Sales and Distribution
- Make the necessary settings for determining permitted packaging material
- Carry out automatic packing using packing proposals
- Describe the packing process at the packing station
- Explain the different subsequent processes for packaging material

# Exercises



## Unit: Packing Topic: Multi-Step Packing

At the end of these exercises, you will be able to:

- Pack delivery items using several steps
- Analyze the prerequisites for the inventory management of shipping material

Most of your computer accessory parts are already packaged in production. In shipping, you then pack them again according to the number of pieces required in larger containers, such as cartons. The cartons are placed on pallets which you can then load into a container.

You keep an inventory for special cartons and pallets. You charge the customer for the special cartons, and use returnable packaging processing for pallets.

### 1-1 Create a standard order:

Sold-to party: **T-L64B##**  
Purchase order number: **##-8-1**  
Req. delivery date: **tomorrow**  
Material: **T-AU2##**  
Quantity: **120**

Order number: \_\_\_\_\_

### 1-2 Create the delivery for the order in shipping point **X0##** and pack the item in such a way that the hard disks already packed into cartons in production are grouped together into larger cartons. Afterwards, define how these larger cartons are to be placed onto a pallet.

1-2-1 Pack **40 pieces** each of material **T-AU2##** into material **T-ZS4##** (packaging material). Use the function that automatically creates new handling units and packs them as soon as the first box is filled with the selected quantity of 40 pieces.



In the *Partial qty* field, enter the required quantity (40 pieces).

### 1-2-2 Now “pack”, in the second step, all the handling units that have been created into one piece of material **T-ZS5##** (pallet as packaging material). To do this, choose the tab page *Pack HUs*.

- 1-3 Return to the overview screen of the outbound delivery. The system has created new delivery items for the packaging material.

1-3-1 Which options do you now have?

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

1-3-2 Which settings are required in Customizing so that these items are created automatically?

1. \_\_\_\_\_
2. \_\_\_\_\_

- 1-4 Save the outbound delivery.

Delivery number: \_\_\_\_\_

1-5\* *Optional:*

Create a packing list that lists the hierarchy for packing, and the packaging materials and handling units involved.

1-5-1 In the above delivery, enter output type **PL00** with the default values that appear when you press *Enter*. For the output type, choose *Communication medium*:

Logical destination: **LP01**

Save the delivery.

1-5-2 Create the packing list from the shipping menu by choosing *Outb. Delivery* → *Delivery output*:

Output type: **PL00**

Shipping point: **X0##**

Display the packing list on the screen before you start processing.



You can automate the determination and creation processes for the picking list using the SD output controller.

The path described in this exercise is the procedure for manual entry of the output type as you would use it in a practical situation when you want to create - in an exceptional case - a particular output.

# Solutions



**Unit:** **Packing**

**Topic:** **Multi-Step Packing**

- 1-1 Create a standard order:

**Logistics → Sales and Distribution → Sales → Order → Create**

**Order type:** **Standard order**

- 1-2 Create outbound delivery:

**Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Create → Single Document → With Reference to Sales Order**

**Shipping point:** **X0##**

**Selection date:** **today's date**

**Order:** Number of the order you just created

- 1-2-1 Packing in cartons:

Choose **Edit → Pack**

Enter material **T-ZS4##** in **Packaging material** and press **Enter**. Now the system has assigned a handling unit number. Select the entire line by clicking on the button in the left margin.

In the **Partial quantity** field, enter 40 pieces. Also select the entire line.

For the packing process, now choose **New HU per partial qty.**

The system fills the carton, first with 40 pieces, and then it creates two further handling units, and also fills these with 40 pieces each.

1-2-2 Packing on pallets:

To pack the handling units, switch to the tab page *Pack HUs*.

Screen section ***All existing HUs (available for packing)***:

Enter material **T-ZS5##** in *Packaging material* and press **Enter**. Select the entire line of the handling unit just created.

Screen section ***All HUs that can be packed***:

Select the 3 lines that contain material **T-ZS4##** as the packaging material.

Choose **Pack**.

Now you have 3 cartons on the pallet.

1-3 Overview screen of the outbound delivery:

Choose **Back**.

1-3-1 Options:

1. Inventory management of packaging material (with corresponding update of the stock when the goods issue is posted)
2. Billing of issued packaging material to the customer
3. Processing returnable packaging for the packaging material issued

1-3-2 Settings in Customizing:

1. The item search table must be maintained for the respective delivery type, the item category group of the packaging material, and the usage **PACK**.

***In the IMG: Logistics Execution → Shipping → Deliveries → Define item category determination in deliveries***

2. The system must know from which plant the packaging material is to be taken. The rule for plant determination is defined at the level of the packaging material type.

***In the IMG: Logistics Execution → Shipping → Packing → Define packaging material types***

Choose a detail screen – for packaging material type V030, for example (**Plant determination** field).

1-4 Save the outbound delivery.

1-5\* *Optional:*

Create pack list:

1-5-1 Add PL00 manually:

**Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Change → Single Document**

Enter the delivery number of the outbound delivery created above.

**Extras → Delivery Output → Header**

In an empty line, enter PL00 in the **Output type** field. Choose **Enter**. In this way, certain default settings are copied from the definition of the output type.

For your output type, choose **Communication method**. (Beforehand, position the cursor on the respective output line.)

Logical destination: LP01

In your company system, this description is your own printer description.

Choose **Goto → Back**.

Save the outbound delivery.

1-5-2 Create pack list:

**Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Change → Single Document**

**Outbound delivery → Issue delivery output**

Display packing list before processing:

Select the line with the output type PL00 and choose **Print preview**.

Return to the output list and choose **Print**.

Alternatively:

**Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Communication / Printing → Outbound Delivery Output**

**Output type:** PL00

**Shipping point:** X0##

**Delivery:** Delivery number obtained above

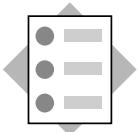
Choose **Execute**.

Select the entry and choose **Print preview**.

Return to the list and choose **Process**.

## Contents:

- **Definition of a handling unit**
- **Handling units in logistics**
- **Handling units within delivery processes**

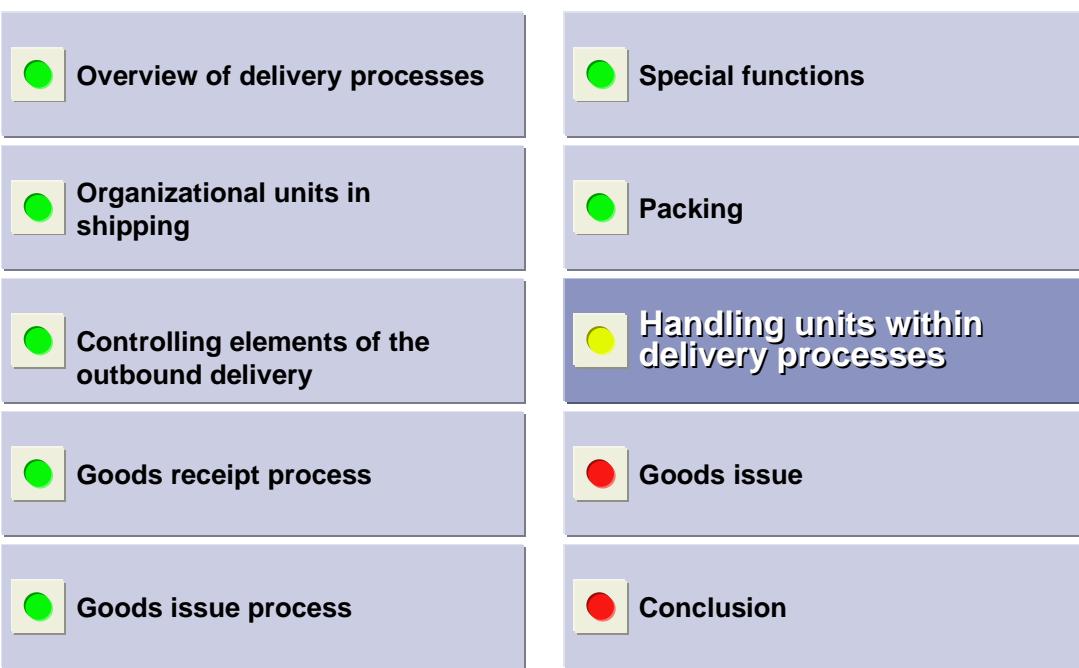


**At the conclusion of this unit, you will be able to:**

- **Describe what a handling unit is**
- **Create handling units within delivery processes**
- **Make the necessary settings for handling unit management**

# Handling Units: Course Overview Diagram

SAP



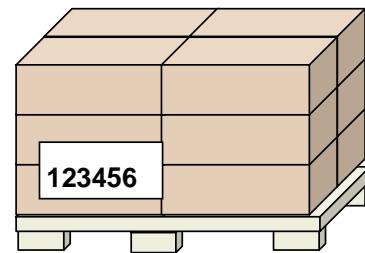


- You want to manage and move packing units in your company
- Handling Unit Management offers you the option of tracking these packing units throughout the entire logistics process
- Deliveries are created in order to move the handling units

## Definition: Handling Unit

SAP

- **A handling unit is physical combination of materials consisting of:**
  - Packaging materials (for example, pallets, cartons, shrink-wrap, containers, trucks)
  - Goods (to be transported, stored, used, and so on)
- **Each handling unit has a unique identification number that enables you to read all related information**



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- The information related to each handling unit is as follows:
  - Contents
  - Weight/volume/measurements
  - Status information
  - History
- Handling units can also be nested, so that the higher-level handling unit may contain several identification numbers.

## What Are the Advantages of Handling Units?

SAP

- Simpler processing of the material flow in logistics
  - All goods movements are carried out using the handling unit identification number, not material and quantity
- Once the handling unit has been created, all subsequent processes can reuse this information
  - Within your own organization
  - By your partners in the logistics chain

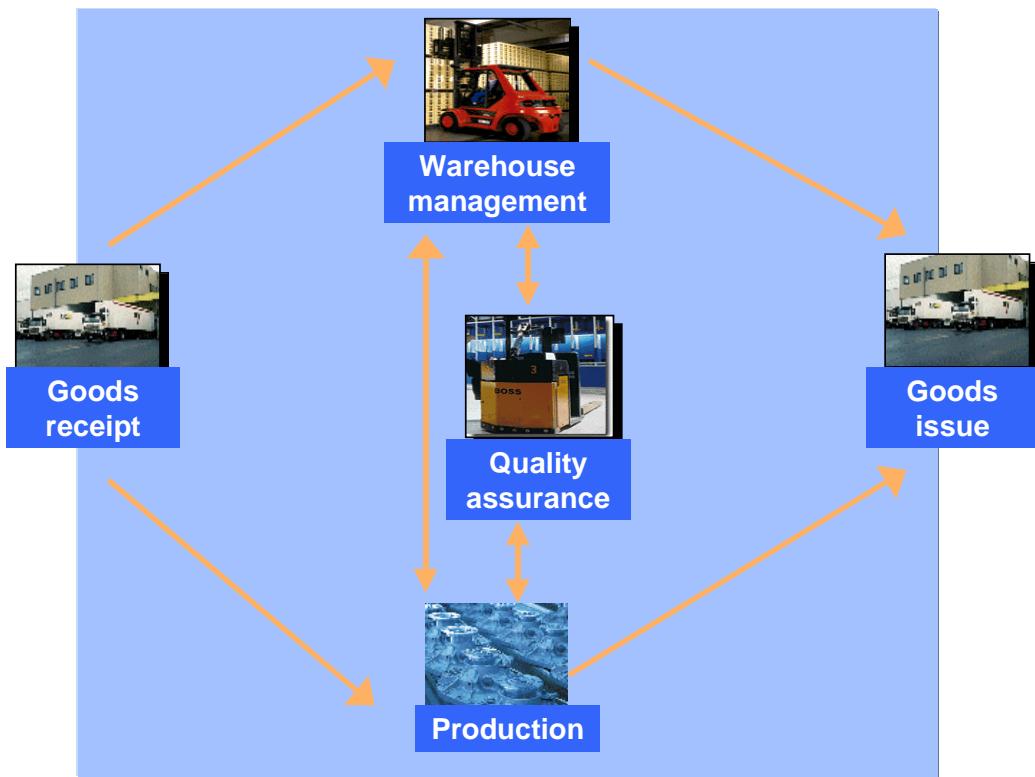


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- If the same information is required repeatedly throughout the logistics chain, Handling Unit Management offers you the option of recording information on all activities.
- Business partners, such as vendors, can enter precise data on the combination of materials on packaging materials, so that each material does not need to be entered separately, but all the information is entered automatically using the handling unit.

# Handling Unit Management in Logistics

SAP



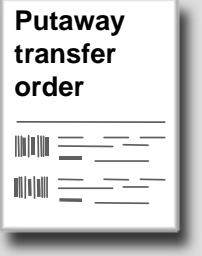
- Handling units are involved in the entire logistics process and can be used in inventory management, production, quality management, warehouse management and sales and distribution.
- As the processes within Logistics are generally not concerned with individual materials, you can map your processes within Logistics for more efficiently using handling units.

## Goods Receipt Process using Handling Units

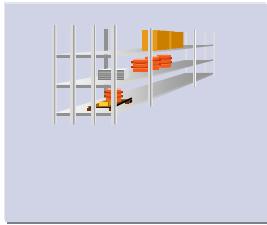
SAP



Inb. deliv./shipping note  
using the handling unit  
number



Goods receipt  
posting

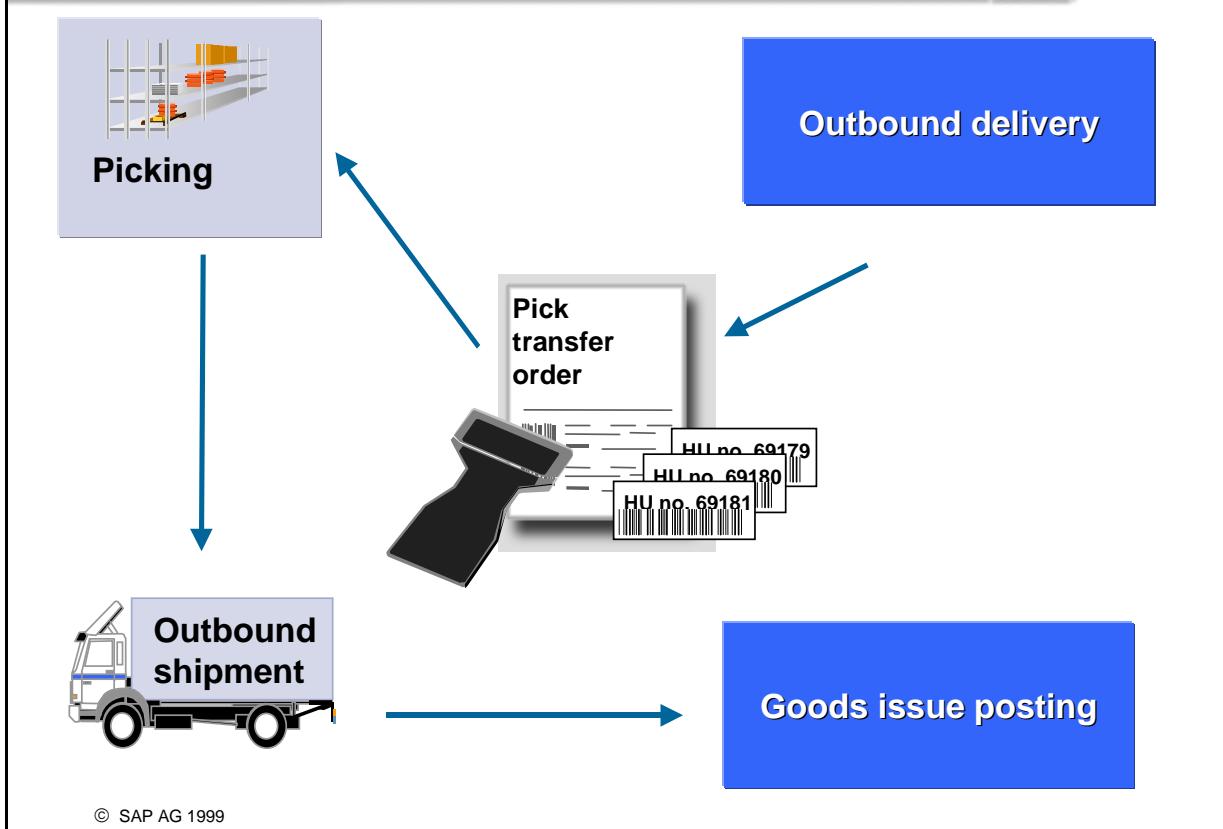


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- If materials in a storage location administered using handling units are to be posted as goods received, you must create an **inbound delivery document**.
- Within the inbound delivery, you can create new handling units or adopt existing ones.
- The handling units must exist before you create the transfer order for the putaway.
- When you confirm the transfer order, you can post the inbound delivery for the corresponding handling units as goods received.

## Goods Issue Process using Handling Units

SAP



- If materials in a storage location administered using handling units are to be shipped, then the system determines which handling units are to be shipped **when the pick transfer order is created**.
- Picking is carried out based on the handling units, that is, you pick complete handling units or partial quantities from a handling unit, which creates new handling units.
- You can configure the system so that pick handling units are automatically created for picking.
- The goods issue posting is then carried out for the entire shipment, and therefore also for the corresponding handling units.

**You must maintain the following customizing settings:**

***In the IMG: Logistics - General -> Handling Unit Management***

**- Basic functions**

- **Basic technical functions**
  - Define number ranges for handling units
- **Define packaging material types**
- **Materials Management**
  - HU requirement for storage locations

- You must make certain settings in customizing in order to be able to use Handling Unit Management.
- The most important settings are as follows:
- You must define at least one **internal number range for handling units**, as the system assigns an internal number when a handling unit is created. (Standard system: number range interval 01).
- You must define **packaging material types**, since handling units consist of packaging material and, for example, trading goods. The packaging material type determines, for example, from which plant the packaging material comes and which number range interval should be used for number assignment.
- You must decide which storage locations are to be **managed using handling units**. You can only set a handling unit requirement for storage locations for which no stock has been entered.

- **Delivery**

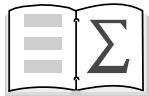
- **Packing control by item category**
- **Define sequence transfer order - goods receipt**

- ***External Identification***

- **Define unique number assignment for handling unit identification**
- **Maintain number ranges for handling unit identification**

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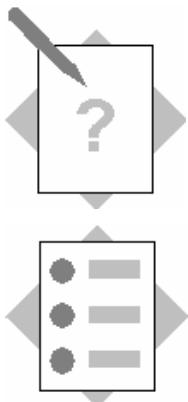
- The **packing control for the delivery item categories** must permit packing, otherwise handling units cannot be created.
- You can determine whether the **goods receipt** for the inbound delivery can already be booked **before the transfer order is created**. This decision will depend on the warehouse number and the delivery item category.
- You must set the unique number assignment for handling unit identification to ensure that the handling units can be displayed, for example.
- You can maintain number ranges for internal and external **number assignment for handling units**; these are then assigned to the packaging material types.



You are now able to:

- Define a handling unit
- Describe where and how you create handling units within the delivery processes
- Understand the necessary customizing settings for handling unit management

# Exercises

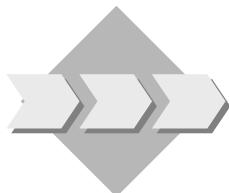


## Unit: Handling Units

### Topic: Handling units within delivery processes

At the end of these exercises, you will be able to:

- Carry out the goods receipt process in an HU-managed storage location
- Pick items that are stored in HU-managed storage locations



Your vendor informs you of planned deliveries of ordered goods using inbound delivery documents, and passes on detailed packing information at the same time, so that when the goods are delivered, you only need to enter and check the handling units.

Since, in a HU-managed location, you only move the handling units themselves, you also pick on the basis of the handling units.

- 1-1 You have a purchase order for material T-AU3##. Create an inbound delivery for the purchase order (note: you can do this through the vendor) and carry out the putaway.
  - 1-1-1 Create an inbound delivery for the purchase order by selecting the purchase orders via your vendor T-K12A##.  
Save the inbound delivery: \_\_\_\_\_
  - 1-1-2 Now pack the material T-AU3## in packaging material T-ZS4## and created the transfer order for the putaway (in the background).  
Transfer order number: \_\_\_\_\_
  - 1-1-3 Confirm the transfer order (in the background) and simultaneously post the goods receipt.
  - 1-1-4 Use the handling unit monitor to display the handling units you have just created.

- 1-2 A customer has ordered 50 pieces of material T-AU3##. Create a standard order with sales document type TA and carry out all necessary steps up to goods issue posting.

1-2-1 Create a standard order:

Sold-to party: **T-L64A##**

Purchase order number: **##-9-1**

Req. delivery date: **Tomorrow**

Material: **T-AU3##**

Quantity: **50**

Plant: **1000**

Storage location: **HU##**

Save the order: \_\_\_\_\_

1-2-2 Create the outbound delivery for this order in shipping point Z0## and create the transfer order (in the background) for the pick in warehouse number 1##

Transfer order number: \_\_\_\_\_

1-2-3 Confirm the transfer order (in the foreground) and write down the number of the handling unit that is to be picked with the transfer order.

HU number: \_\_\_\_\_

# Solutions



## Unit: Handling Units

### Topic: Handling units within delivery processes

#### 1-1 Goods Receipt Process

**Logistics->Logistics Execution->Inbound process->Goods receipt for inbound delivery ->**

##### 1-1-1 Creating inbound deliveries:

**Inbound delivery ->Create->Single documents**

Vendor: **T-K12A##** ->confirm

A list of all purchase orders still to be delivered is displayed. Select the purchase order for material T-AU3## and choose the *Copy selection* button.

Save the inbound delivery: *No. of inbound delivery just created*

##### 1-1-2 Packing

**Inbound delivery ->Change->Single Document**

Choose **Pack**.

Pack material: **T-ZS4##** and confirm.

Select the handling unit and material T-AU3## and choose *Pack*.

Go back to the inbound delivery overview screen and choose:

*Subsequent functions -> Create transfer order*

Warehouse number: **1##**

Delivery : **as above**

Foreground/backgrnd **Background**

Transfer order number: \_\_\_\_\_

##### 1-1-3 Confirmation

**Putaway → Confirm Transfer Order → Single Document → In One Step**

TO number: **as above**

Warehouse number: **1##**

Foreground/backgrnd **Background**

Adopt putaway qty **2**

##### 1-1-4 Handling Unit Monitor

**Logistics->Central Functions->Handling Unit Management->Handling Unit Monitor**

On the tab page **HU-general data**, you can, for example, enter the warehouse number 1## and the click on the *Execute* button.

1-2 Goods Issue Process

1-2-1 Create a standard order:

**Logistics → Sales and Distribution → Sales → Order → Create**

Order type: **OR**

To enter the storage location, go to the tab page **Shipping** in the item detail.

Order: \_\_\_\_\_

1-2-2 Creating outbound deliveries:

**Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Create → Single Document → With Reference to Sales Order**

*Shipping point:* Z0##

*Order:* as above

In the outbound delivery, choose: **Subsequent functions->Create transfer order**

Delivery: \_\_\_\_\_

Warehouse number: **1##**

Delivery : **as above**

Foreground/backgrnd **Background**

Transfer order: \_\_\_\_\_

1-2-3 Confirmation

**Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Picking → Confirm Transfer Order → Single Document → In One Step**

TO number: as above

Warehouse number: **1##**

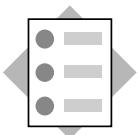
Foreground/backgrnd **Foreground**

You can see the handling unit number in the *Dest. storage unit* field.

HU number: \_\_\_\_\_

## Contents:

- **Goods issue posting and its effects**
- **Canceling the Goods Issue**
- **Quality check (QM) in shipping**
- **Proof of delivery**

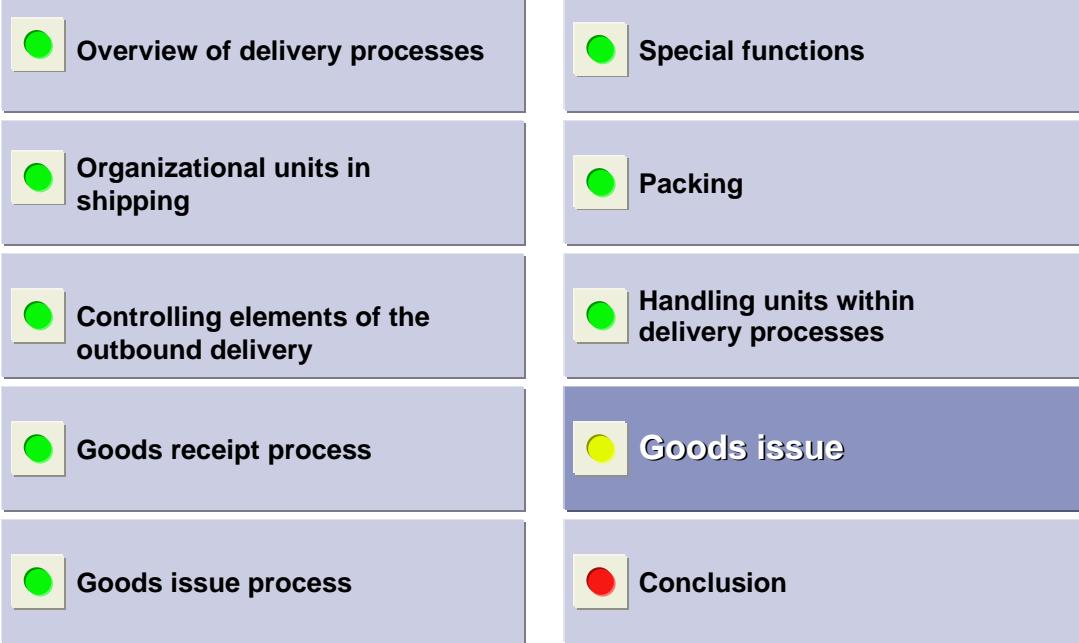


**At the conclusion of this unit, you will be able to:**

- Post the goods issue
- Describe the effect that the goods issue posting has on Sales and Distribution, Materials Management, and Financial Accounting
- Cancel the goods issue posting
- Explain how to link Quality Management with the shipping process
- Describe how to use proof of delivery

# Goods Issue: Course Overview Diagram

SAP



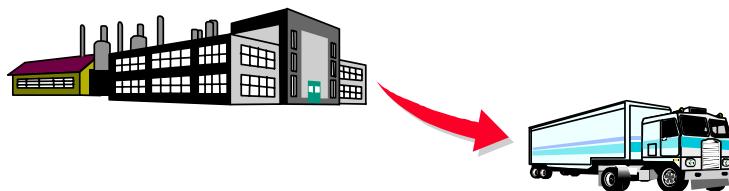
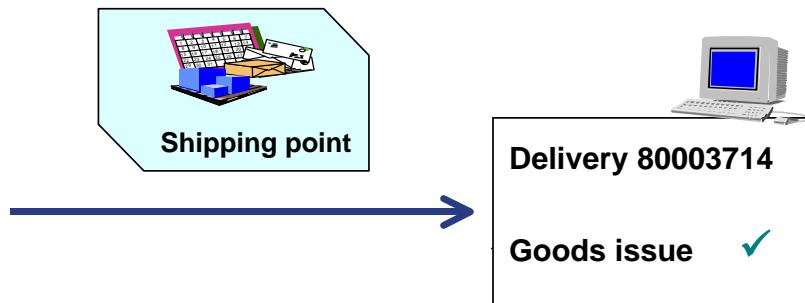


- When the goods leave the plant, the shipping process is complete. The stocks are adjusted in terms of quantity and value. You can now create the billing document.
- If a goods issue is posted accidentally, you should have the option to cancel it.
- Some materials are subject to a quality check. You can only post the goods issue if the material passes the quality check.
- You have arranged with some of your customers that they confirm the receipt of the delivery. You only create the billing document when you have received this confirmation.

## Goods Issue

SAP

Shipping activities completed?

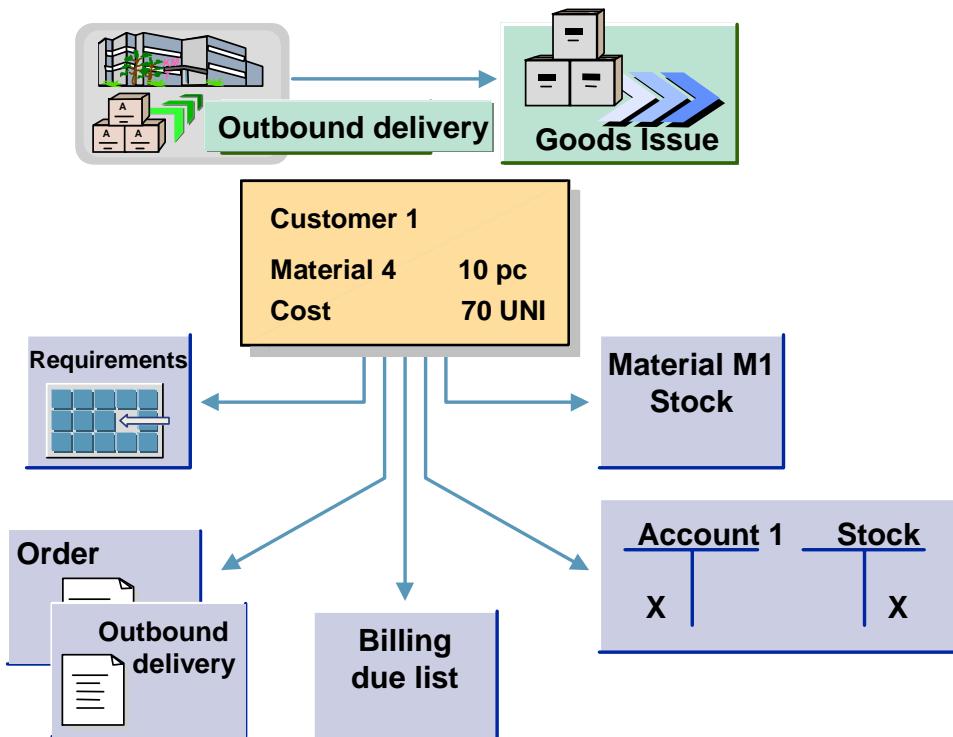


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- Posting **goods issue** for an outbound delivery completes shipping activities.
- Posting goods issue requires that all mandatory shipping activities have been performed. For example, if you are working with picking relevance and confirmation requirement, these steps must first be completed.
- Goods issue can be posted by **changing a single outbound delivery**. Alternatively, you can use the **collective processing** function in order to select all deliveries for which goods issue is due to be posted, and then post the goods issue for them. You can also use the **outbound delivery monitor** to do this.
- You can also post the goods issue when the transfer order is confirmed.
- When you process a single outbound delivery, you can specify the actual goods issue date without changing the planned date. A dialog box appears in which you can enter the actual goods issue date, and then post goods issue for this date. The corresponding goods issue document is then posted with the actual goods issue date. If no explicit specifications are made for the goods issue date, the current date is taken as the goods issue date.
- **Goods issue applies to the whole outbound delivery.**
- Any errors are logged, for example, when data such as the batch or serial number is missing or when picking has not been carried out fully for the items. In these cases, goods issue is not posted.

## Effect of Goods Issue Posting

SAP



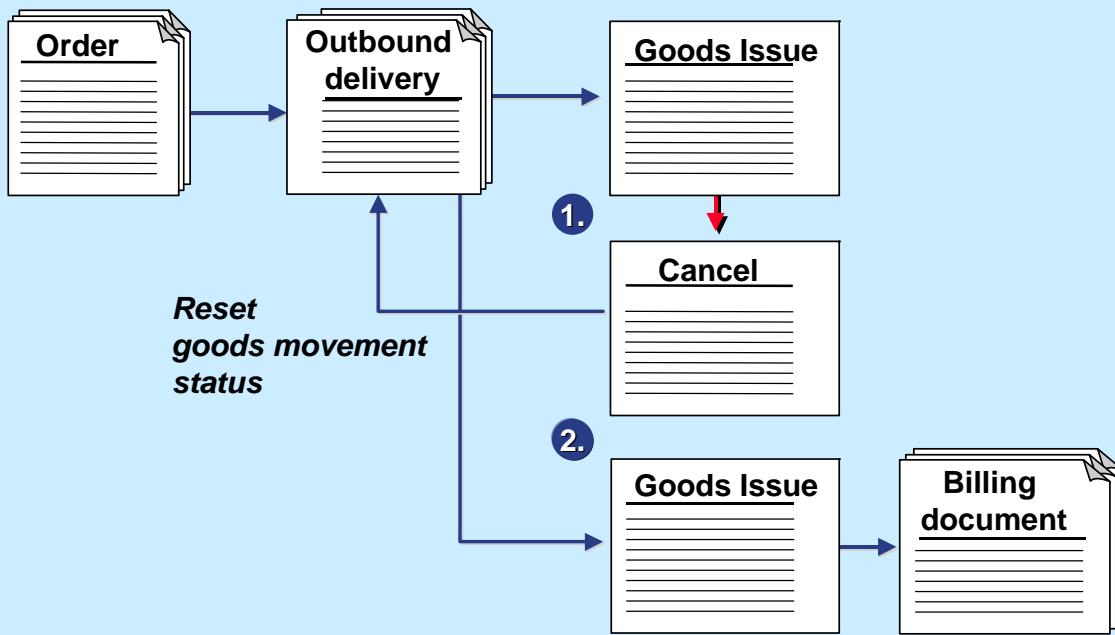
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- After the goods issue has been posted, there is **limited** scope for **changing** the outbound delivery. In particular, no changes can be made to the quantities. At this point in processing, the delivery document has to reflect the actual physical delivery.
- Goods issue
  - reduces **warehouse stock**
  - posts the **value change** to the stock accounts in inventory accounting
  - reduces delivery requirements
  - enters status information in the outbound delivery
  - is stored in the document flow
  - creates a **work list** for **billing**
- To carry out billing before goods issue using the "Create billing document" transaction, you can make the appropriate settings in copy control in Customizing.

## Canceling Goods Issue

SAP

### Example



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- If **goods issue** for an outbound delivery is **canceled**, the goods issue posting is reset. The system copies the quantities and values from the original goods issue document and carries out an **inventory posting** based on these **quantities and values with a reversed +/- sign**.
- If you cancel goods issue, this affects the entire outbound delivery. The **cancellation document** created during cancellation is entered in the document flow for the outbound delivery.
- After goods issue has been canceled, the **goods movement status** of the outbound delivery is reset to "Not yet started". This allows you to further process the outbound delivery as usual. The delivery requirements are also recreated.
- Canceling goods issue comprises two steps if the outbound delivery has been fully or partially billed. In this case you must first cancel the billing document. Then you can cancel goods issue.
- For each movement type in MM Inventory Management, you must define a reversal movement type in Customizing. No additional settings are required for the movement types used for goods issue posting in the standard system.

## Selecting Outbound Deliveries for Cancellation

SAP

### Transactions to be canceled:

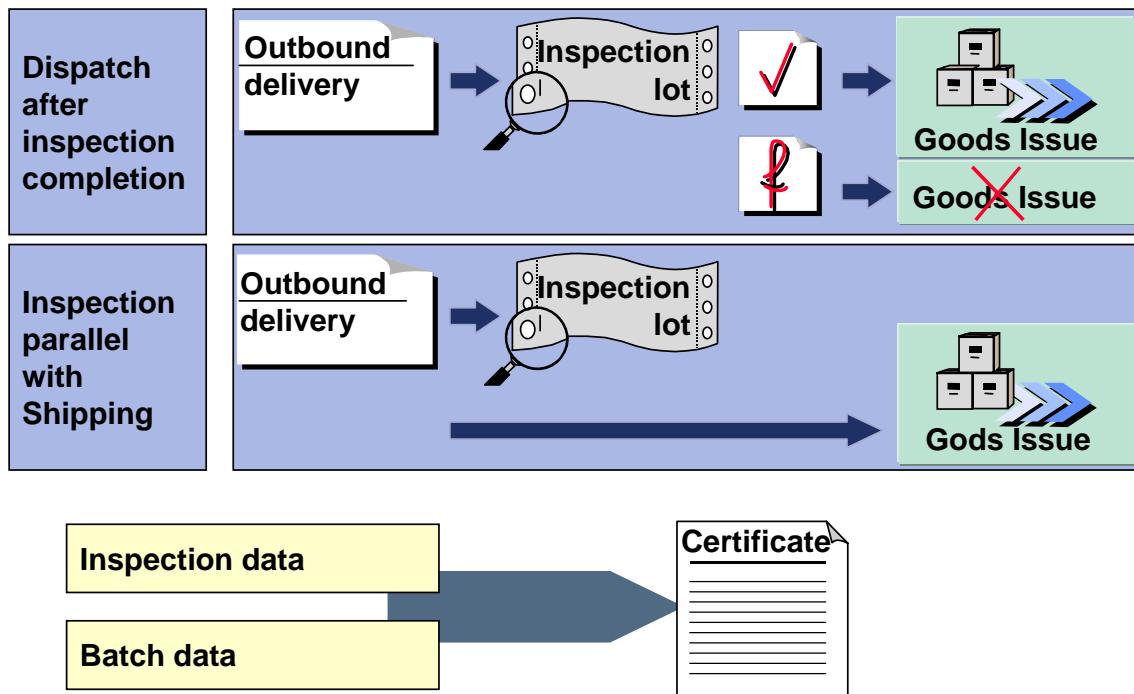
Shipping point: 1000  
Goods issue date: 11/10 - 11/12  
Delivery:  
Delivery or Shipment number:

Execute

Delivery	Actual GI date	Canc. Date
80001003	11/10	11/10
80001007	11/10	11/10
80001012	11/12	11/12
.	.	.

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- On the **selection screen**, you can select one or more outbound deliveries for which you want to cancel the goods issue posting. In addition to the outbound delivery number, you can enter the shipping point, the route, the goods issue date, a group of outbound deliveries and the shipment number as selection criteria.
- On the list of the outbound deliveries selected, you can specify a date other than the current date for each delivery, provided that it does not come before the goods issue date.  
By double-clicking on a list entry, you can directly branch to the outbound delivery itself.
- The system generates a **log** of the cancellations and any errors that might occur.

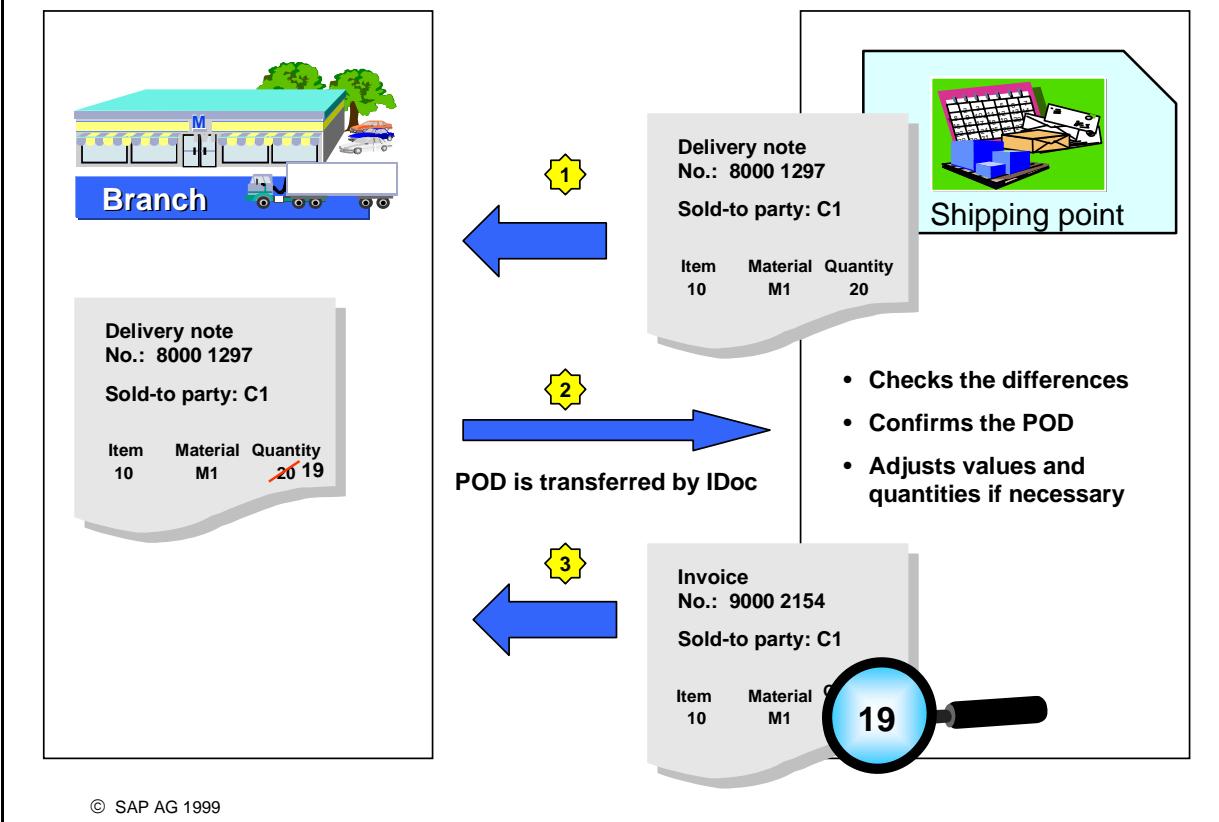


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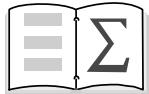
- The R/3 **Quality Management** (QM) component supports the Sales and Distribution (SD) component with **quality inspections** for goods issue (for example, packing inspection).
- You specify in the *Quality Management* view of the material master if a quality inspection is to be carried out for the material.
- When the outbound delivery is created in SD, QM automatically creates an **inspection lot** for the delivery items that are relevant for inspection. The inspection lot tells the quality assurance department that the goods need to be inspected.
- The result of the inspection can be stored in the system in different ways. If the goods are damaged, defect records can be entered. Measured values or evaluation codes are stored as a characteristic value. You plan the type and procedure used by the inspection in the QM master data.
- The **usage decision** represents the completion of a QM inspection. This is where the inspected goods are either accepted for further use or are rejected. This is called 'accepting' or 'rejecting' an inspection lot.
- Depending on the customer, or on the customer and the material together, you can specify if the inspection log must be accepted before goods issue can be posted. If it must not be accepted, the quality assurance department can submit the inspection results after goods issue posting.
- You initiate printing of a certificate of quality from output control of the outbound delivery at item level. This function is primarily used for materials that are handled in batches.

## Proof of delivery (POD)

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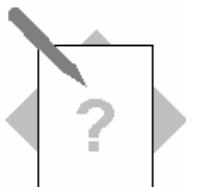
- **Proof of delivery (POD)** is essentially designed to support the process of only creating an invoice once the customer has confirmed the arrival of the goods.
- After receiving the goods, the ship-to party transfers the proof of delivery by **IDoc** to the R/3 System and thereby confirms the quantities for the whole delivery.
- In most cases for which there are no discrepancies of quantity, this involves no extra effort, because **verification** and **confirmation** are automated using the IDoc.  
If differences are reported, the delivery cannot automatically be confirmed. In this case, you must continue processing manually.
- You can use worklists for processing documents in conjunction with POB - the *Outbound deliveries for POB* worklist and the *Subsequent processing for POB* worklist.
- The system creates the **billing document** based on the correct (verified) quantity. Creating the billing document via the billing due list is blocked until proof of delivery has been confirmed.
- Before you can use the proof of delivery function, you need to define which delivery item categories are relevant for the POB process. You also need to define reasons for deviation, and in the customer master you are using for the POB process, specify POB relevance.
- You can analyze deviation quantities and reasons for deviation (where, when, and why do the deviations occur?).



You are now able to:

- Post the goods issue
- Describe the effect that the goods issue posting has on Sales and Distribution, Materials Management, and Financial Accounting
- Cancel the goods issue posting
- Explain how to link Quality Management with the shipping process
- Describe how to use proof of delivery

# Exercises



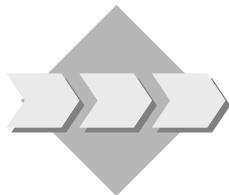
**Unit:** Goods Issue

**Topic:** Goods Issue Posting and Its Effects



At the end of these exercises, you will be able to:

- Post the goods issue
- Describe some of the effects of the goods issue posting



Now that goods have left your warehouse, you want to update the stock accordingly. Since you are handling valued goods, the quantity stock change also results in value update postings in financial accounting.

- 1-1 In shipping point **X0##**, post goods issue for all the outbound deliveries up to and including today that need to be posted. Use the collective processing function and note down one of the delivery numbers.

---

What is the value of the goods movement status for this outbound delivery?

- 1-2 Display the material document of the goods issue for the noted delivery number by calling up the document flow for the outbound delivery.

Branch to the display of the accounting document.

- 1-3 In this particular outbound delivery, part of the goods were damaged during loading and therefore not shipped with the delivery. Try to change the quantity for the first item in the outbound delivery.

How does the goods issue posting affect the changeability of the delivery?

- 
- 1-4\* Optional:

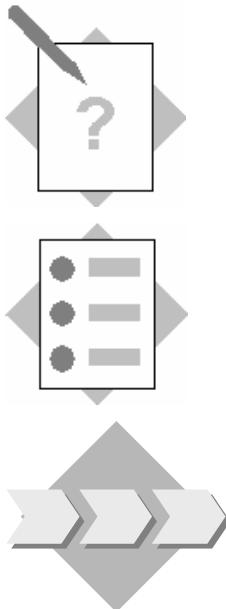
Try to post goods issue for the outbound delivery from the exercise in the unit “Multi-Step Packing” (Exercise 1-4).

Which prerequisites must be fulfilled before you can post the goods issue for this outbound delivery?

1. \_\_\_\_\_

2. \_\_\_\_\_

# Exercises



**Unit:** Goods Issue

**Topic:** Canceling the Goods Issue

At the end of these exercises, you will be able to:

- Cancel the goods issue posting for outbound deliveries

In one of the outbound deliveries for which goods issue has already been posted, some goods were damaged during loading. These goods were consequently not shipped with the delivery. You therefore need to cancel the goods issue posting.

- 2-1 Cancel the goods issue for the outbound delivery noted in exercise 1-1 of the topic "Goods Issue Posting and Its Effects" because the goods were damaged.
- 2-2 Now reduce the pick quantity in the first delivery item by 1 piece and change the delivery quantity accordingly.
- 2-3 Post the goods issue for this delivery again.
- 2-4 Display the entire process in the document flow.  
Branch to the material document for cancellation and into the respective accounting document. Check on the basis of the symbols (+/-) for the quantities and values that you really have canceled the goods issue posting that took place previously.

# Solutions



**Unit:** Goods Issue

**Topic:** Goods Issue Posting and Its Effects

- 1-1 Post goods issue using collective processing:

*Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Post Goods Issue → Collective Processing via Outbound Delivery Monitor*

Shipping point: X0##

Planned goods movement date: Today's date

Choose **Execute**.

At least one delivery ready for goods issue is displayed.

Select all lines by choosing **Select all** and then choose **Post GI**.

Note down one of the delivery numbers.

Goods movement status:

*Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Display:*

*Enter the delivery number you noted down, and from the outbound delivery choose Header → Processing.*

*The goods movement status for the delivery is C (= completed).*

- 1-2 Display the material document for the goods issue:

Environment → Document flow

In the document flow, position the cursor on the line for the goods issue and choose **Display document**.

Display the accounting document:

In the material document, choose **Accounting documents**.

In the dialog box that appears, choose **Accounting document**.

1-3 Try to change the delivery quantity in the outbound delivery:

***Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Change → Single Document***

How posting goods issue affects the changeability of the outbound delivery:

Most of the fields in the delivery can no longer be changed after the goods issue has been posted, particularly the quantities.

1-4\* Optional:

Post goods issue for the outbound delivery from exercise 1-4, unit **Packing**:

***Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Change***

Enter the delivery number and choose ***Post goods issue***.

Posting the goods issue is not possible for this delivery because certain processing steps have not yet been executed.

Prerequisites for posting goods issue:

1. Picking must be complete for the delivery, that is, the delivery quantity and the pick quantity must be exactly the same.
2. Since the current system setting has confirmation requirement, the WM transfer order - which still needs to be generated - must also be confirmed.

# Solutions



**Unit:** Goods Issue  
**Topic:** Canceling the Goods Issue

- 2-1 Cancel goods issue:

**Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Post Goods Issue → Cancellation / Reversal**  
**Enter the delivery number and choose Execute.**  
**In the list, select the line and choose Cancel/reverse.**

- 2-2 Change the pick and delivery quantity:

**Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Change → Single Document**  
**Choose the Picking tab.**

**Pick qty: 99**  
**Delivery quantity: 99**

You can also choose **Edit → Copy picked quantity as delivery quantity.**

- 2-3 Post goods issue:

In the **picking tab** of the outbound delivery, choose **Post goods issue.**

- 2-4 Display the entire process in the document flow:

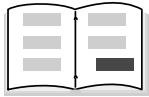
**Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Outbound Delivery → Display**  
**Environment → Document flow**

Material document for cancellation and related accounting document:

Position the cursor in the document flow display on the line for cancellation of the goods issue and choose **Display document.**

In the material document, choose **Accounting documents.**

In the dialog box that appears, choose **Accounting document.**



### Contents:

- Additional slides for the topic "Dangerous Goods Management in the Delivery"
- Additional slides about the delivery interface
- Additional slides for the topic "Processing Express Delivery Companies "
- Menu paths

**What?**

**Purpose of deadline**



**When?**

**Date**  
(planning and execution)



**Where?**

**Location**



**Why not?**

**Variance reason**



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- In addition to dates determined during scheduling (see preceding slides), the system lets you create **user-specific dates** for controlling delivery processing. You can enter planned and actual values in the outbound delivery for these user-specific dates as well as location specifications and variance reasons.  
Specifications can be made in days/hours/minutes.
- For example: You want to record in the system the actual date when the delivery is executed by the forwarding agent. For this, you can create an "actual delivery date". The planned date is taken as the delivery date determined by the system and a differing date can be saved along with the reason for variance.
- Note: User-specific dates are not taken into account during scheduling carried out by the system. They are just used for storing additional relevant information during delivery processing.

## Dangerous goods

are materials or items, which because of  
their nature  
their properties  
their state



may pose a threat to humans, animals, or the environment  
when they are transported.

## Transportation

covers

packing, loading, sending, transporting,  
receiving, unloading, and unpacking.



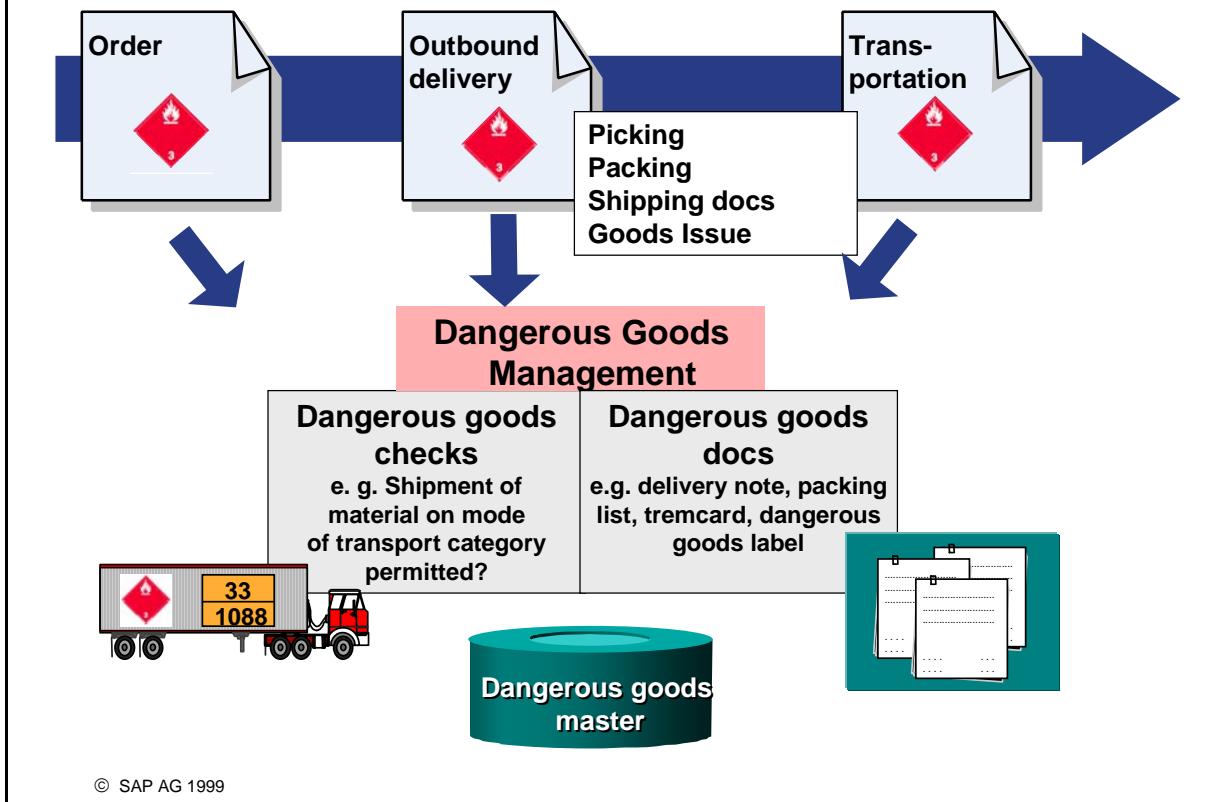
## The Transport of Dangerous Goods Act §2 (German)

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- There are many legal regulations to be observed when **transporting dangerous goods**.
- Transportation of the goods includes shipment, receiving and delivering the goods, temporary stops during transportation, and preparatory and follow-on activities (packing and unpacking, loading and unloading) (Transport of Dangerous Goods Act §2 (German)). This means it may be necessary to **check the delivery document** to ensure the transportation meets these requirements.
- To do this in the R/3 System, you use the functions in the EH&S component (Environment, Health, and Safety).

# Dangerous Goods Management in Logistics Execution

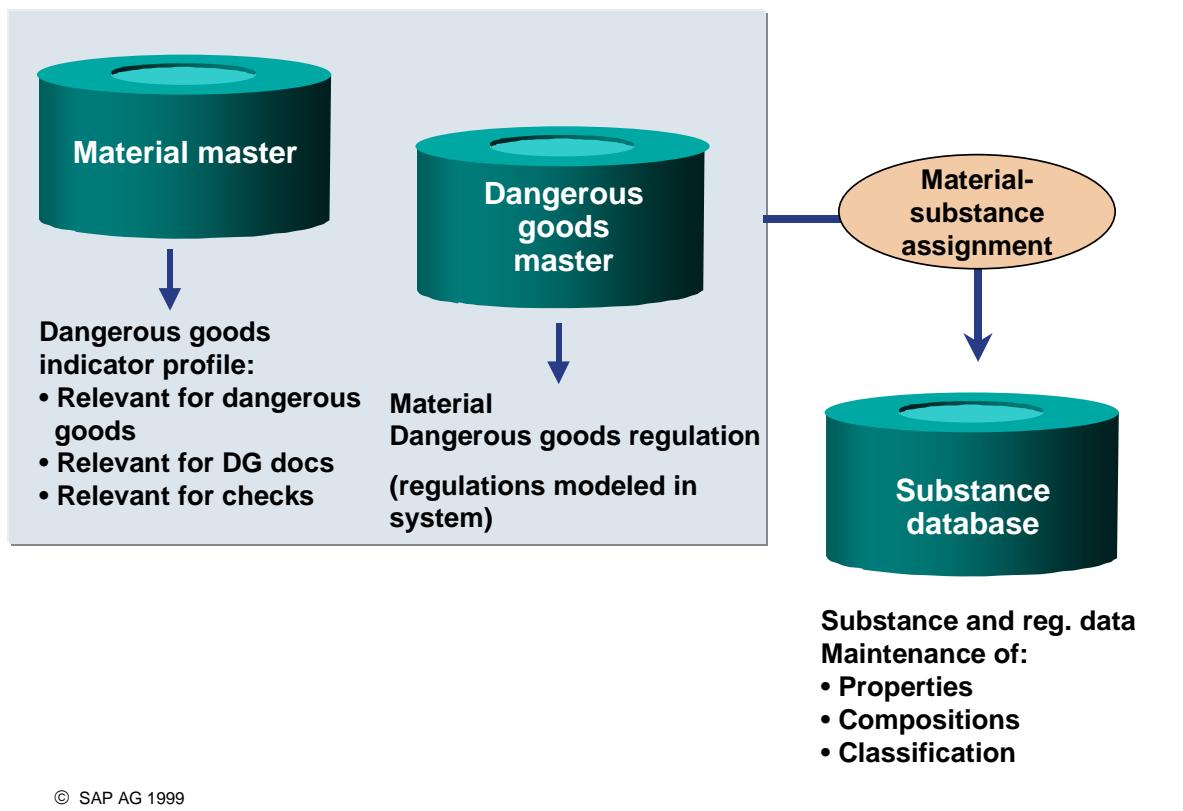
SAP



- Within the logistics process, you can activate **dangerous goods management** in the (inbound or outbound) delivery document or in the shipment document.
- The system can then perform various **dangerous goods checks** automatically, or you can trigger them manually. For instance, you can check whether the transportation of particular materials on a particular mode of transported is permitted. This can prevent deliveries or shipments that do not meet safety requirements leaving the company.
- You can also create **dangerous goods documents** containing the relevant dangerous goods data.
- Dangerous Goods Management uses special master data and settings in EH&S.
- You can make your own settings in Customizing to define when the various checks should be performed and how the document should be processed.

## Dangerous Goods Master Data

SAP

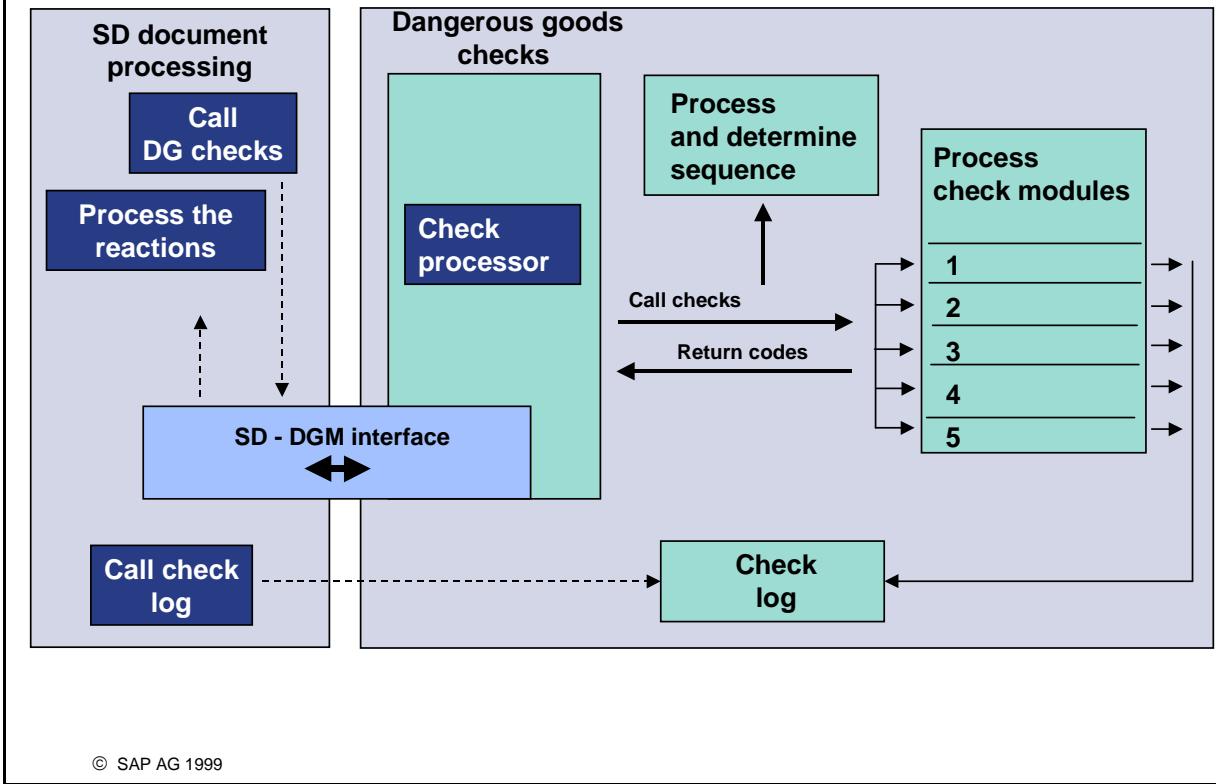


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- If a material is considered a dangerous good, you define a **dangerous goods indicator profile** in the **material master record** (basic data 2). You can then refer to this profile to find out whether a material is classified as a dangerous good and whether it requires dangerous goods documents and checks.
- The **dangerous goods master** complements the material master and is therefore created for materials that are already defined in the system. It contains data that is necessary for performing dangerous goods checks and creating dangerous goods documents according to existing law.
- The **substance database** is a flexible tool for managing and maintaining data on chemical substances and preparations. It contains all substance data and legal data. It provides the basis for comprehensive environment management.
- The assignment of a material number and a substance number establishes the link between material data and substance data, which means that the dangerous goods master and the substance data can be used in the dangerous goods checks.

## Process for Dangerous Goods Checks

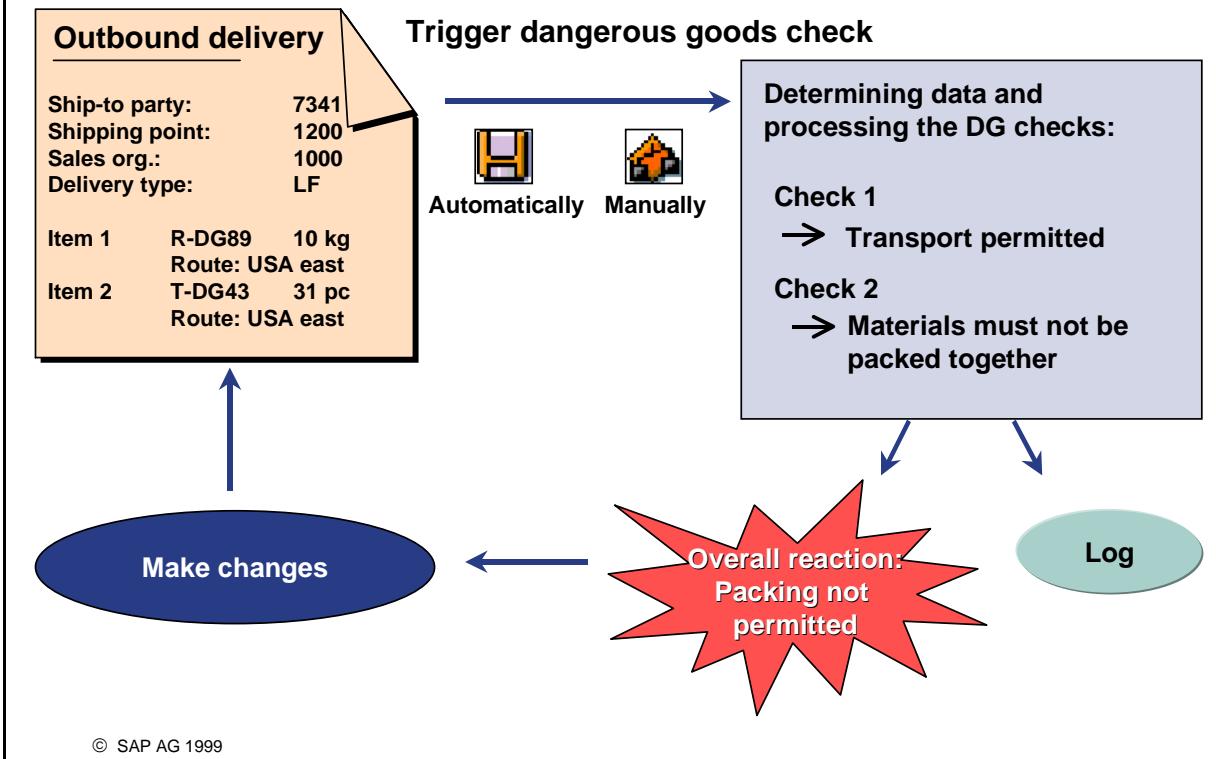
SAP



- The basic process for a dangerous goods check is as follows:
  - When the check is triggered, manually or automatically, the system calls the **check processor** via an **interface**.
  - The processor determines the data for the **dangerous goods check**, such as the dangerous goods master records, validity areas, and mode of transport categories.
  - The system then processes the different **check methods** of the check schema.
  - Using return codes, entries are made in the **check log**, which you can call from the document. The overall reaction is determined from the reactions from the individual check methods.

# Dangerous Goods Checks in the Delivery Document

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- From the delivery document, you can start the **dangerous goods check** either automatically or manually.
- The **automatic start** takes place when you save the document, if the dangerous goods checks are activated.
- You can start the check **manually** at any time, if the dangerous goods checks are activated. However, the following information must be available:
  - Shipping point
  - Sales organization
  - Delivery type
  - Ship-to party
  - Route
- When the dangerous goods checks are complete, a dialog box appears displaying the message from the check method that determines the overall reaction for the check schema. If there are any log entries, you can branch to the check log.
- The **check log** displays all the messages that appeared while the dangerous goods checks were being processed. You can print out the log.
- What happens next: You continue processing the document as determined by the Customizing settings for the overall reaction. For instance, the document either cannot be saved, or is assigned a blocking indicator.

## Structure of the DELVRY02 Delivery Interface

SAP

### Delivery header

- Dangerous goods data
- Control
- Partner
- Dates
- Texts
- Foreign trade
- Routes
- Delivery item
- Shipping Unit

### Delivery item

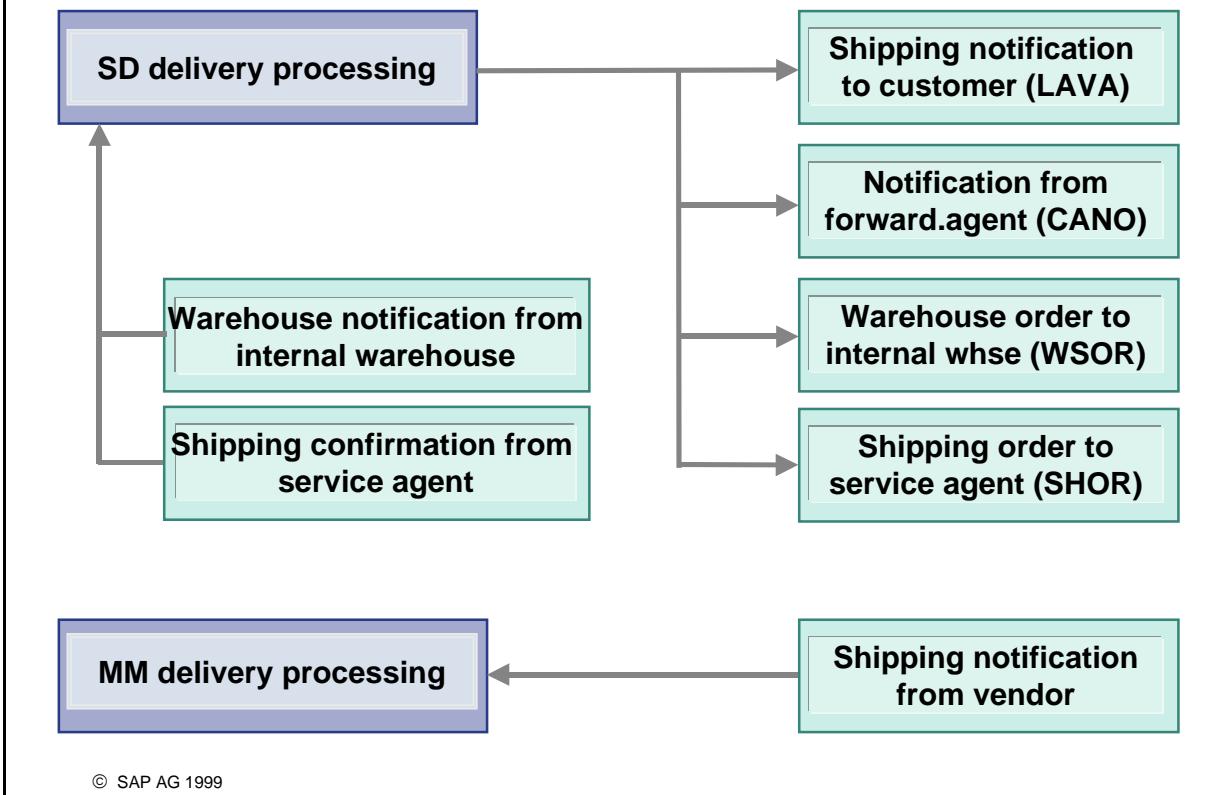
- Dangerous goods data
- Control
- Serial numbers
- Batch characteristics
- Foreign trade
- Reference data
- Texts
- Configuration

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- The DELVRY02 delivery interface consists of different segments containing information from the delivery header, the delivery item, and the shipping units.
- DELVRY02 (Release 4.6A) has more segments than DELVRY01 (Release 4.0), which contain dangerous goods data at header and item level.
- DELVRY03 (Release 4.6B) also contains segments for the external release number, data on the express delivery company, tracking data, and the repacking of shipping units.

## Communication Scenarios

SAP

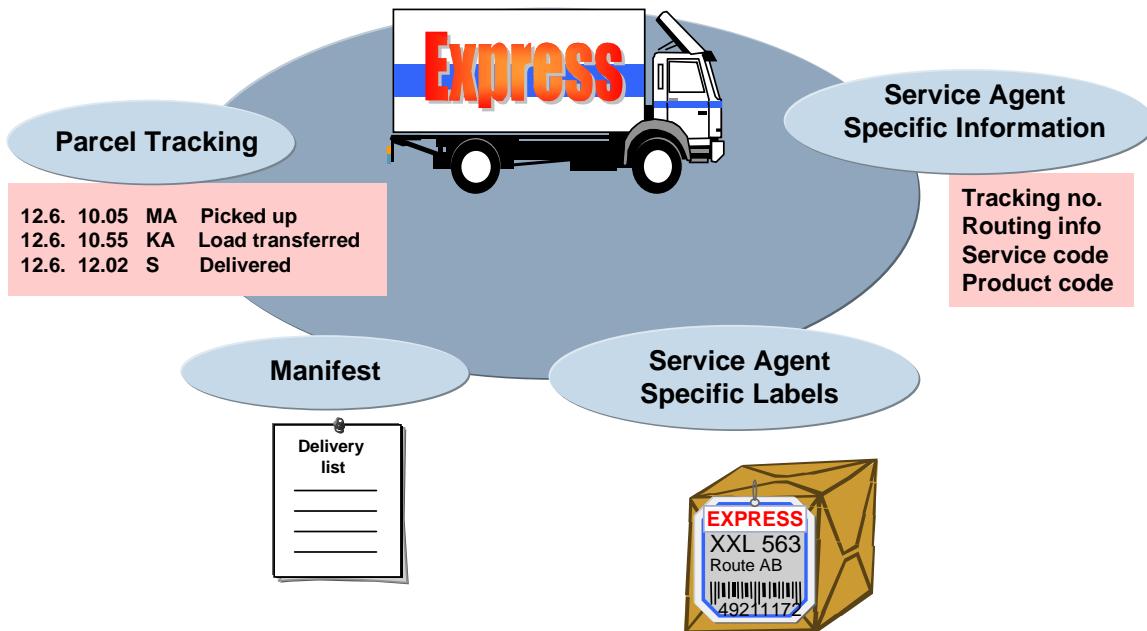


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- Shipping notification (outbound) by EDI (message type LAVA/EDI message DESADV): additional information, for example, serial numbers and configuration, can be communicated.
- Shipping notification (inbound) by EDI (EDI message DESADV): for inbound shipping notifications, MM can also receive packing data.
- Shipping order by EDI to a service agent (message type SHOR/EDI message SHPORD).
- Shipping confirmation from a service agent by EDI (EDI message SHPCON): This EDI message combines the picking confirmation with the packing data confirmation.
- Warehouse order to your external system by ALE (message type WSOR/ EDI message WHSORD).
- Warehouse confirmation from your external system by ALE (EDI message WHSCON): This EDI message combines the picking confirmation with the packing data confirmation. The message can also update the actual weight and the actual volume in the delivery.
- Notification to forwarding agent by EDI (message type CANO/EDI message CARNOT).

# Express Delivery Companies

SAP

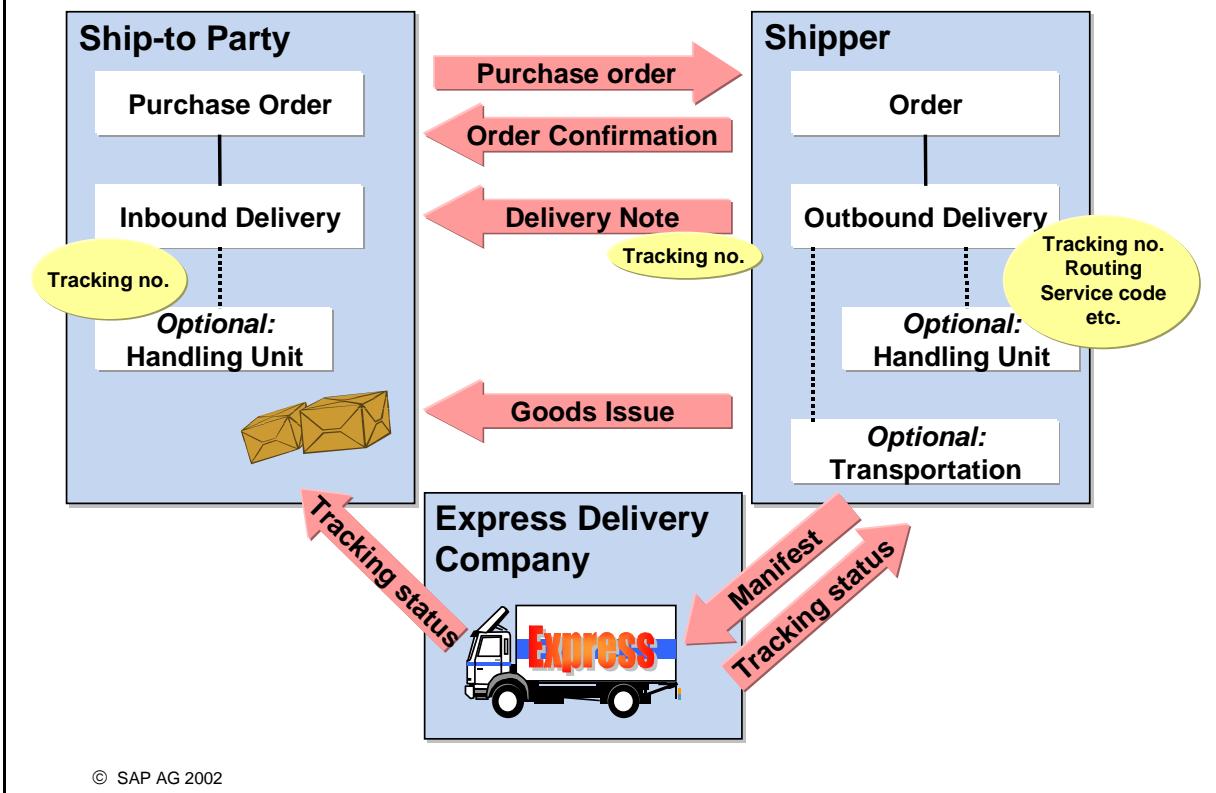


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- Express delivery companies transport goods quickly and offer the opportunity to track the itinerary of the shipments. There are special requirements for processing this kind of shipment, which do not arise with ordinary shipments.
- With express delivery processing in R/3, you can model the special requirements of express deliveries. These requirements include the following:
  - Information specific to the service agent recorded in the delivery; refers either to the entire delivery or to individual parcels.
  - Printing special labels with the required information (needed for the automatic sorting machines at the express delivery companies)
  - Creating the manifest/delivery list (simplifies settlement for the express delivery company and eliminates manual entry of shipments; prevents delays)
  - Parcel and status tracking

## Outbound Delivery Using Express Delivery Company

SAP



- When express delivery companies are involved in the outbound delivery process, you usually require express delivery information immediately. This information includes the **tracking number**, routing information, the service code, and the product code. This data can be defined either at the outbound delivery level or the handling unit level.
- If an express delivery company is specified in the outbound delivery, the system loads the information automatically from the data stored for that company. In the outbound delivery document, there is a *Parcel tracking* tab page for this at the header level.
- The shipper informs the ship-to party of the tracking number and any other information relevant to the express delivery.
- The shipper can also create a shipment document containing all the shipments for a particular express delivery company. On the basis of this shipment document, the shipper can create a **manifest** and send it to the service agent electronically using the shipment IDoc.
- Both the shipper and ship-to party can monitor the **tracking status** of the shipments at any time using the tracking number and the **parcel tracking**.
- You maintain the data for the express delivery companies in the **express delivery cockpit**.

# Parcel Tracking

SAP

Where is delivery 80001234 shipped by the express delivery company, Quickly?

What is the tracking number of the delivery?

What service code was determined?

Change Delivery 80001234: Header Details

Parcel Tracking

Parcel Tracking

Sales document  
Purchasing document  
 Delivery  
Shipment number  
Shipping unit  
Tracking number

80001234

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- It is often important to track the itinerary of the shipment (delivery or parcel), and to know at any time where the shipment is, its status (such as picked up, load transferred, or delivered), and so on. The parcel tracking function allows you to do this.
- The Parcel tracking tab page in the header details of the outbound delivery gives you the tracking status and all other information relating to the express delivery processing of this outbound delivery.
- A parcel tracking transaction allows you to select documents by order, purchase order, delivery, shipment, handling unit, or tracking number. For the selected document, the system also displays the tracking status and express delivery company information.
- The tracking status is also displayed in the document flow, along with the delivery status or status of the shipping unit.
- Another method of tracking shipments is to access the order status using SAP Internet Application Components (IAC). From there, you can branch to parcel tracking. This is particularly useful for ship-to parties, who can call up the tracking status using the order number.
- You can also access the status in the background. A workflow connection is possible in this case. In exceptional cases, this may mean that processors receive items in their inboxes.

## Details of Parcel Tracking

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**Parcel Tracking**

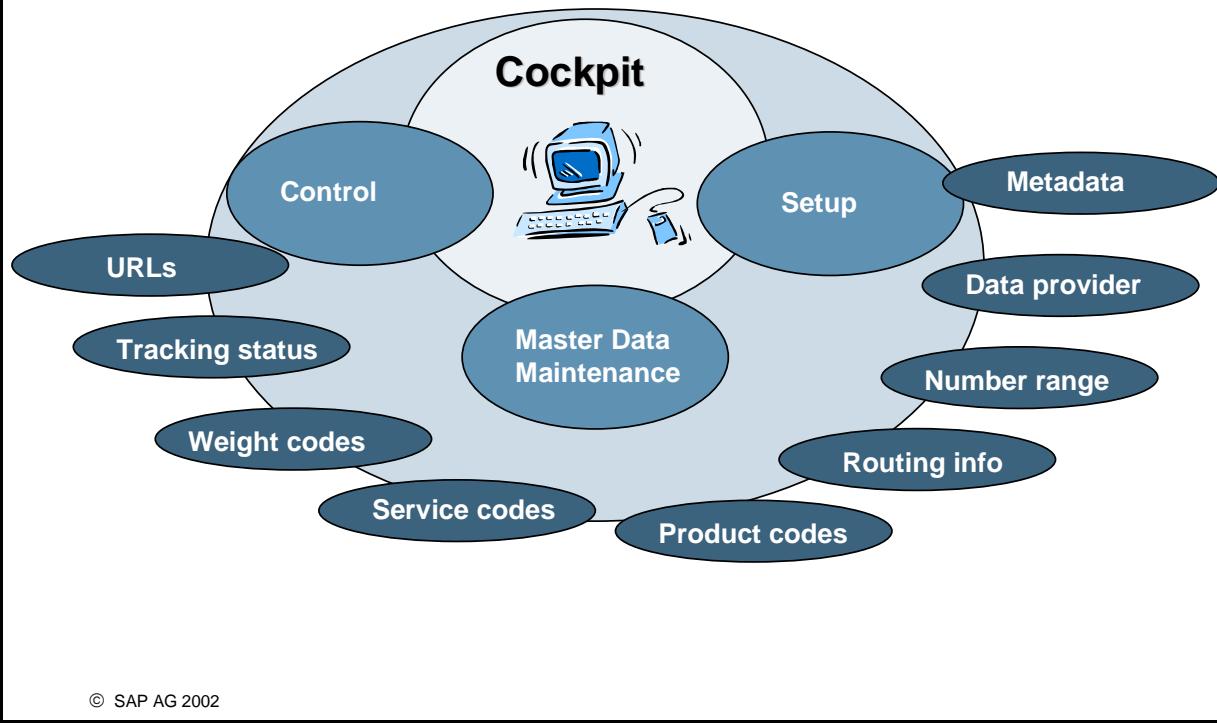
	Expr. Field	Quantity	Track. Stat.	Location
▼ <b>Delivery 80005432</b>				
▼ <b>Tracking status</b>				
London, sh.pt 3000			Picked up	London
Frankfurt			Load transferred	Frankfurt
Munich			Delivered	Munich
▼ <b>Express delivery data fields</b>				
Service code	99 6543 DE			
Sender number	777333			
Weight code	22			
Tracking number	123886622			
▼ <b>Not packed</b>				
<b>Floppy disk drive R-1150</b>		10 Pc		

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- On the *Parcel tracking* screen, you find detailed information about the tracking status and the data fields of the express delivery company, which the system supplies automatically.
- The data can be displayed both at the outbound delivery level and the handling unit level. There are no handling units in the above example, so the data applies to the entire outbound delivery.
- You can define your own display variants so the information is displayed to suit your needs.
- From the *Parcel tracking* screen, you can also request information from the express delivery company via the Internet.

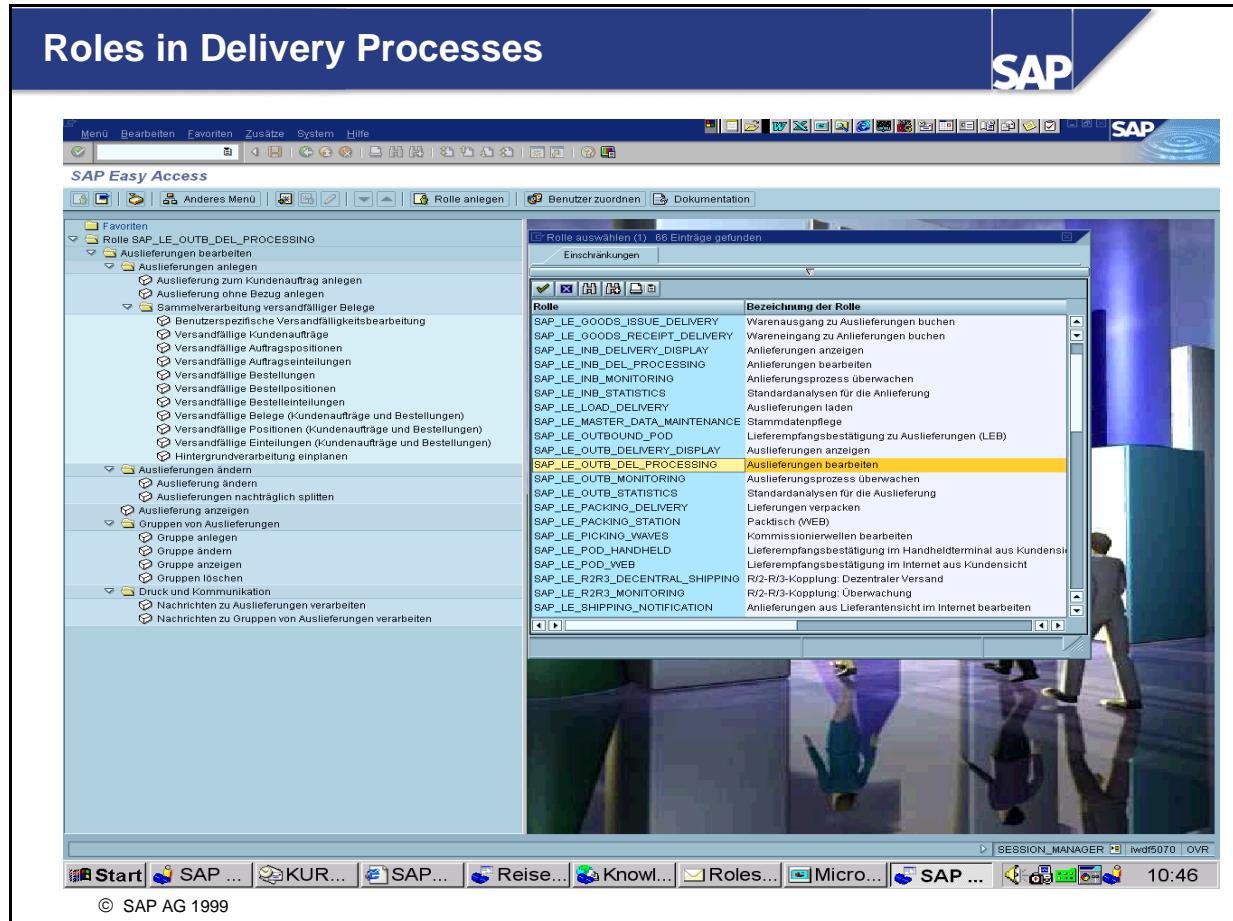
# Express Delivery Cockpit

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- The express delivery cockpit is the central point for making all the settings relevant to express deliveries.
- For each express delivery company, you must define which data fields are relevant for it and how they should be determined (= **metadata**).
- The **master data** includes the following:
  - Product and/or service codes: Reflect the offering of the express delivery company (speed, services, and so on)
  - Routing information: Depends on zip code; used by automatic sorting machines
  - Tracking status: Possible status confirmed in parcel tracking
  - URL links: Destination URLs for XML and URL templates for parcel tracking; documentation
  - Number **ranges**: For numbers assigned by the express delivery company
- An XML-enabled **setup interface** simplifies the setup procedure if you are supported by the express delivery company or another data provider. You need to create the express delivery company and assign it to a service agent (vendor master record) and shipping points. Next, all the metadata and master data is loaded and can be processed manually.



- A **role** is a logically related group of transactions. These transactions represent the functional scope typically required by a user in his/her work.
- **Activity groups** (user roles) are set up using the Profile Generator to enable users of the SAP System to work with **user-specific** or **workstation-specific** menus.
- Activity groups are also used to assign authorizations to users for the activities contained in the menus. As of Release 4.6, the standard system contains predefined activity groups (user roles) for all application areas.
- In the above example, on the left half of the screen, you can see the role **SAP\_LE\_OUTB\_DEL\_PROCESSING** with the transactions that have been assigned to it. This role is included in the standard system.
- This role groups together all the functions that are available to an employee in shipping for *Outbound delivery processing*. This includes creating, changing, displaying and printing outbound deliveries.
- On the right half of the screen you can see all the user roles for delivery processing that are contained in the standard system.

## Frequently-Used Menu Paths

Activity	Menu Path
<b>Application:</b>	
<b>Master Data</b>	<b>Logistics → Logistics Execution → Master Data</b>
Display sold-to party	→ <i>Partner</i> → <i>Customer</i> → <i>Display</i> → <i>Sales and Distribution / Total</i>
Display material	→ <i>Material</i> → <i>Material</i> → <i>Display</i> → <i>Display Current Status</i>
Display master records for output	→ <i>Output</i> → <i>Shipping/Shipping Units/Groups</i> → <i>Display</i>
Define routes	→ <i>Transportation</i> → <i>Routes</i> → <i>Define routes</i> or: Use the IMG (see below)
Route determination	→ <i>Transportation</i> → <i>Routes</i> → <i>Route Determination</i> or: Use the IMG (see below)
Define route schedules	→ <i>Transportation</i> → <i>Routes</i> → <i>Route Schedule</i>
<b>Order Processing</b>	<b>Logistics → Sales and Distribution → Sales</b>
Create/change/display order	→ <i>Order</i> → <i>Create/Change/Display</i>
Display document flow	→ <i>Order</i> → <i>Change/Display Environment</i> → <i>Display document flow</i>
<b>Shipping Processing</b>	<b>Logistics → Logistics Execution</b> → <i>Inbound process</i> → <i>Goods receipt for inbound delivery</i>
Create/change/display inbound delivery	→ <i>Inbound Delivery</i> → <i>Create/Change/Display</i>
Display list of inbound deliveries	→ <i>Inbound Delivery</i> → <i>Lists</i> → <i>Inbound Delivery Monitor</i> → <i>List inbound deliveries</i>
Packing inbound deliveries	→ <i>Pack</i> → <i>Inbound Delivery</i>
Create transfer order	→ <i>Putaway</i> → <i>Create Transfer Order</i> → <i>For Inbound Delivery</i>
Confirm transfer order	<i>Putaway</i> → <i>Confirm Transfer Order</i> → <i>Single Document</i> → <i>In One Step</i>

Activity	Menu Path
Post goods receipt	<b>→Post Goods Receipt →Inb.Delivery Indiv.Document</b>
<b>Shipping Processing</b>	<b>Logistics → Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery</b>
Create/change/display outbound delivery	<b>→Outbound Delivery →Create/Change/Display</b>
Create outbound deliveries using collective processing	<b>→Outbound Delivery →Create →Collective Processing of Documents for Shipment</b>
Display collective processing log	<b>→Outbound Delivery →Lists and Logs → Collective Processing Log</b>
Display document flow	<b>→Outbound Delivery →Change/Display Environment →Document flow</b>
List of outbound deliveries	<b>→Outbound Delivery →Lists and Logs → Outbound Delivery Monitor List outbound deliveries</b>
Create output from deliveries	<b>→Communication/Printing →.....</b>
Display change documents	<b>→Outbound Delivery →Lists and Logs → Changes</b>
Select incomplete outbound deliveries	<b>→Outbound Delivery →Lists and Logs → Incomplete Outbound Deliveries</b>
Create single transfer order	<b>→Picking →Create Transfer Order →Single Document</b>
Picking using collective processing (collective picking)	<b>(1) →Picking →Create Transfer Order →Via Outbound Delivery Monitor (2) →Picking →Create Transfer Order →By Wave Pick</b>
Confirm transfer order	<b>→Picking →Confirm Transfer Order →Single Document →In One Step</b>
Confirm group of transfer orders	<b>→Picking →Confirm Transfer Order →Via Outbound Delivery Monitor      or → By Wave Pick</b>
Pack outbound delivery	<b>Pack →Outbound Delivery</b>
Create output from shipping units	<b>→Communication/Printing →Shipping Unit Output</b>
Group outbound deliveries for loading	<b>→Loading →Loading Group →Create →Via Outbound Delivery Monitor</b>
Create freight list	<b>→Communication/Printing →Loading Output</b>

<b>Activity</b>	<b>Menu Path</b>
Post single goods issue	<b>→ Post Goods Issue → Outbound Delivery Single Document</b>
Post goods issue using collective processing	<b>→ Post Goods Issue → Collective Processing Via Outbound Delivery Monitor</b>
Cancel goods issue posting	<b>→ Post Goods Issue → Cancellation/Reversal</b>
Proof of delivery	<b>Logistics Execution → Outbound Process → Goods Issue for Outbound Delivery → Proof of Delivery</b>
<b>Handling Units</b>	<b>Logistics → Central Functions → Handling Unit Management</b>
Display handling units	<b>→ Handling Unit Monitor or → Display Handling Units</b>
Create/change/display packing instructions	<b>→ Master Data → Packing Instruction → Create/Change/Display</b>

<b>Activity</b>	<b>Menu Path</b>
<b>Customizing:</b>	
<b>Access</b>	<b>Tools → AcceleratedSAP → Customizing → Edit project → Display SAP Reference IMG</b>
<b>Define organizational units</b>	<b>→ Enterprise Structure → Definition</b>
Maintain plant	<b>→ Logistics - General → Define ... plant</b>
Maintain storage location	<b>→ Materials Management → Maintain storage location</b>
Maintain shipping point	<b>→ Logistics Execution → Define ... shipping point</b>
Maintain warehouse number	<b>→ Logistics Execution → Define ... warehouse number</b>
<b>Assign organizational units</b>	<b>→ Enterprise Structure → Allocation</b>
Shipping point – plant	<b>→ Logistics Execution → Assign shipping point to plant</b>
Warehouse number – plant/storage location	<b>→ Logistics Execution → Assign warehouse number to plant/storage location</b>
<b>Sales</b>	<b>→ Sales and Distribution → Sales</b>
Maintain sales document types	<b>→ Sales Documents → Sales Document Header → Define sales document types</b>
Maintain item category	<b>→ Sales Documents → Sales Document Item → Define item categories</b>
Assign item category	<b>→ Sales Documents → Sales Document Item → Assign item categories</b>
Maintain schedule line categories	<b>→ Sales Documents → Schedule Lines → Define schedule line categories</b>

<b>Activity</b>	<b>Menu Path</b>
<b>Shipping</b>	
<b>Basic functions</b>	→ Logistics Execution → Shipping → Basic Shipping Functions
Maintain shipping conditions	→ <i>Shipping Point and Goods Receiving Point Determination</i> → Define shipping conditions
Maintain loading groups	→ <i>Shipping Point and Goods Receiving Point Determination</i> → Define loading groups
Maintain shipping point determination	→ <i>Shipping Point and Goods Receiving Point Determination</i> → Assign shipping points
Maintain routes and stages	→ Routes → Define Routes → Define routes and stages
Maintain route determination	→ Routes → Route Determination → Maintain Route Determination → ...
Set up scheduling	→ Scheduling → Delivery Scheduling and Transportation Scheduling → ...
Maintain route schedule determination	→ Routes → Route Schedule Determination
<b>Deliveries</b>	→ Logistics Execution → Shipping → Deliveries
Maintain delivery types	→ Define delivery types
Maintain item categories for deliveries	→ Define item categories for deliveries
Maintain item category determination	→ Define item category determination in deliveries
Control system messages	→ Specify characteristics for system messages
Set up number ranges	→ Define number ranges for deliveries
Defining confirmation of inbound delivery	→ Defining confirmation of inbound delivery
Set up delivery split by warehouse number	→ Define split criteria for deliveries → Delivery split by warehouse number
Set up POD-relevance	→ Proof of Delivery → Set POD-relevance depending on delivery item category
Copy control for deliveries	→ Logistics Execution → Shipping → Copying Control → Specify copy control for deliveries

<b>Activity</b>	<b>Menu Path</b>
<b>Picking</b>	<b>→ Logistics Execution → Shipping → Picking</b>
Set up picking relevance	<b>→ Define relevant item categories</b>
Controlling the warehouse number	<b>→ Lean WM → Define control parameters and number ranges f. warehouse no.</b>
Maintain storage types	<b>→ Lean WM → Define storage type</b>
Maintain movement types	<b>→ Lean WM → Define movement types</b>
Maintain difference indicator	<b>→ Lean WM → Define difference indicators</b>
Set up WM print control	<b>→ Lean WM → Define print control</b>
WM - Inventory Management interface	<b>→ Lean WM → Inventory management interface</b>
Control warehouse number assignment	<b>→ Lean WM → Control "plant/storage location/warehouse no." assignment</b>
Maintain doors	<b>→ Lean WM → Define doors</b>
Maintain staging areas	<b>→ Lean WM → Define material staging areas</b>
Maintain picking areas	<b>→ Lean WM → Define picking areas</b>
Maintain rule for storage location determination	<b>→ Determine Picking Location → Define rules for picking location determination</b>
Maintain storage conditions	<b>→ Determine Picking Location → Define storage conditions</b>
Maintain storage location determination	<b>→ Determine Picking Location → Assign picking locations</b>
<b>Packing</b>	<b>→ Logistics Execution → Shipping → Packing</b>
Set up packing relevance	<b>→ Packing control by item category</b>
Maintain packaging material type	<b>→ Define packaging material types</b>
Define material group for packaging material	<b>→ Define material group for packaging material</b>
Assign packaging material types to material group for packaging material	<b>→ Define allowed packaging materials</b>

## Course: Pricing

SAP



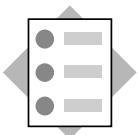
### Contents:

- Course Goals
- Course Objectives
- Table of Contents
- Course Overview Diagram
- Main Business Scenario



This course will prepare you to:

- Define the necessary system settings for pricing in the R/3 SD module.



**At the conclusion of this course, you will be able to:**

- **Describe the elements of the pricing condition technique and the relationships between them**
- **Convert your pricing requirements into the necessary R/3 pricing strategy**
- **Make the necessary Customizing settings to implement your pricing strategy**

## Preface

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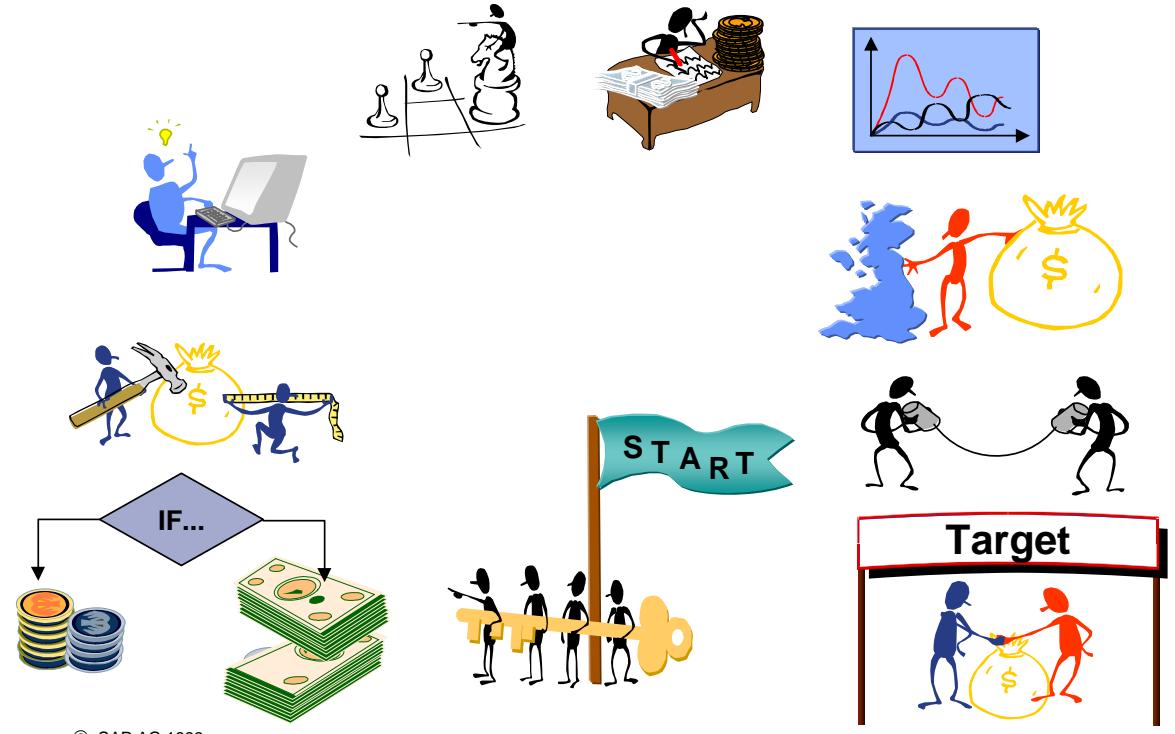
Unit 1	<b>Course Overview</b>	Unit 7	<b>Special Condition Types</b>
Unit 2	<b>Pricing Fundamentals</b>	Unit 8	<b>Statistical Condition Types</b>
Unit 3	<b>Condition Technique in Pricing</b>	Unit 9	<b>Taxes</b>
Unit 4	<b>Pricing Configuration</b>	Unit 10	<b>Agreements</b>
Unit 5	<b>Working with Condition Records</b>	Unit 11	<b>Rebates</b>
Unit 6	<b>Special Functions</b>	Unit 12	<b>Summary</b>

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## Appendix

# Course Overview Diagram

SAP

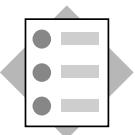




- The project team involved in implementing R/3 SD must meet the company's pricing requirements
- As a member of the project team, you have been given the task of examining the pricing configuration options, in order to provide solutions for your company requirements

## Contents:

- Condition records for prices, discounts, and surcharges
- Condition Types
- Introduction to Customizing



**At the conclusion of this unit, you will be able to:**

- Explain how conditions are used in pricing
- Demonstrate how to create condition records
- Locate condition types in Customizing

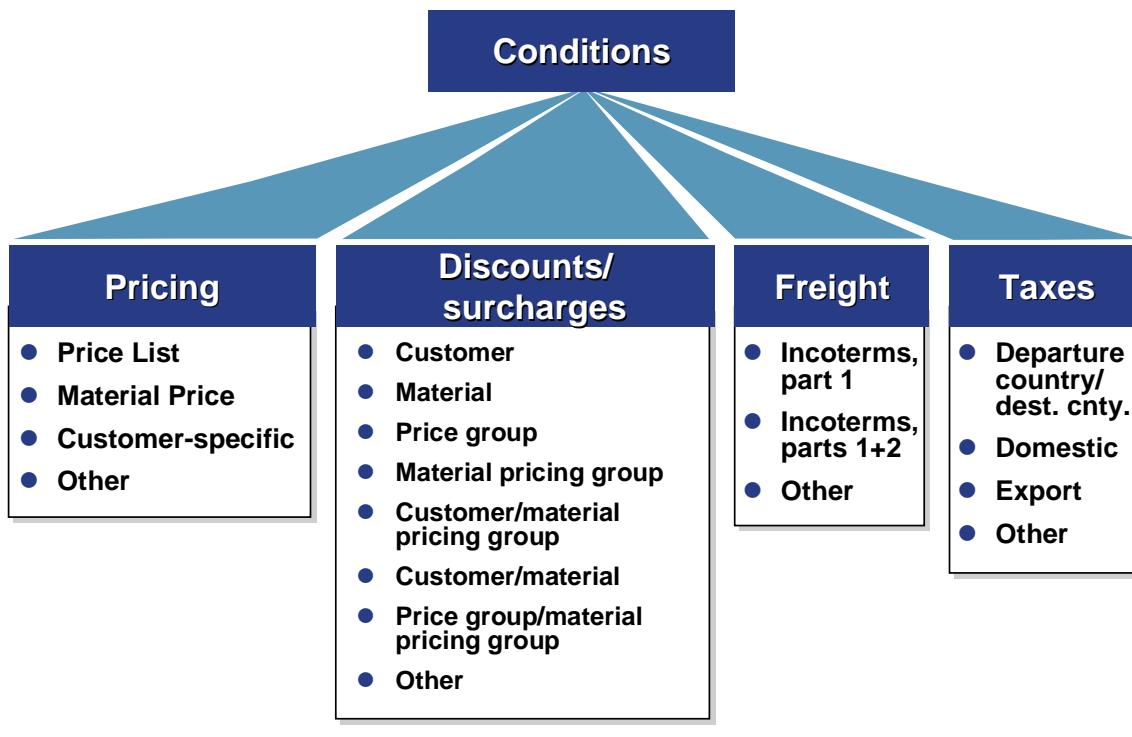
# Course Overview Diagram

SAP





- In pricing: Prices, discounts, surcharges, freight, and taxes (known as conditions) must be determined automatically for business transactions.
- There must also be an option to alter these conditions manually.
- As requirements differ from one company to the next, pricing must be configurable.



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- Data about conditions is stored in condition records.
- You can determine conditions at any level you require.
- The levels on which pricing is most commonly carried out have been predefined in the standard version.
- You can easily add additional levels if required. A standard field catalog containing fields commonly used in pricing is supplied with R/3. However, you can make conditions dependent on any document field(s), but you may have to add these fields to the field catalog.

## Condition Records

SAP

Level on which  
the condition  
is defined

Condition type:	KA00 Special offer discount
Sales organization	1000
Distribution channel:	01
Customer:	C1
Material:	M1

1. Period 1  
Mar 01 - Apr 30

2. Period 2  
May 01 - May 30

1000 \$	1- %
2000 \$	2- %
3000 \$	3- %

Lower limit :	5- %
Upper limit :	0 %

1000 \$	2- %
2000 \$	3- %
3000 \$	4- %

Lower limit :	5- %
Upper limit :	0 %

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- You can limit a pricing agreement to a certain period by specifying a **validity period**.
- **For example:** Different price lists for different years  
Discounts given only for the duration of a special offer
- The values in a condition record (price, surcharge, discount) can be maintained according to a **scale**.  
You can specify an unlimited number of levels in a scale.
- You can specify an upper and lower limit for each condition record. Manual changes to pricing elements determined by the system can be made only within these limits.

## Condition Types

SAP

Key	Description	Control data
PR00	Price	
K007	Discount %	Calculation type: Percentage Scale base type: Value scale
K029	Discount/weight	Calculation type: Amount/weight Scale base type: Weight scale

### Examples

Scale base type	Calculation type
100 \$	1- %
1000 \$	2- %
10000 \$	4- %

Scale base type	Calculation type
100 kg	\$ 1- per 1 kg
1000 kg	\$ 3-
10000 kg	\$ 5-

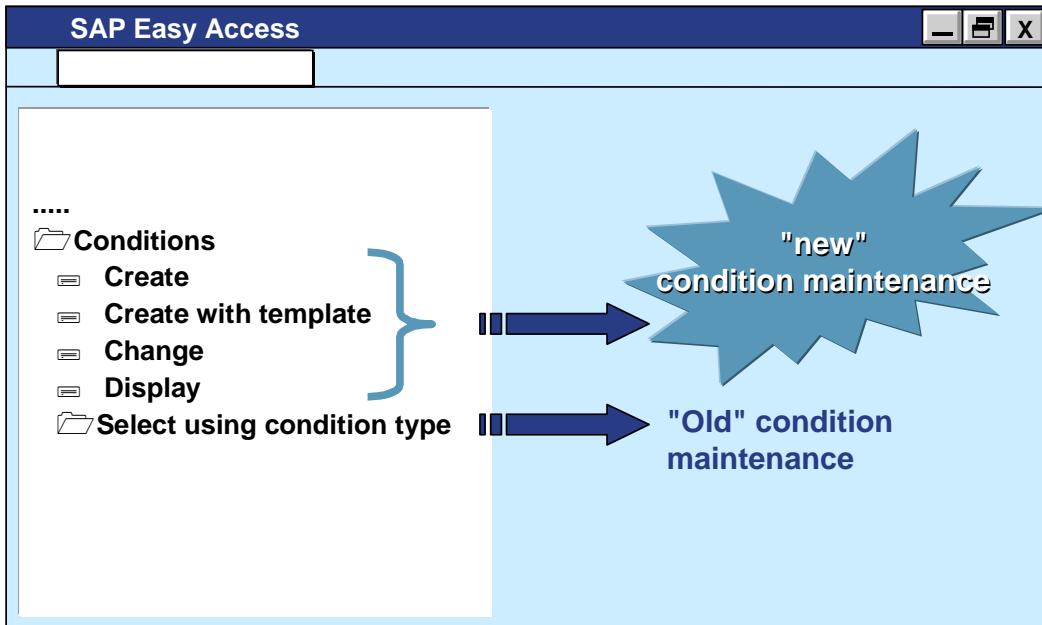
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- The condition type determines the category of a condition and how it is used.
- The calculation type and the scale base type can be controlled for each condition type.
- Possible scale base types      Possible calculation types
 

Value	Percentage from an initial value
Quantity	Fixed amount
Weight	Amount per unit of measure
Volumes	Amount per unit of weight
Time period	Amount per unit of volume
	Quantity per unit of time
- Each condition type can be set as an automatic surcharge, discount or either.

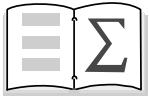
## Condition Maintenance

SAP



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- Condition maintenance has been provided with a **new maintenance interface** for Release 4.6A.
- The new interface allows mass maintenance of conditions based on characteristics (e.g. for the customers).
- This means that condition records can now be maintained **across all condition types and condition tables**. You will, for example, be able to display and maintain the material prices as well as the discounts and surcharges for a customer in one step.
- You can also call up the previous maintenance transaction for conditions by choosing *Select using condition type*.



You are now able to:

- Explain how conditions are used in pricing
- Demonstrate how to create condition records
- Locate condition types in Customizing

# Exercise Data Sheet

## Explanation of Symbols in the Exercises and Solutions

	<b>Exercises</b>
	<b>Solutions</b>
	<b>Objectives</b>
	<b>Business Scenario</b>
	<b>Hints and Tips</b>
	<b>Warning or Caution</b>

## Data used in the Exercises

Data for each group has been created in the system for the exercises.

Where you see	Substitute
##	Your group number (01,02, ...,19, 20)

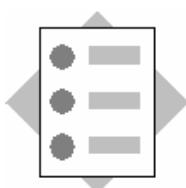
Type of Data	Data in Training System
Sales organization	1000
DistrChannel	10
Divis.	00
Plant	1200
Shipping point	1200
Warehouse number	012
Customer 1	T-L67A##
Customer 2	T-L67B##
Material 1	T-AT1##
Material 2	T-AT2##
Material 3	T-AT3##

# Exercises



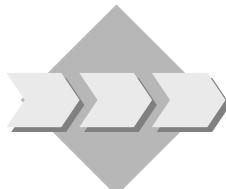
## Unit: Pricing Fundamentals

### Topic: Condition Records



At the conclusion of these exercises, you will be able to:

- Check pricing data and understand system messages.
- Create and use condition records both with and without scales.



You will be testing basic pricing concepts dealing with the creation and use of condition records. In addition, you need to gain familiarity with the pricing data shown in the order.

1-1 You will be entering a simple order to determine what happens when pricing information is missing from the system.

1-1-1 From the customer purchase order shown below, create a standard sales order.

TELEFAX	
Customer:	T-L67A##
PO number:	##-1-1
Requested delivery date:	In one week
<u>Material</u>	<u>Quantity</u>
T-AT1##	10

1-1-2 Why does this cause an error message?

---

---

1-1-3 What needs to be done to correct the error?

---

---

1-1-4 Exit without saving the order.

- 1-2 To supply the missing pricing information, you will create a price condition record and then test it by entering the same order as before and checking the pricing details in the order.



Since Release 4.6, there have been various forms of condition maintenance.

In this introductory unit, use the maintenance transaction that is called up via the *Select using condition type* node.

1-2-1 Create a material price condition record (PR00) for material T-AT1## for your sales organization and distribution channel. The price is 847 uni. Use the default validity period.

1-2-2 Save the condition record.

1-2-3 From the customer purchase order shown below, create a standard sales order.

TELEFAX	
Customer:	T-L67A##
PO number:	##-1-2
Requested delivery date:	In one week
<u>Material</u>	<u>Quantity</u>
T-AT1##	10

- 1-2-4 Display the pricing conditions for the order item and record the gross price determined automatically during pricing.
- 
- 

- 1-2-5 Are you able to save the order now?
- 
- 

- 1-3 Occasionally, your company gives special prices and discounts to particular customers. You will create condition records, which include scale values for one of your customers. Then you will test these new records by creating orders and viewing the results.

- 1-3-1 Create a customer-specific price condition record (PR00) for material T-AT1## and customer T-L67A## for your sales organization and distribution channel. Use the default validity period.

Use the following scale values for the condition record:

from	1 piece	800 uni
	S	
	10 piece	750 uni
	S	
	100 piece	700 uni
	S	

- 1-3-2 Save the condition record.

- 1-3-3 Create a customer-specific discount condition record (K007) with scale values for customer T-L67A## for your sales area. Use the default validity period.

Use the following scale values for the condition record:

from	100 uni	2 %
	1000 uni	3 %
	5000 uni	5 %

- 1-3-4 Save the condition record.

- 1-3-5 From the customer purchase order shown below, create a standard sales order.

TELEFAX	
Customer:	T-L67A##
PO number:	##-1-3
Requested delivery date:	In one week
<u>Material</u>	<u>Quantity</u>
T-AT1##	10

- 1-3-6 Display the pricing condition for the order item and note all those conditions determined automatically during pricing.
- 
- 

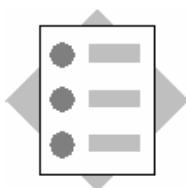
- 1-3-7 Save the order and record the document number.
- 
-

# Exercises



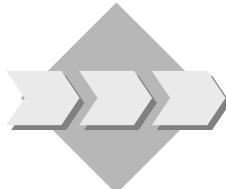
## Unit: Pricing Fundamentals

### Topic: Condition Type Configuration



At the conclusion of these exercises, you will be able to:

- Use the IMG to access pricing settings in Customizing
- View the Customizing settings for a condition type.



As a member of the pricing implementation team, you will be using the IMG to view all forms of pricing configuration.

1-4 You must verify that the configuration settings for certain condition types are appropriate.

1-4-1 Display the settings for condition type K007 in Customizing. What calculation type and scale base type are assigned to this condition type?

---

---

1-4-2 What effects do these settings have?

---

---

# Solutions



## Unit: Pricing Fundamentals

### Topic: Condition Records

- 1-1 You will be entering a simple order to determine what happens when pricing information is missing from the system.

1-1-1 Creating a standard order:

**Menu path:**

**Logistics → Sales and Distribution → Sales → Order → Create**

- 1-1-2 The system outputs an error message because the mandatory pricing condition record PR00 is missing for the material.

1-1-3 You must create a material price condition record for the material.

- 1-2 To supply the missing pricing information, you will create a price condition record and then test it by entering the same order as before and viewing the pricing details in the order.

1-2-1 Creating a material price:

**Menu path:**

**Logistics → Sales and Distribution → Master Data → Conditions → Select using condition type → Create**

Choose condition type **PR00**.

Choose the key combination **Material** with release status.

1-2-3 Creating a standard order:

**Menu path:**

**Logistics → Sales and Distribution → Sales → Order → Create**

- 1-2-4 Select the item and choose *Item conditions*. Pricing automatically determined the material price PR00 of **847 uni** per piece.

1-2-5 Yes, you can now save the order.

- 1-3 Occasionally, your company gives special prices and discounts to particular customers. You will create condition records, which include scale values for one of

your customers. Then you will test these new records by creating orders and viewing the results.

1-3-1 Creating customer-specific prices:

**Menu path:**

***Logistics → Sales and Distribution → Master Data → Conditions → Select using condition type → Create***

Choose condition type **PR00**.

Choose the key combination **Customer/Material** with release status.

To enter scale values, select the condition line and choose *Scales*.

1-3-3 Creating a customer-specific discount condition record (K007):

**Menu path:**

***Logistics → Sales and Distribution → Master Data → Conditions → Select using condition type → Create***

Choose condition type **K007**

Choose the key combination **Division/Customer**.

To enter the scale values, select the condition line and choose *Scales*.

1-3-5 Creating a standard order:

**Menu path:**

***Logistics → Sales and Distribution → Sales → Order → Create***

- 1-3-6 Click the *Item Overview* button. Select the item and choose *Item conditions*. Pricing automatically determined the material price PR00 of **750 uni** per piece and a customer discount (K007) of **5%**.

# Solutions



## Unit: Pricing Fundamentals

### Topic: Condition Type Configuration

- 1-4 You must verify that the configuration settings for certain condition types are appropriate.

- 1-4-1 Calculation type: A Percentage  
Scale base type: B Value scale

*Menu path:*

**Tools → Accelerated SAP → Customizing → Edit Project  
→ SAP Reference IMG → Sales and Distribution → Basic  
Functions → Pricing → Pricing Control → Define Condition  
Types**

Choose *Maintain Condition Types*.

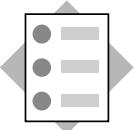
Select K007 and click the *Details* button (magnifying glass).

- 1-4-2 Effects:

The discount is calculated as a percentage of the item's value and the discount scale entries are based on the value of the order item, instead of its weight, volume, etc.

## Contents:

- **Pricing procedure**
- **Access sequence**
- **A pricing overview**
- **Excluding conditions**
- **Changing prices manually**
- **Conditions in the document header**
- **Pricing types**

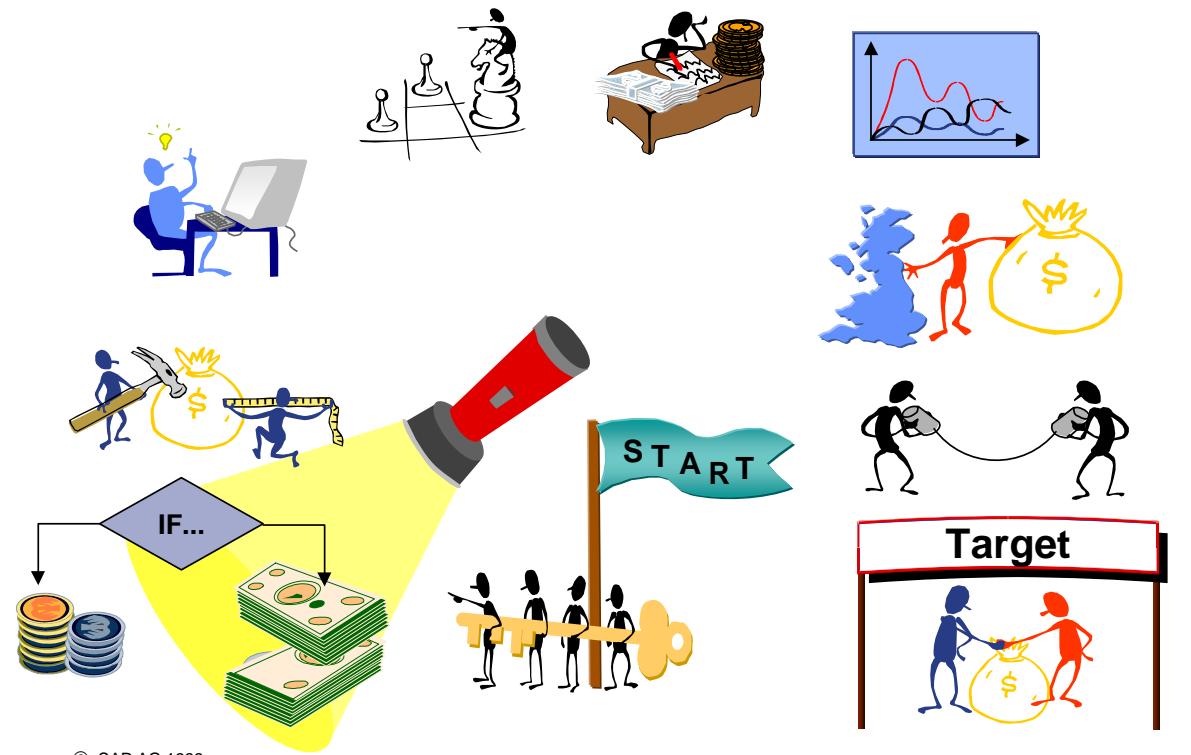


**At the conclusion of this unit, you will be able to:**

- **Use pricing procedures in pricing**
- **Set up access sequences and assign them to condition types**
- **Describe the effects of the individual elements in pricing**
- **Change pricing manually**
- **Control pricing using the pricing type**

# Course Overview Diagram

SAP





- To map the various pricing requirements in the R/3 System, particularly flexible and powerful configuration functionality is required.
- To meet these requirements, the condition technique combines certain elements, which perform various tasks. These elements also interact to allow extremely complex pricing strategies.
- An initial overview will now provide you with an introduction to these elements.

# Pricing Procedure

SAP

Sales organization, distr. channel, division



Step	Condition type	Description	Ref. level	Manual	Requirement
1	PR00	Price			2
2		Gross value			2
3	KA00	Spec. offer disc.			2
4	RA01	Discount %			2
5	RA00	Discount %			2
6		Discount value		X	
7		Net value			
8	HA00	Header disc. %			
9	HD00	Freight		X	
10		Net value 2			
11	MWST	Output tax			
12		Cash disc. basis			
13	SKTO	Cash discount			

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- All condition types permitted in pricing are contained in the pricing procedure.
- You determine how the system is to use conditions by specifying requirements for each condition.
- The sequence in which the system accesses conditions in the business document is also determined here.
- The reference level provides a method to specify a different basis for the condition type calculation and for grouping conditions for subtotals.
- The pricing procedure can contain any number of subtotals between gross and net price.
- You can mark a condition type in the pricing procedure as being:
  - a mandatory condition
  - a manually entered condition
  - for statistical purposes only

## Access Sequence

SAP

### Condition type



### Access sequence

### Condition tables

PR02

1. Customer / material

2. Price list / currency / material

3. Material

Specific

General

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- An access sequence (search strategy) is defined for each condition type (with the exception of header and manual only condition types) in the pricing procedure.
- This search strategy defines the sequence in which the system reads the condition records for a condition type.
- Each access performed during the access sequence is made using a condition table.
- A condition table is a combination of fields, which form the key for a condition record.
- You can make an access dependent on certain requirements.

## Pricing Overview (1)

SAP

### Document

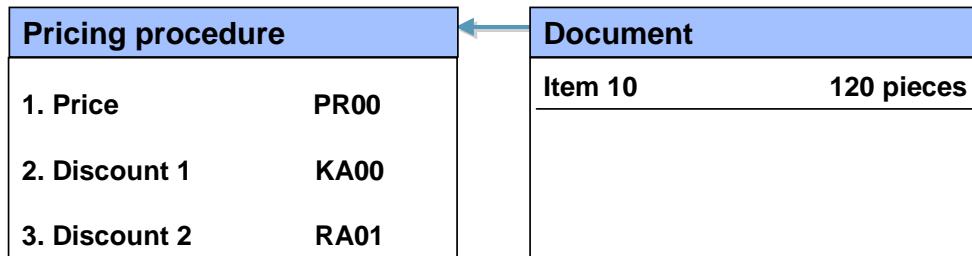
Item 10	120 pieces
---------	------------

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- In this example, an order for 120 pieces of a material is created. The system must determine the price automatically.

## Pricing Overview (2)

SAP

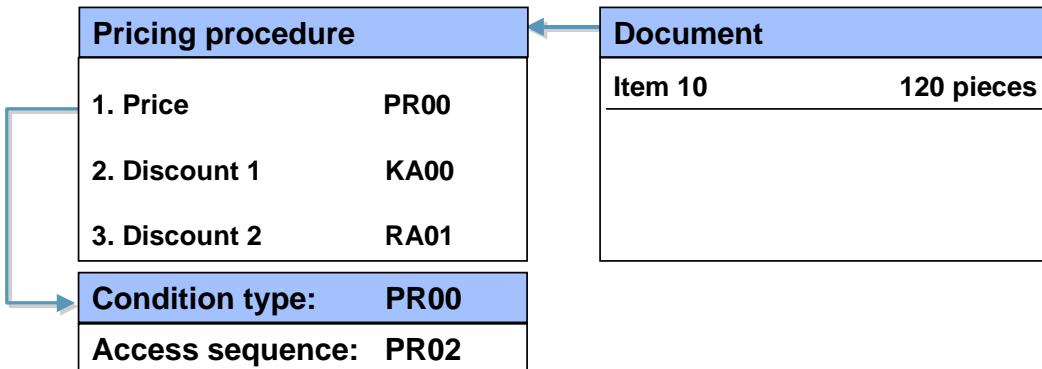


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- First, the relevant pricing procedure is determined based on the sales area, customer, and sales document type.

## Pricing Overview (3)

SAP

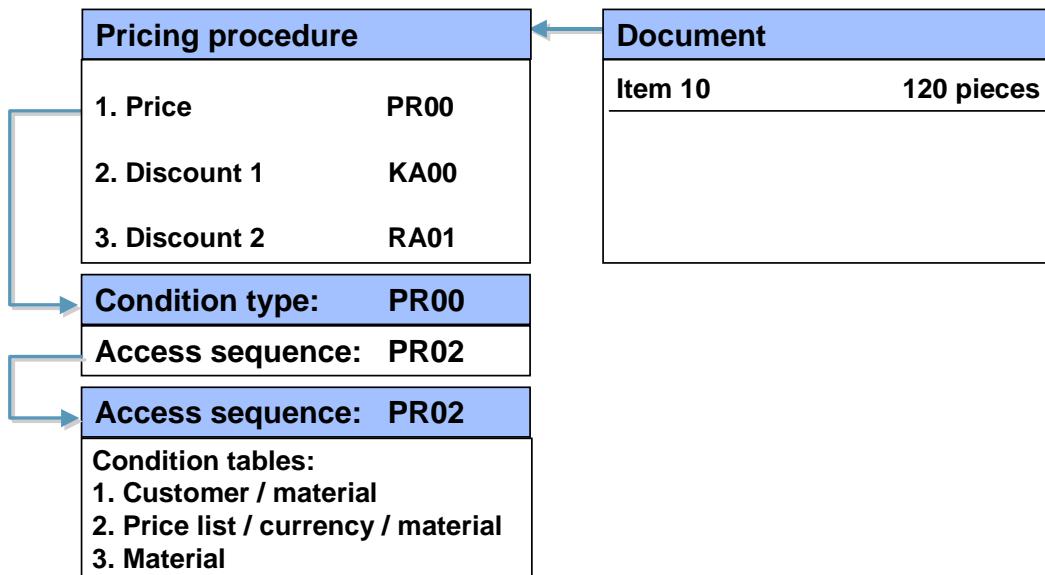


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- The system reads the condition type of the first step. It determines the assigned access sequence for this condition type.

## Pricing Overview (4)

SAP

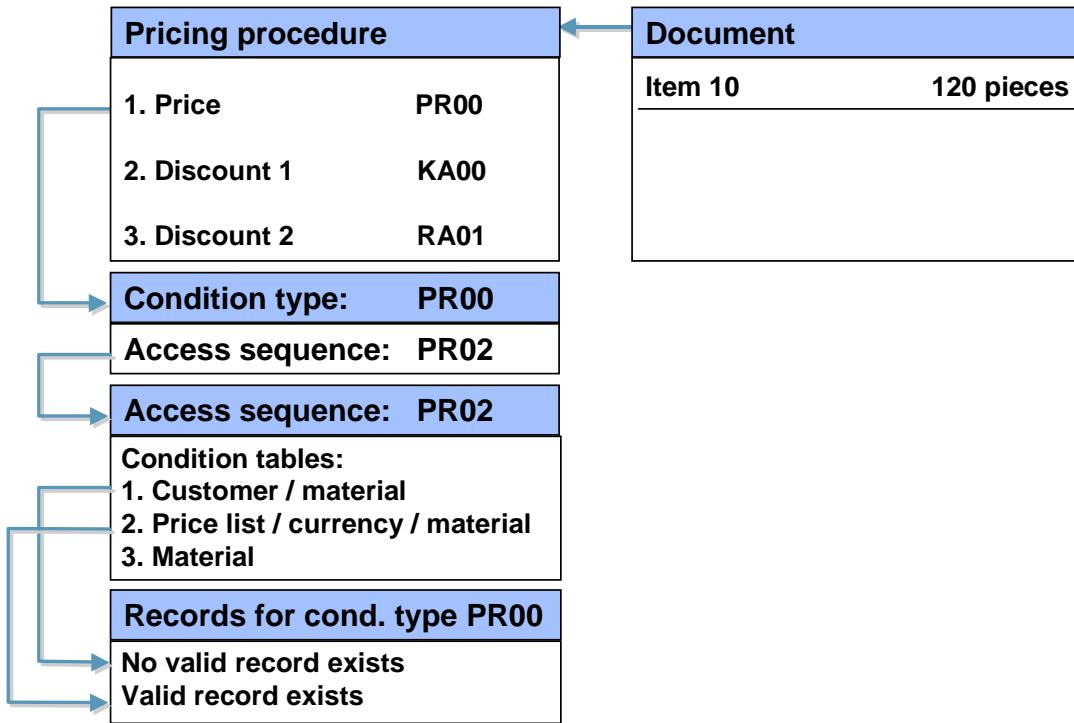


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- The system reads the access sequence. The sequence of condition tables represents the search strategy for finding the relevant condition record.
- Each condition table represents one access which can be made for a condition record with the specified key.

## Pricing Overview (5)

SAP

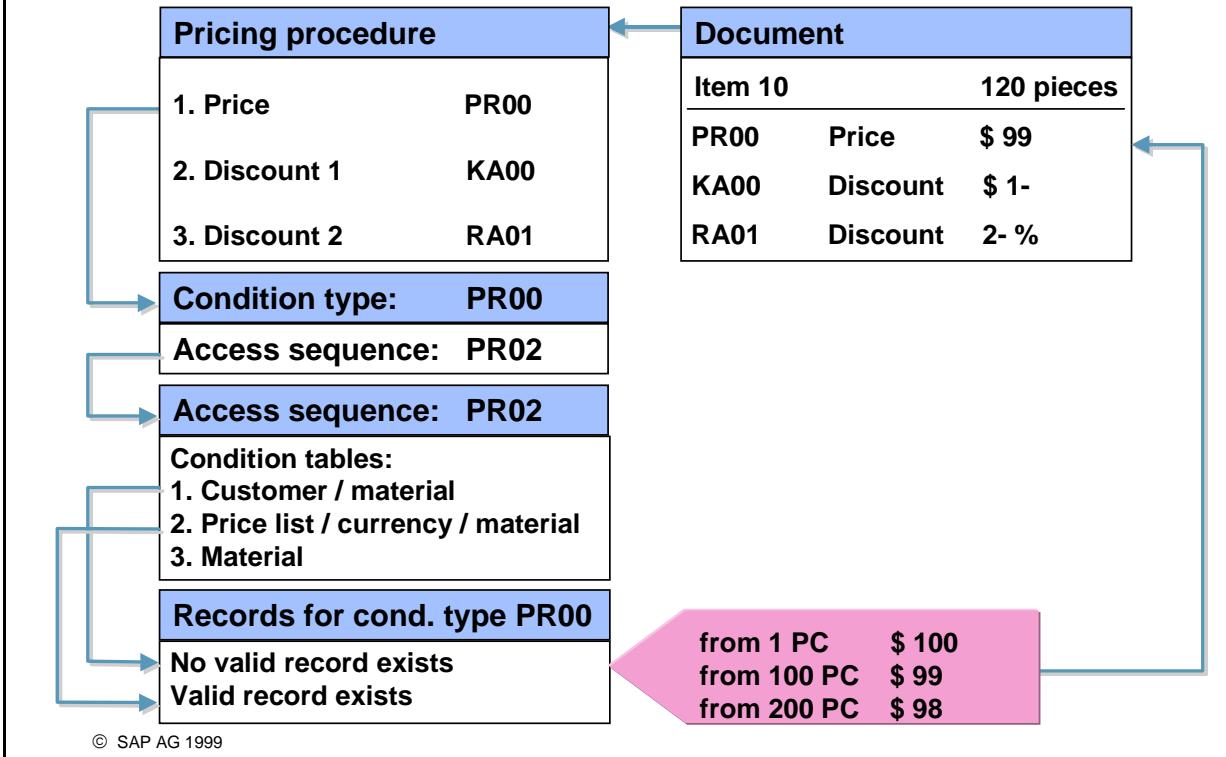


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- The system searches for valid condition records with the key specified by the condition table (accesses).
- If the first access does not find a valid condition record, then the system searches for the next access using the next condition table.

## Pricing Overview (6)

SAP

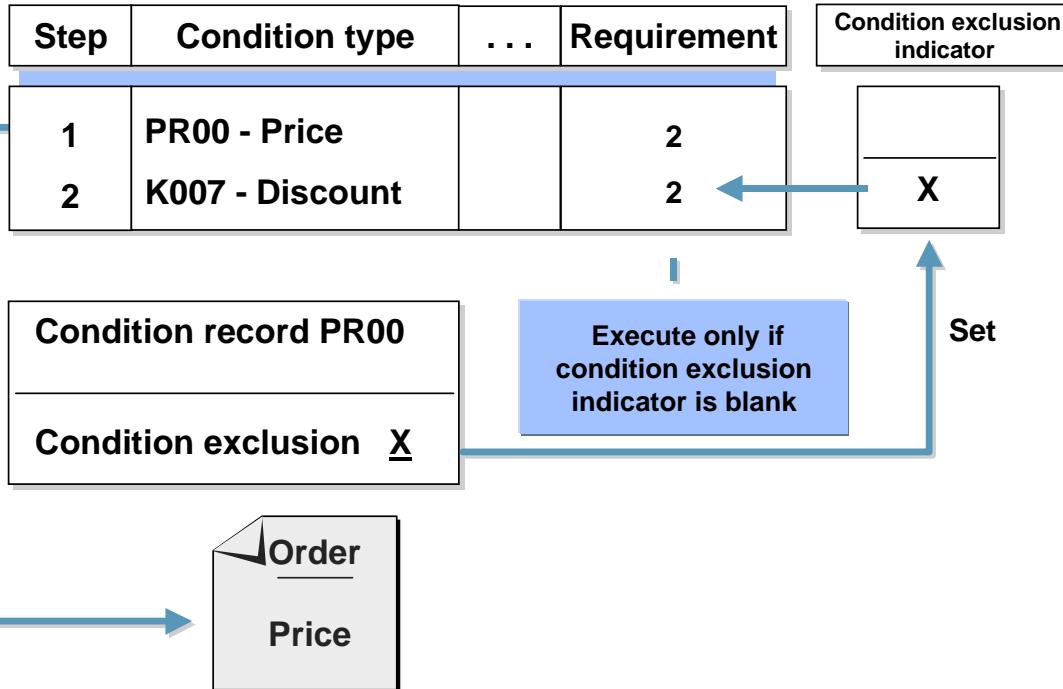


- Once the system finds a valid condition record for an access, it reads the condition record and copies the value that corresponds to the scale into the sales document.
- The whole process is repeated for each condition type until the system has finished the entire pricing procedure.

## Excluding Conditions

SAP

### Pricing procedure

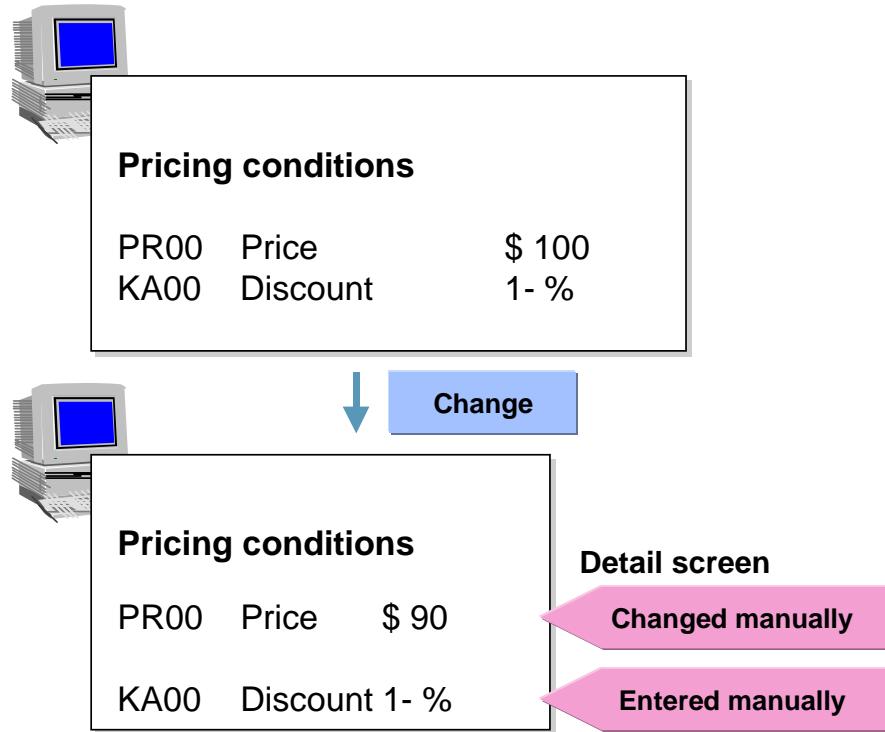


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- Conditions can be linked to requirements in the pricing procedure.
- A requirement can evaluate the condition exclusion indicator and ignore the condition if set.
- The condition exclusion indicator can be set in either the condition type or the condition record.
- You may create your own exclusion indicators and test for their existence in the requirement routines.

## Changing Prices Manually in Documents

SAP

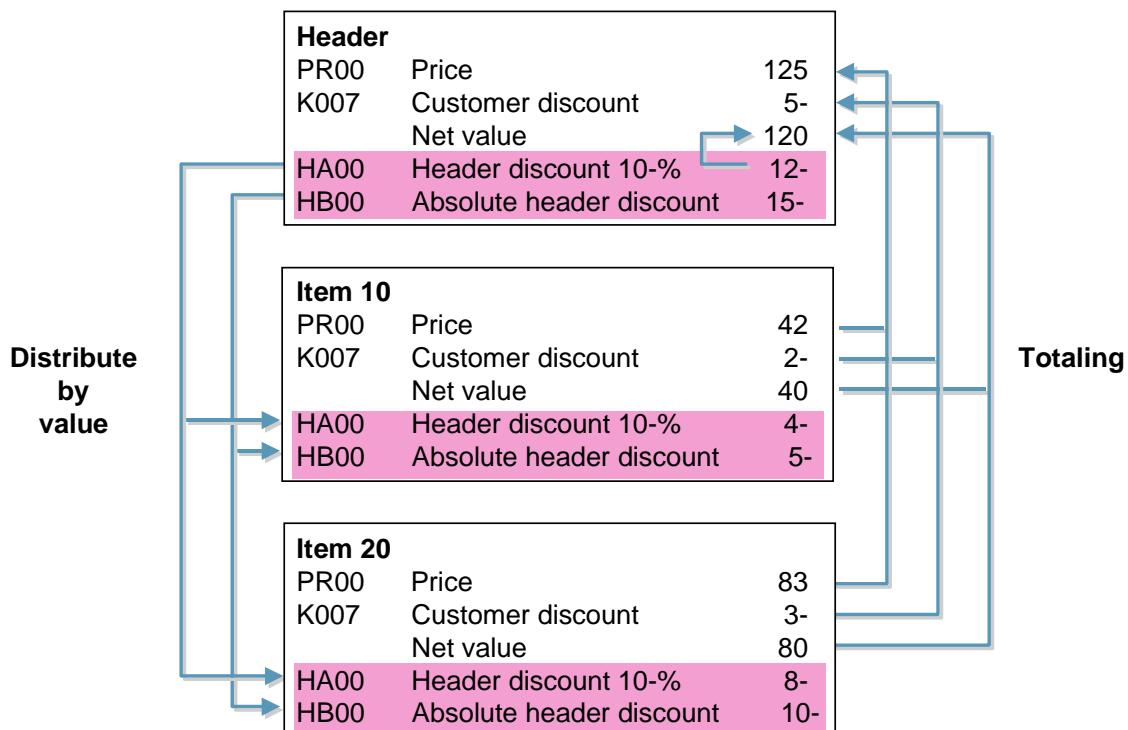


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- The prices, surcharges, and discounts determined automatically by the system can be changed manually and are then marked as such.
- In the condition records, you can specify limits within which a manual change can be made (for example, making a discount which could only be changed within the range of 1% to 3%)
- As well as being determined automatically, conditions can also be entered manually in the sales document. They are marked as having been entered manually.
- You can change or create conditions on the condition screen.
- You can prevent one condition type from being changed manually by making the appropriate settings in customizing.

## Conditions in the Document Header

SAP



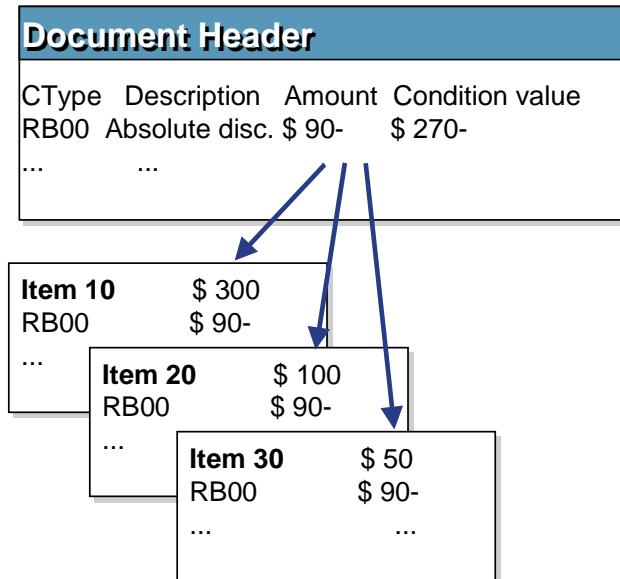
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- Conditions can also be entered at the document header level. These are known as header conditions and are valid for all items.
- These header conditions are automatically distributed among the items based on net value. The basis for distributing the header conditions can be changed in the pricing procedure by selecting the appropriate routine (e.g. weight, volumes) in the AltCBV (alternative formula for condition base value) field.

## Creating Conditions in the Document Header (1)

SAP

1. The **same** value is specified for each item.



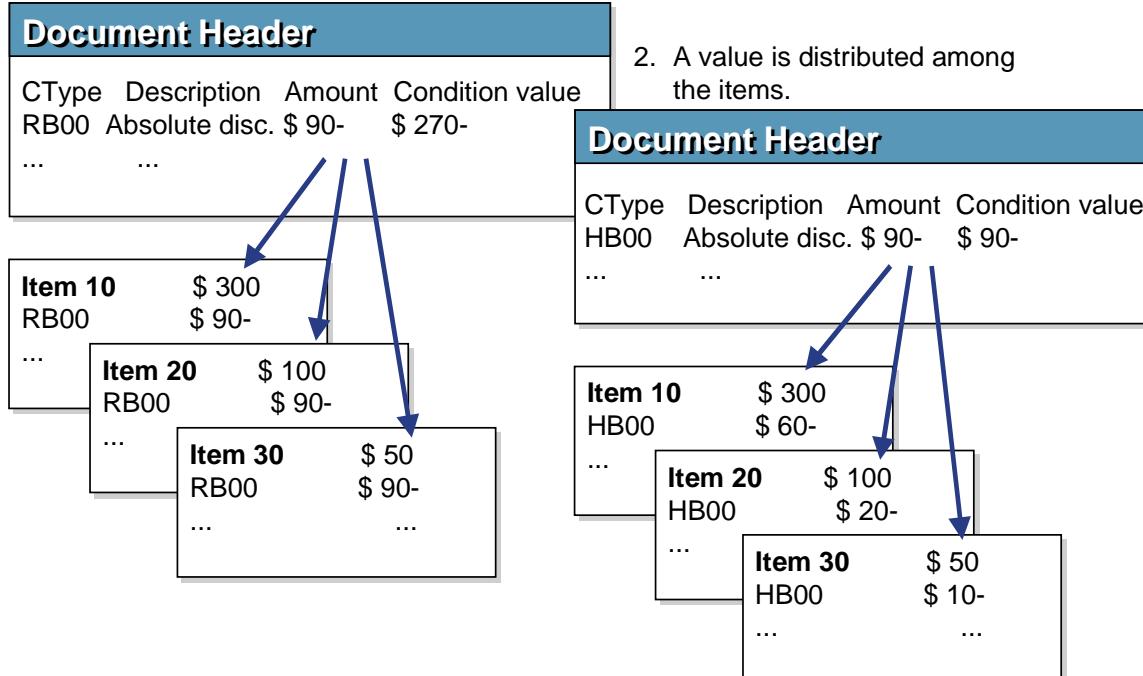
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- In this example, the header condition amount is copied into each item of the order.

## Creating Conditions in the Document Header (2)

SAP

1. The **same** value is specified for each item.

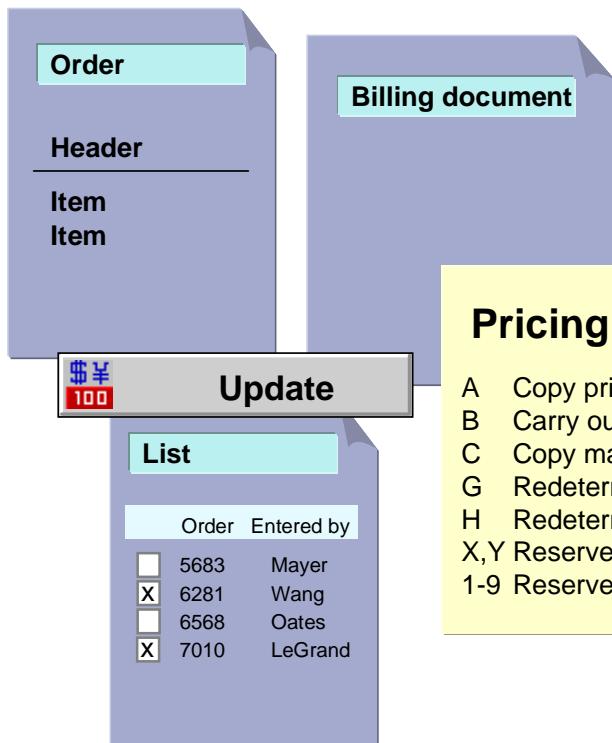


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- In the second example, the header condition amount is distributed among the items based on its portion of the total net value.

# New Pricing and Pricing Types

SAP



## Pricing Type (Extract)

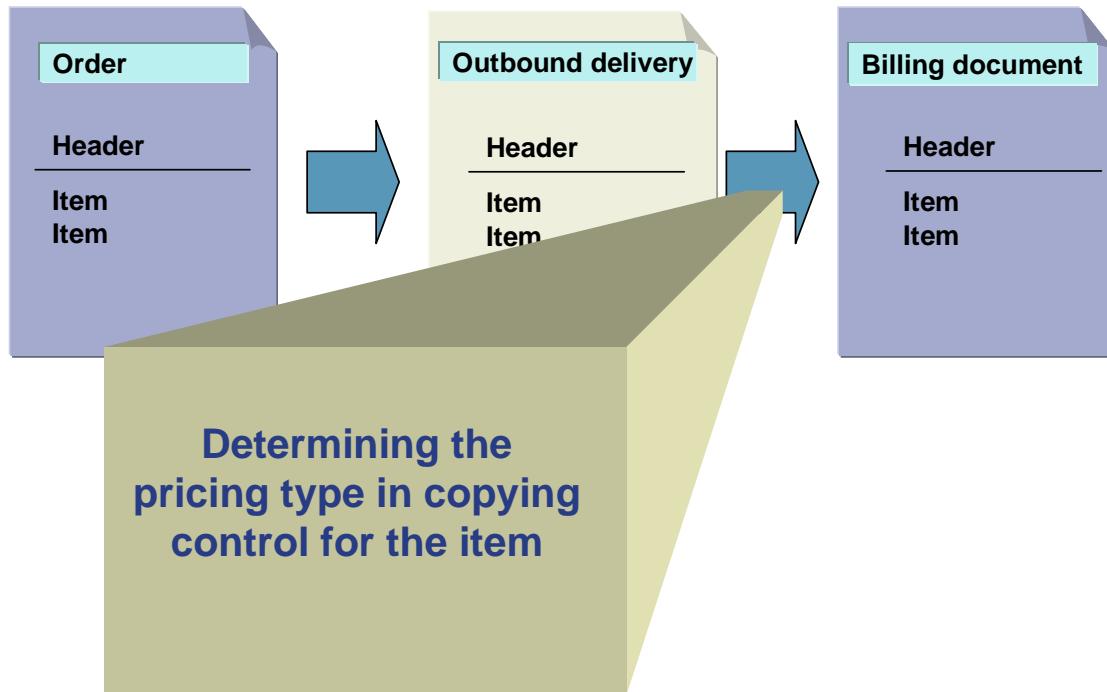
- A Copy pricing elements and update scales
- B Carry out new pricing
- C Copy manual pricing elements
- G Redetermine taxes
- H Redetermine freight conditions
- X,Y Reserved for customer
- 1-9 Reserved for customer

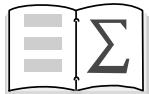
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- You configure the pricing behavior in the **Pricing type**.
- As of Release 4.5, you will have two options for controlling the **New pricing** function in the sales document:
  - **Update prices** on the condition screens is available at header and item level:  
You can choose the pricing type in a dialog box.
  - To use the **new pricing document** function for the sales document (-> *Edit -> New pricing document*), assign a pricing type to the pricing procedure. If you do not maintain an entry, the system uses pricing type **B** (Carry out new pricing).
- These functions are supported for both the sales and billing documents.
- For further information, particularly on the use of customer-specific pricing types, see note 24832 (pricing rules).

# Pricing in the Billing Document

SAP





**You are now able to:**

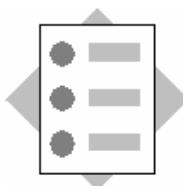
- Use pricing procedures in pricing
- Set up access sequences and assign them to condition types
- Describe the effects of the individual elements in pricing
- Change pricing manually
- Control pricing using the pricing type

# Exercises



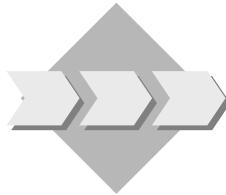
## Unit: Condition Technique in Pricing

### Topic: Excluding Conditions



At the conclusion of these exercises, you will be able to:

- Enter header level conditions and see their effect on the line items of an order



Controlling the pricing process so that it meets your business requirements often requires the use of condition exclusions. You will test a simple exclusion scenario.

1-1 Before viewing a variety of configuration tables in this unit, review the use of these condition technique terms.

1-1-1 In pricing, what object stores the possible condition types and the sequence in which they are executed in the sales document during pricing?

---

---

1-1-2 What criteria influence pricing procedure determination during pricing?

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---

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- 1-1-3 What pricing element is used to control pricing so that you can specify, for example, that a customer-specific price rather than a material price is to be used during automatic pricing?
- 
- 

- 1-2 You will practice changing an existing condition record and see the effect of the condition exclusion field on pricing calculations.

- 1-2-1 Change the customer-specific pricing condition that you created in the exercises for the previous unit for customer T-L67A## by entering a condition exclusion for the net price in the condition record.

- 1-2-2 From the customer purchase order shown below, create a standard sales order.

TELEFAX	
Customer:	<b>T-L67A##</b>
PO number:	<b>##-2-2</b>
Requested delivery date:	<b>In one week</b>
<u>Material</u>	<u>Quantity</u>
<b>T-AT1##</b>	<b>10</b>

- 1-2-3 Check the results of pricing by viewing the pricing condition analysis for the order item. What is different about this order's pricing and the pricing in the orders created earlier?

---

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- 1-2-4 Save the order and record the document number.

---

---

- 1-2-5 Remove the exclusion indicator from the customer-specific price condition record.

# Exercises



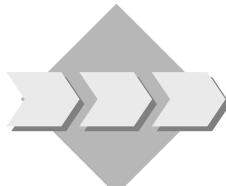
## Unit: Condition Technique in Pricing

### Topic: Adding and Changing Conditions



At the conclusion of these exercises, you will be able to:

- Explain how the system records new order conditions.
- Change existing order conditions.



When necessary, new conditions may be added manually to the sales document or existing conditions may be changed. You will need to verify that the system correctly records these changes in pricing.

1-3 Occasionally, order entry personnel need to manually adjust the pricing on an order. You will add additional conditions manually as well as change automatic conditions at the item level of the order.

1-3-1 From the customer purchase order shown below, create a standard sales order.

TELEFAX	
Customer:	<b>T-L67A##</b>
PO number:	<b>##-2-3</b>
Requested delivery date:	<b>In one week</b>
<u>Material</u>	<u>Quantity</u>
<b>T-AT1##</b>	<b>10</b>

1-3-2 Go to the condition screen for the item and add (manually) a quantity discount of 10- uni per piece. Use condition type RC00.

1-3-3 In the order, change the K007 customer discount manually to a rate of 4% discount.

1-3-4 View the item condition detail screen for K007. How can you tell if the condition has been edited manually?

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1-3-5 Save the order and record the document number.

---

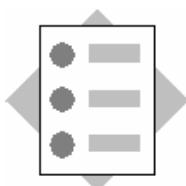
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# Exercises



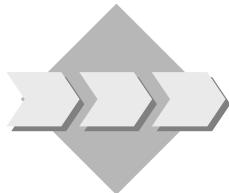
## Unit: Condition Technique in Pricing

### Topic: Conditions in the Document Header



At the conclusion of these exercises, you will be able to:

- Enter header level conditions and see their effect on the line items of an order



When pricing conditions apply to all items of an order, they can be conveniently entered in the header of the order. You will test both the entry of header conditions and how they are distributed among the line items of a sales document.

1-4 Header level pricing conditions apply to all the items in the order. You will create header discounts and view their effect at the item level of the order.

1-4-1 From the customer purchase order shown below, create a standard sales order.

TELEFAX	
Customer:	<b>T-L67A##</b>
PO number:	<b>##-2-4</b>
Requested delivery date:	<b>In one week</b>
<u>Material</u>	<u>Quantity</u>
<b>T-AT1##</b>	<b>10</b>
<b>T-AT2##</b>	<b>10</b>

1-4-2 Go to the header condition screen of the order and create two discounts manually. The first discount is condition type HB00 with a rate of 100-. The second discount is condition type RB00 also with a rate of 100-.

1-4-3 Activate the header pricing. Record the results at item level.

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Click the *Next item* button to see line item 20 without returning to the Overview screen.

1-4-4 Save the order and record the document number.

---

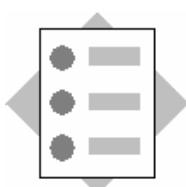
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# Exercises



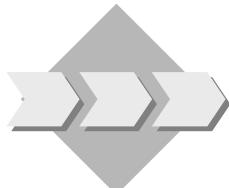
## Unit: Condition Technique in Pricing

### Topic: New Pricing and Pricing Types



At the conclusion of these exercises, you will be able to:

- Check the copy control tables to locate the pricing type field and examine its effect on pricing during billing.



In your business environment, prices for many materials change frequently.

You will need to verify how you can adjust the pricing during billing to meet various requirements.

1-5 When prices or discounts change from the time the order is taken to the time the invoice is created, you require the system to handle the changes automatically in an appropriate way. You will test the effect of pricing types on pricing and view the related tables in Customizing to learn where this function is controlled.

1-5-1 From the customer purchase order shown below, create a standard sales order.

TELEFAX	
Customer:	<b>T-L67A##</b>
PO number:	<b>##-2-5</b>
Requested delivery date:	<b>In one week</b>
<u>Material</u>	<u>Quantity</u>
<b>T-AT1##</b>	<b>10</b>

1-5-2 Enter a manual discount at item level using condition type RC00 for a rate of 100.

- 1-5-3 Save the order and record the document number.

---

---

- 1-5-4 Create an outbound delivery for this order, pick the entire quantity, and then post goods issue. Note the document number. Use shipping point 1200 and a selection date of 10 days from today. When creating the transfer order for picking, choose warehouse number 012.

---

---

- 1-5-5 Create an invoice for this outbound delivery, but **DO NOT SAVE IT**. What billing type is used by default?

---

---

- 1-5-6 Examine the pricing details in the invoice and determine what conditions were used to arrive at the net price. Note the net price.

---

---

- 1-5-7 You will implement new pricing for the item using pricing type B.



You can choose entries for your personal list of values from the variety of pricing types proposed in the dialog box.

This allows the selection screen to be structured more clearly.

- 1-5-8 Examine the pricing details again and note the difference in the condition types that are used now. What is the effect on the net price of the invoice? What caused this to happen? Save the invoice and record the document number.

---

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---

- 1-5-9 In the IMG, view the Pricing type field in the copying control table for billing types F1 and F2. View the entries for these billing documents when they are created with reference to an LF delivery document and an item category of TAN. Record your answers.

---

---

---

---

---

---

# Solutions



## Unit: Condition Technique in Pricing

### Topic: Excluding Conditions

1-1 Before viewing a variety of configuration tables in this unit, review the use of these condition technique terms.

1-1-1 The pricing procedure.

1-1-2 Pricing procedure determination uses:

The sales area (sales organization, distribution channel, and division)

The document pricing procedure code from the document type

The customer pricing procedure code from the customer master record

1-1-3 The access sequence determines the sequence in which the condition records for a condition type are found and read.

1-2 You will practice changing an existing condition record and see the effect of the condition exclusion field on pricing calculations.

1-2-1 Changing customer-specific prices:

*Menu path:*

**Logistics → Sales and Distribution → Master Data → Conditions → Select using condition type → Change**

Choose condition type **PR00**.

Choose the key combination **Customer/Material** with release status.

Select the condition line and click the *Details* button.

Enter **X** in the *Exclusion* field.

Save your changes.

1-2-2 Creating a standard order:

**Menu path:**

**Logistics → Sales and Distribution → Sales → Order → Create**

1-2-3 The conditions after condition PR00, which have requirement 2 assigned to them in the pricing procedure, are not taken into account during pricing. For example, this technique can be used when discounts and surcharges are not supposed to affect the net price.

**Menu path:**

Select the line item and click the *Item conditions* button.

Click the *Analysis* button at the bottom of the screen.

1-2-5 Removing the exclusion indicator:

**Menu path:**

**Logistics → Sales and Distribution → Master Data → Conditions → Select using condition type → Change**

Choose condition type **PR00**.

Choose the key combination **Customer/Material** with release status.

Select the condition line and click the *Details* button.

Remove the exclusion indicator.

Save your changes.

# Solutions



## Unit: Condition Technique in Pricing

### Topic: Adding and Changing Conditions

- 1-3 Occasionally, order entry personnel need to manually adjust the pricing on an order. You will add additional conditions manually as well as change automatic conditions at the item level of the order.

- 1-3-1 Creating a standard order:

*Menu path:*

***Logistics → Sales and Distribution → Sales → Order → Create***

- 1-3-2 Click the *Item overview* button. Select the line item and click the *Item conditions* button.

Click the *Insert line* button.

After entering the proper values, activate the condition by clicking the *Enter* button.

- 1-3-3 Recognition of manually changed values:

Select the K007 line on the item condition screen and click the *Details* button.

On the Item Condition Detail screen, the *Condition control* field is set to **C** if the condition has been changed manually.

# Solutions



## Unit: Condition Technique in Pricing

### Topic: Conditions in the Document Header

- 1-4 Header level pricing conditions apply to all the items in the order. You will create header discounts and view their effect at the item level of the order.

- 1-4-1 Creating a standard order:

*Menu path:*

***Logistics → Sales and Distribution → Sales → Order → Create***

- 1-4-2 Choose the *Display document header details* button at the top right of the screen.

Choose the *Conditions* tab.

Click the *Insert line* button.

Enter the condition types and their rates.

- 1-4-3 Activate the new header conditions by clicking the *Activate* button.

Go back to the Overview screen, then select both line items.

Go to the item condition screen. Absolute discount RB00 was copied directly into each item. Absolute discount HB00 was distributed proportionally between the items because it is a group condition.

# Solutions



## Unit: Condition Technique in Pricing

### Topic: New Pricing and Pricing Types

- 1-5 When prices or discounts change from the time the order is taken to the time the invoice is created, you require the system to handle the changes automatically in an appropriate way. You will test the effect of pricing types on price calculations and view the related configuration tables to learn where this function is controlled.

- 1-5-2 Select the line item and click the Item conditions button.

Click the *Insert line* button.

Enter the condition type and rate.

- 1-5-4 Creating an outbound delivery order, a transfer order to do the picking, and then posting goods issue.

**Menu path:**

***Logistics → Sales and Distribution → Shipping and Transportation  
→ Outbound Delivery → Create → Single Document → With Reference  
to Sales Order***

To pick the required quantity directly from within the delivery document, choose:

***Subsequent functions → Create transfer order***

Enter the warehouse number **012**.

In the *Adopt picking quantity* field, choose function **2** (copy the picking quantity to the delivery and post goods issue).

Save the transfer order.

- 1-5-5 Creating a billing document:

**Menu path:**

***Logistics → Sales and Distribution → Billing → Billing document →  
Create***

Enter your delivery document number and click the *Execute* button.

An F2 invoice document is created. You can see the document type in the title bar.

1-5-6 Select the line item and click the *Item conditions* button.

The condition types PR00, K007, and RC00 are shown.

1-5-7 Select the line item and click the *Item conditions* button.

Click the *Update prices* button at the bottom of the screen.

Choose pricing type B (carry out new pricing).

1-5-8 Select the line item and click the *Item conditions* button.

Only condition types **PR00** and **K007** are used to calculate the net price. The **RC00** discount entered manually **is not used** because pricing type **B** discards manual discounts when recalculating pricing.

1-5-9 Checking the copying control:

*Menu path:*

*Tools → AcceleratedSAP → Customizing → Edit project → SAP Reference IMG → Sales and Distribution → Billing → Billing documents → Maintain copying control for billing documents → Copying control: Delivery to Billing Document*

Select the line with F1 as *Tgt* and LF as *Source* and double click the *Item* node in the overview tree.

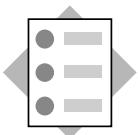
Select item category **TAN** and click the *Details* button.

Pricing type **C** (copy manual pricing elements and redetermine those remaining) is used.

Repeat the process for F2 as *Tgt* and LF as *Source* with item category **TAN**. Pricing type **G** (copy pricing elements unchanged and redetermine taxes) is used.

## Contents:

- **Customizing settings**
- **Condition tables**
- **Access sequences**

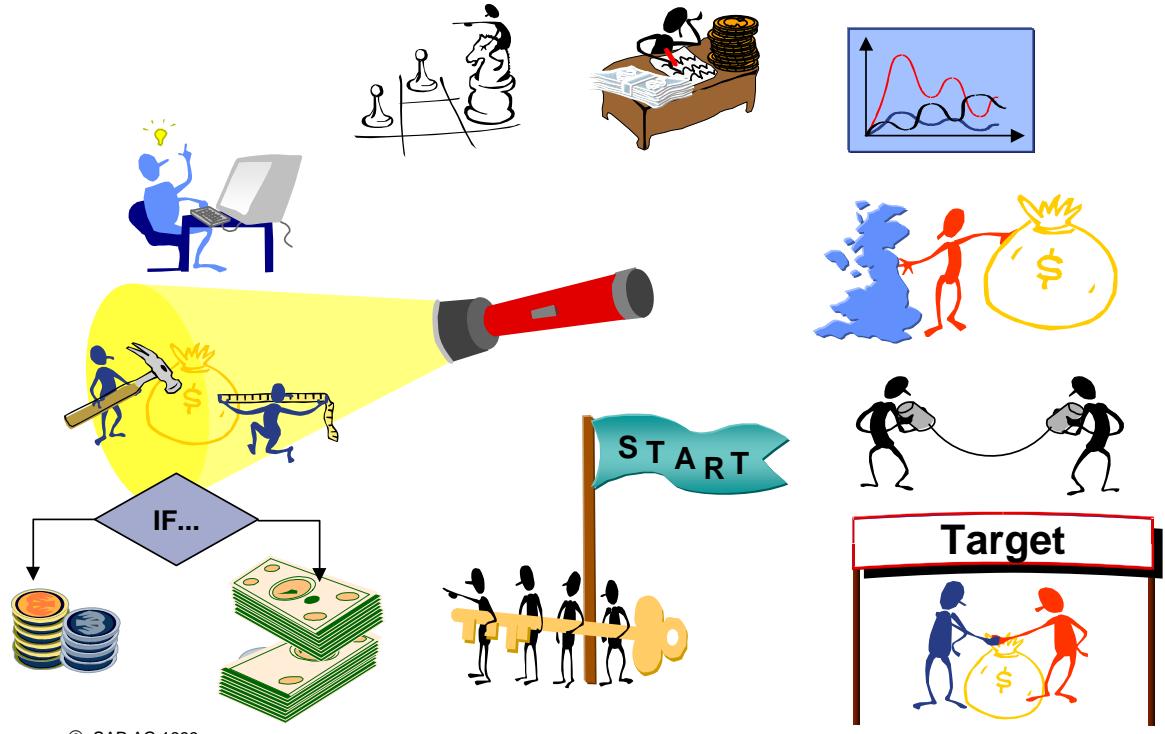


**At the conclusion of this unit, you will be able to:**

- **Change and add to the different pricing elements**
- **Implement Customizing settings for pricing**

# Course Overview Diagram

SAP



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- To meet customer-specific pricing requirements, several new pricing elements must often be created for the various tasks.
- Understanding the purpose and capabilities of each element, as well as the relationships between pricing elements is critical.

## Overview: Pricing Configuration (1)

SAP

### 1. Cond. table

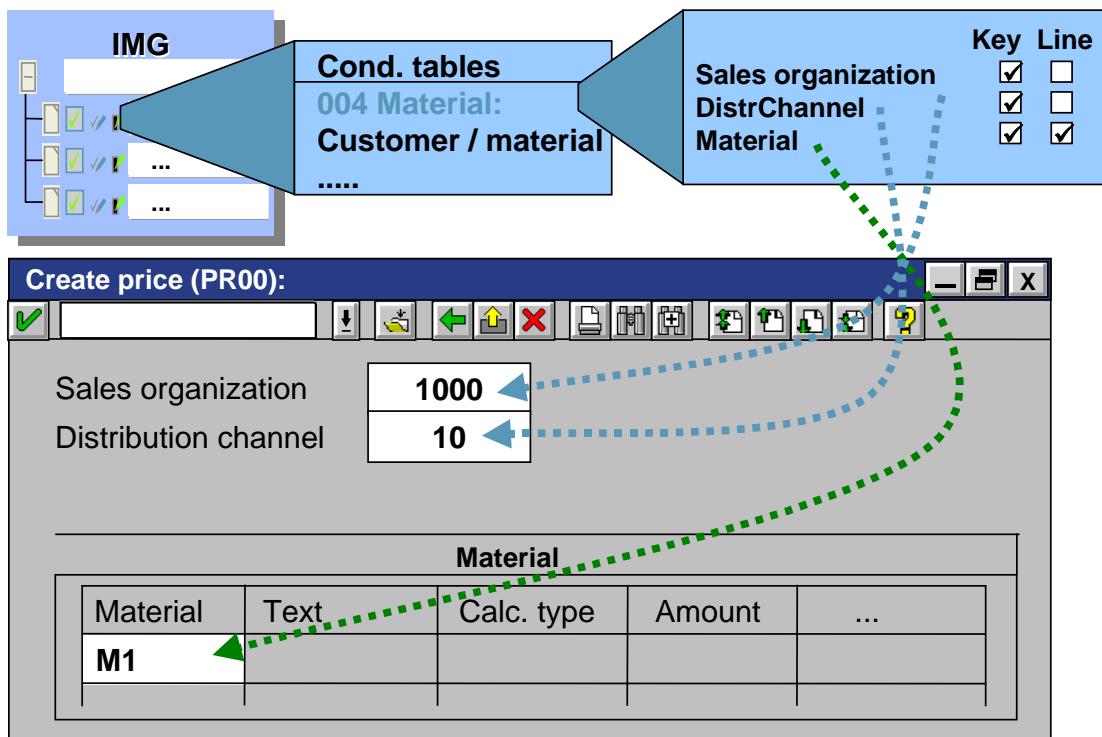
**Material**  
**Customer/material**  
:  
:

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- The condition table contains the keys that can be used for creating dependent condition records.
- You can add your own condition tables using table numbers 501 through 999.

## Condition Tables

SAP



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- Condition records are always created using a specific key.
- Use tables for help in defining the structure of condition record keys.
- The most important fields used in pricing at header and item level are available in the standard system.
- As of R/3 Release 4.5, you can also add non-key fields to the condition tables. This is the case, for example, in condition table 144, which is used within the price book (condition type PBUD).
- The key fields of a condition table must appear at the start of the table, in other words, non-key fields must not appear between any two key fields.

## Overview: Pricing Configuration (2)

SAP



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- An access sequence is composed of one or more condition tables.

## Access sequences

Material

Cust. discount

Price

.

.

.

## Condition tables

1. Customer / material
2. Price list type/currency/material
3. Price list type/currency/material
4. Material

## Requirement

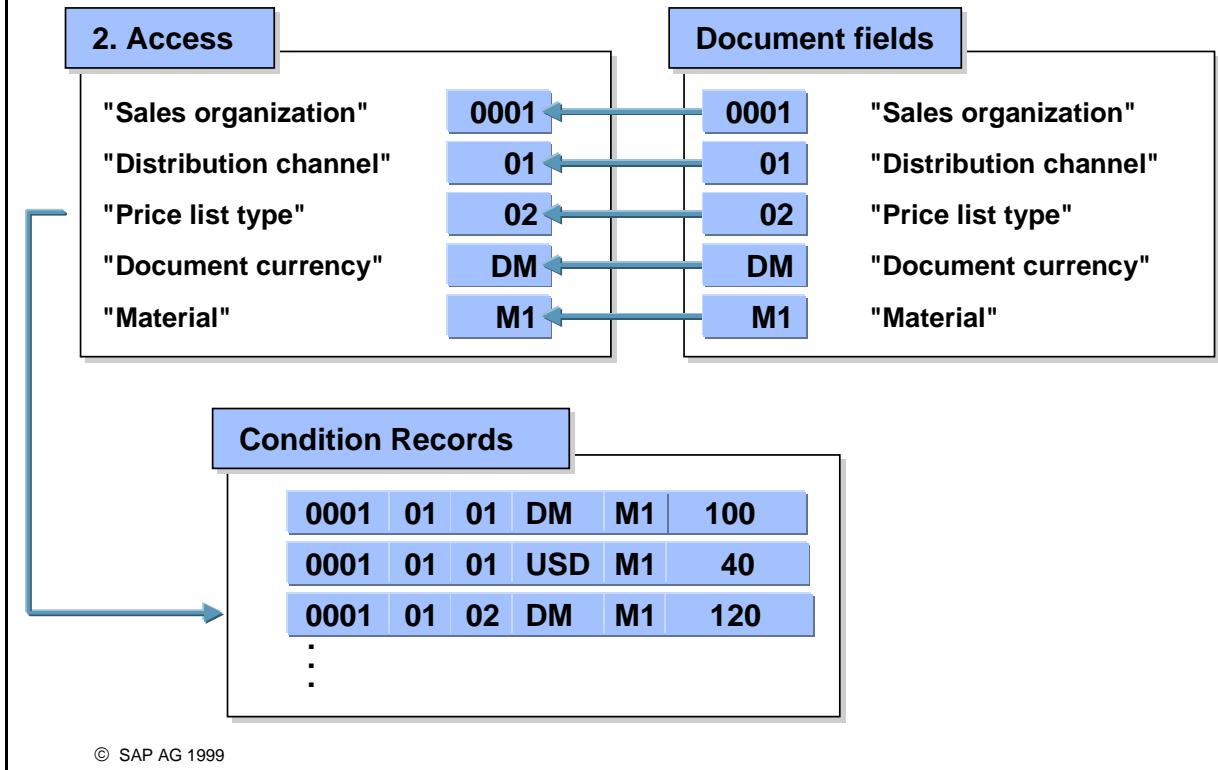
Foreign currency

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- You can define prices, discounts, and surcharges at various levels.
- Each level is defined by a combination of fields or by a field in a condition table.
- Using the access sequence, you can define the sequence of the different levels.  
The system attempts to determine the condition records in the sequence specified.

## Determining Source Fields for Access Sequences

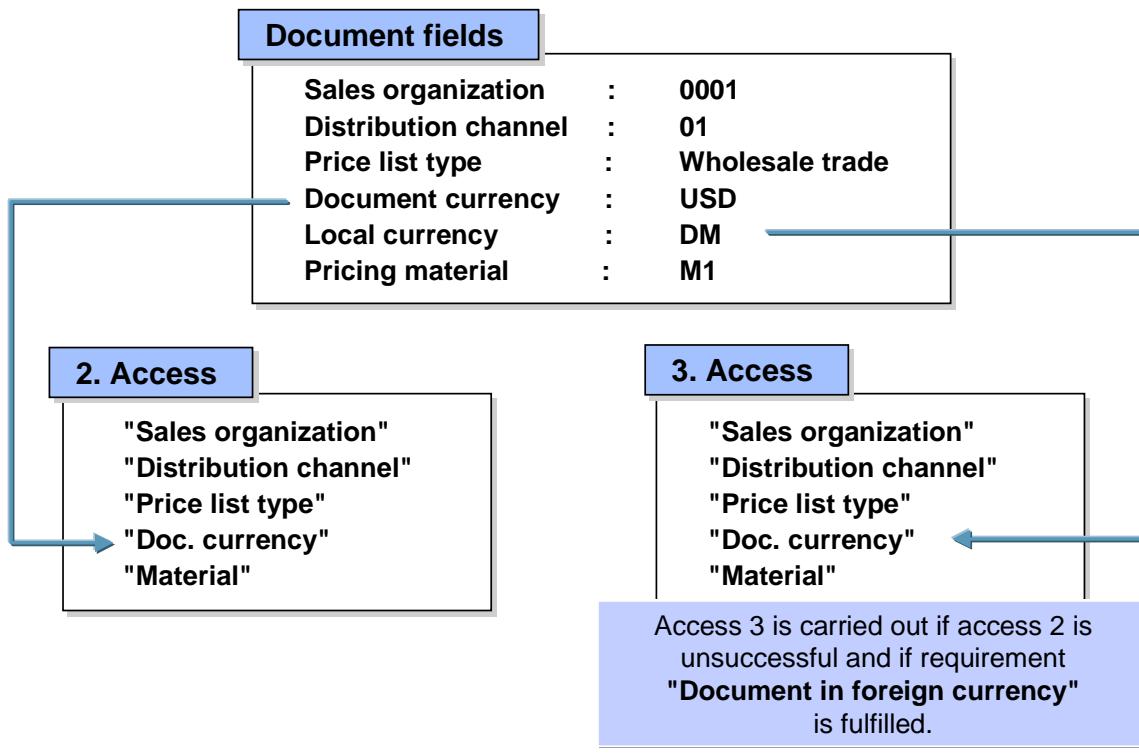
SAP



- Within each access of an access sequence, you can specify the specific document field (source field) with which an access is carried out.
- Examples:
  - Material or pricing material?
  - Document currency or local currency?
  - Sold-to party or ship-to party?

# Access Requirements

SAP

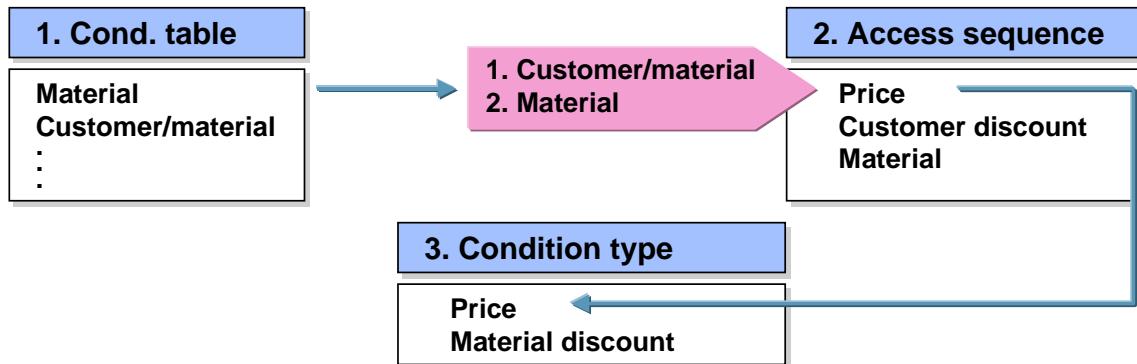


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- Make accesses dependent on requirements to avoid unnecessary accesses. This reduces the system load.

## Overview: Pricing Configuration (3)

SAP

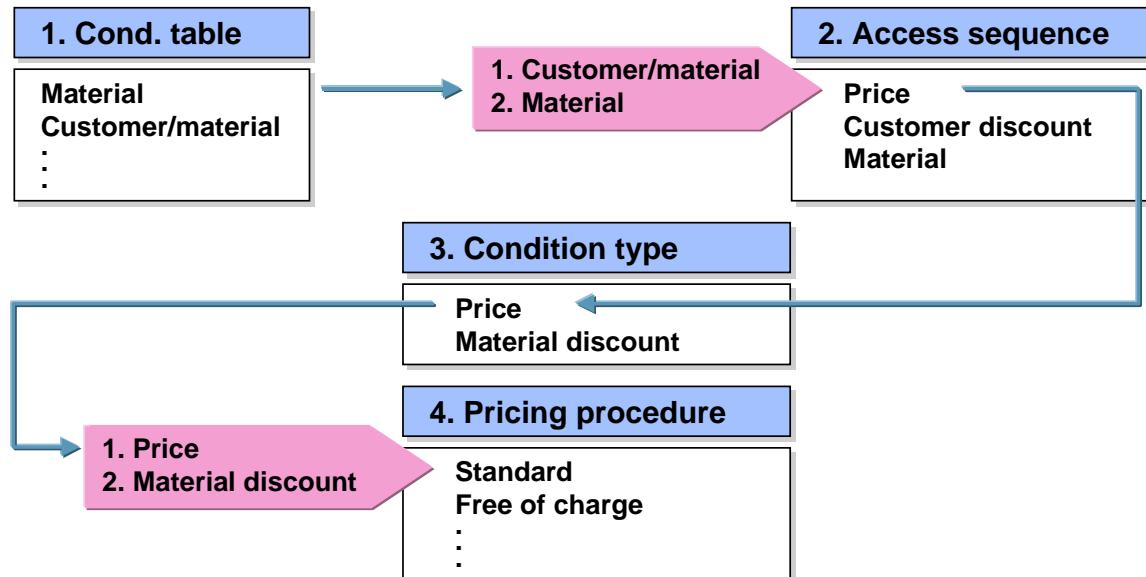


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- After creating the access sequence, it is assigned to a condition type.
- You can also create your own condition types. You determine the characteristics of each condition type, for example, whether it is for surcharges or discounts and whether it should be dependent on values or quantities.

## Overview: Pricing Configuration (4)

SAP

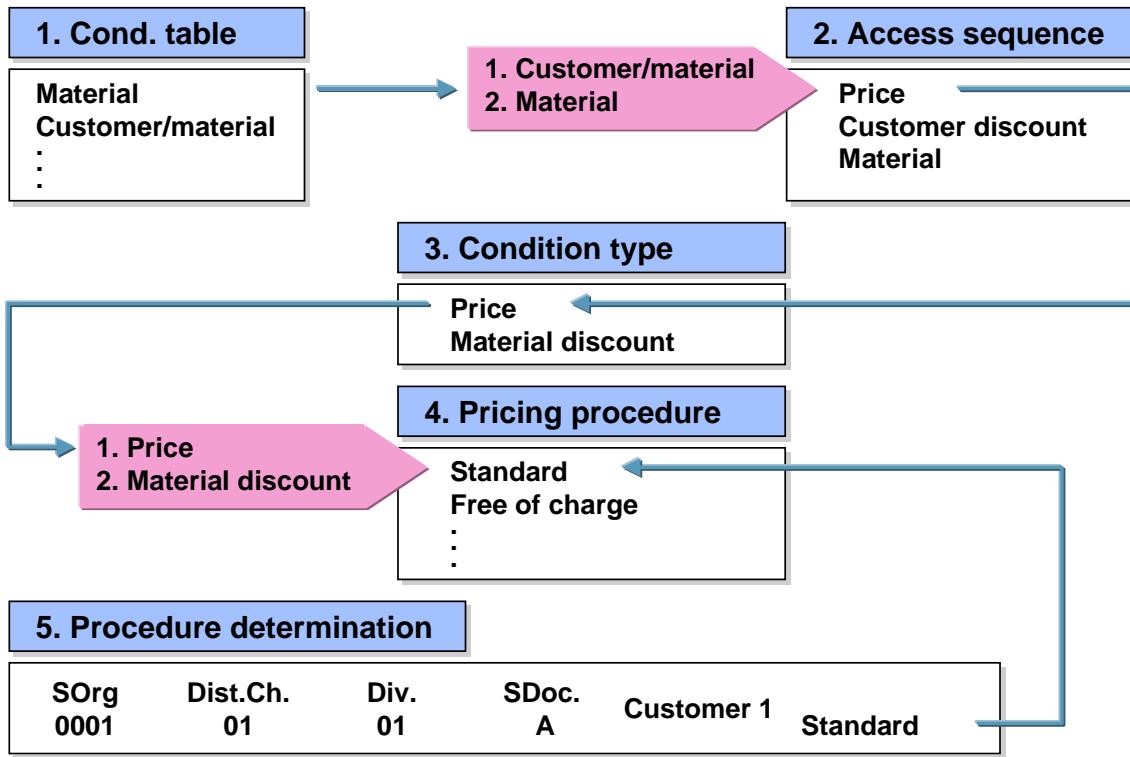


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- The condition types are combined in the required sequence in the pricing procedure.

## Overview: Pricing Configuration (5)

SAP



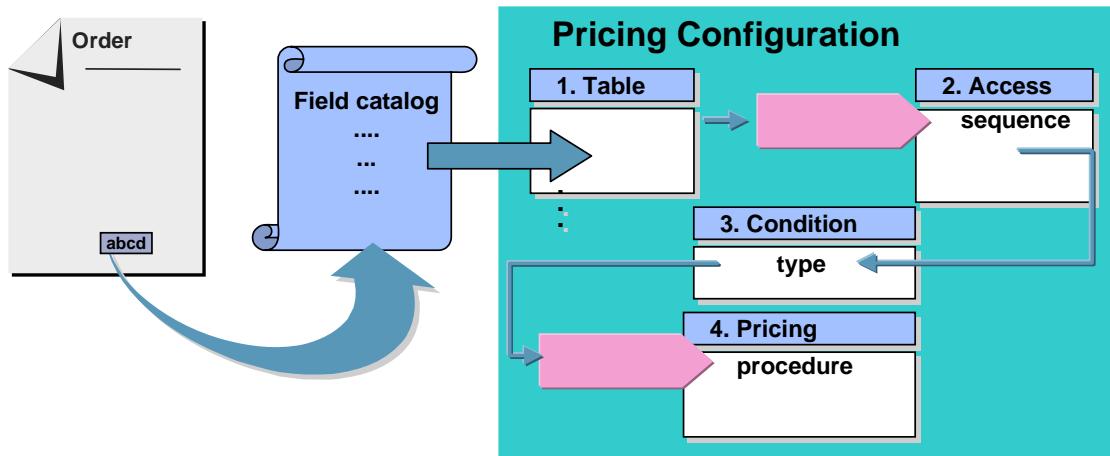
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- Finally, you need to maintain the procedure determination table for the pricing program. The pricing procedure is determined according to:
  - Sales area
  - Customer pricing procedure field in the customer master
  - Document pricing procedure field in the sales document type.

## Adding New Fields for Pricing

SAP

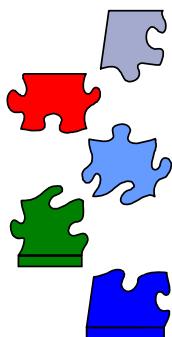
- All fields which are to be used for creating a condition table must be contained in the respective field catalog.
- It is possible to add additional fields to this catalog.



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- Details for adding new pricing fields are available in the IMG documentation. Search for "Create new fields" (using condition technique).

- Solving particular problems requires the creative building and linking of all the pricing components.



- Condition table - defines key fields of the condition records
- Access sequence - contains hierarchy for condition record access
- Condition type - represents properties of the pricing conditions
- Pricing procedure - defines how condition types are linked
- Procedure determination - selects correct pricing procedure



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- Meeting particular pricing requirements may require one or more new pricing components. Understanding the purpose and capabilities of each component, as well as the relationships between pricing components is critical.

- The following elements may be necessary to implement complex scenarios:



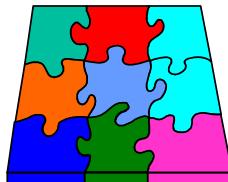
- Adding new fields for pricing - to fit all customer needs



- Requirements - defining dependencies and improving performance

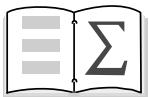


- Formulas - expanding the limits of standard configuration



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- New fields may be added to the pricing field catalog. This allows the new field to be used in the definition of condition tables.
- Requirement routines and formulas provide a method for modifying the standard pricing logic to meet unique user requirements.
- SAP provides tools for creating these pricing elements. These tools are accessed through the IMG.



You are now able to:

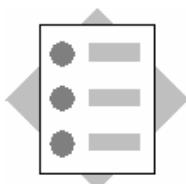
- Change and add to the different pricing elements
- Implement Customizing settings for pricing

# Exercises



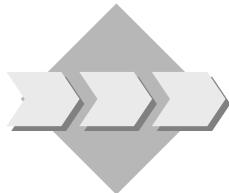
## Unit: Pricing Configuration

### Topic: Pricing Procedure Determination



At the conclusion of these exercises, you will be able to:

- Check all fields that are used for determining the pricing procedure.
- Understand the table for determining the pricing procedure in the IMG.



Your company uses several pricing procedures, depending on the combination of customer, order type, and organizational units. You will need to be able to verify that the proper pricing procedure is used in all cases.

1-1 As a project implementation team member, you must ensure that the correct pricing procedure is being used in all cases. You will access all the relevant data used in this process and use the IMG to view the pricing procedure determination tables.

1-1-1 In the table in exercise 1-1-3, note the value of the Customer pricing procedure field found in the sales area data of the master record for customer T-L67A##.

---

---

1-1-2 In the table in exercise 1-1-3, note the value of the Document pricing procedure field for document type OR. Use the IMG for this purpose.

---

---

1-1-3 What pricing procedure does the system determine if you create a standard order for the following values?

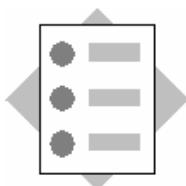
Sales organization	1000
DistrChannel	10
Divis.	00
Document pricing procedure	
Customer pricing procedure	
Pricing procedure for the order	

# Exercises



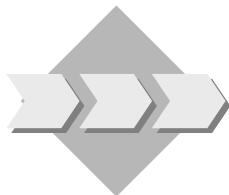
## Unit: Pricing Configuration

### Topic: Controls in Pricing Elements



At the conclusion of these exercises, you will be able to:

- Check the various control fields in each element of the pricing condition technique.
- In order to respond flexibly to the pricing demands of your business, you must be able to readily identify and use the control fields within each pricing element.



1-2 You will view the various control fields in a pricing procedure, condition type and an access sequence to learn what control is possible at this level.

1-2-1 How can you control if a condition is determined during automatic pricing or whether it can only be entered manually?

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---

1-2-2 How can you configure a condition type so that it can no longer be edited manually in the document?

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---

- 1-2-3 How can you configure a condition type during Customizing so that only discount condition records and not those yielding surcharges can be entered?
- 
- 

- 1-2-4 Which access sequence is assigned to condition type PR00?
- 
- 

- 1-2-5 Which condition tables are used by access sequence PR02?
- 
- 

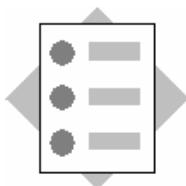
- 1-2-6 What is the difference between the second and third access in the access sequence PR02?
- 
- 
- 
-

# Exercises



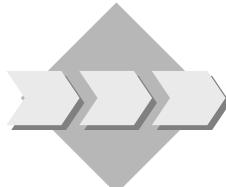
## Unit: Pricing Configuration

### Topic: Comprehensive Pricing Exercise



At the conclusion of these exercises, you will be able to:

- Build and link all the pricing elements into a working pricing model.



Now that you have explored each of the elements of pricing condition technique, you will demonstrate your ability to use these elements to create a working pricing model that will include a new freight condition type.

1-3 Your project team has been asked to create and test a complete pricing strategy for the company. You will create all the necessary pricing elements and ensure that they function properly together. **You must complete this exercise to be able to continue with some of the exercises in later units.**

1-3-1 **Quick review of terms:** In your own words without using any of the written definitions, describe and give an example of the following terms. If you are working with a partner, explain these terms to them.

Condition table:

---

Access sequence:

---

Condition type:

---

Pricing procedure:

---

Condition records:

---

- 1-3-2 **The design phase:** You will be building a pricing strategy from the bottom up. Your management has asked you to implement a new freight charge, which will only be applicable to certain customers.
- 1-3-3 **Condition table:** Create and save a new condition table named 7##. This table can be created **with reference to** the condition table created earlier by the instructor and should include the fields sales organization, incoterms, and destination country. Include your group number in the name of the new condition table.
- 1-3-4 **Generate** the table. If you are warned that a table with the same fields already exists, simply click the *Enter* button to proceed. Use development class Z001 when prompted and save the table.
- 1-3-5 **Access sequence:** Create and save a new access sequence, ZA##, that includes your new condition table 7##.



When creating the access sequence, do not forget to go to the Fields level to generate it correctly.

If you do not perform this step, the system later issues an error message "301 fields missing for access sequence" during the pricing analysis.

- 1-3-6 **Condition type:** Create and save a new condition type, ZF##, by copying condition type KF00. Enter a description, which includes your group number. Change the access sequence used from condition type ZF## to ZA##.
- 1-3-7 **Pricing procedure:** Create and save a new pricing procedure called Z##PRC by copying the existing pricing procedure RVAA01.
- 1-3-8 Add your new condition type ZF## to your new pricing procedure Z##PRC by replacing the KF00 condition type with ZF##. Save the pricing procedure.

- 1-3-9 **Creating a new customer pricing procedure key for your group:** From the table below, find your customer pricing procedure key and create an entry for it in the Customer pricing procedure configuration table.

Group number	CuPP value (customer pricing procedure)
01	A
02	B
03	C
04	D
05	E
06	F
07	G
08	H
09	I
10	J
11	K
12	L
13	M
14	N
15	O
16	P
17	Q
18	R
19	S
20	T

**1-3-10 Pricing procedure determination:** Modify the pricing procedure determination in Customizing to select your new pricing procedure automatically. A new entry must be made for the combination of your sales area, the document pricing procedure key A, and the customer pricing procedure key of your group that you created in exercise 1-3-9 (see table above).

**1-3-11 Changing your customer to use the new pricing procedure:** For customer T-L67A##, change the customer pricing procedure key to the key that you created for your group in exercise 1-3-9.

**1-3-12 Condition records:** Create and save a freight condition record using your ZF## condition type for sales organization 1000, incoterms EXW, and destination country DE. The rate should be 10 uni per KG.

**1-3-13 Testing:** From the customer purchase order shown below, create a standard order.

TELEFAX	
Customer: <b>T-L67A##</b>	
PO number: <b>##-3-3</b>	
Requested delivery date: <b>In one week</b>	
<u>Material</u>	<u>Quantity</u>
<b>T-AT1##</b>	<b>10</b>

If the item condition screen does not show condition type ZF## with the proper values, analyze the problem using the *Analysis* button.

# Solutions



## Unit: Pricing Configuration

### Topic: Pricing Procedure Determination

- 1-1 As a project implementation team member, you must ensure that the correct pricing procedure is being used in all cases. You will access all the relevant data used in this process and use the IMG to view the tables for determining the pricing procedure:

- 1-1-1 Finding the customer pricing procedure:

*Menu path:*

**Logistics → Sales and Distribution → Master Data → Business partners  
→ Customer → Display → Sales and Distribution**

Enter the customer number and the sales area.

Click the *Continue* button.

Choose *Sales area data*.

The *Customer pricing procedure* field is on the *Orders* tab and has a value of **1**.

- 1-1-2 Finding the document pricing procedure:

*Menu path:*

**Tools → Accelerated SAP → Customizing → Edit Project → SAP Reference IMG → Sales and Distribution → Basic Functions → Pricing → Pricing Control → Define and Assign Pricing Procedures**

Choose *Assign document pricing procedures to order types*.

Position the cursor on document type OR.

The *DocPricingProc.* field has a value of **A**.

### 1-1-3 Pricing procedure determination:

Sales organization	1000
DistrChannel	10
Divis.	00
Document pricing procedure	A
Customer pricing procedure	1
Pricing procedure for the order	RVAA01

#### *Menu path:*

*Tools → Accelerated SAP → Customizing → Edit Project → SAP Reference IMG → Sales and Distribution → Basic Functions → Pricing → Pricing Control → Define and Assign Pricing Procedures*

Choose *Define pricing procedure determination*.

Click the *Position* button, then enter the appropriate data using the values in the table above.

Pricing procedure **RVAA01** is determined.

# Solutions



## Unit: Pricing Configuration

### Topic: Controls in Pricing Elements

1-2 You will view the various control fields in a pricing procedure, condition type and an access sequence to learn what control is possible at this level.

1-2-1 In Customizing, when defining the pricing procedure, you can mark a condition type as manual only (Man.). As a result, the condition is not determined automatically during pricing but can only be entered manually.

**Menu path:**

**SAP Reference IMG → Sales and Distribution → Basic Functions  
→ Pricing → Pricing Control → Define and Assign Pricing Procedures**  
Choose *Maintain pricing procedures*.

Select your standard pricing procedure RVAA01 and choose the *Control* node in the overview tree.

1-2-2 During Customizing, you specify how or whether a condition type can be edited manually in the *Changes which can be made* fields.

If the *Manual entries* field is set to **D** (not possible to process manually), then the condition type cannot be manually edited in the sales document.

**Menu path:**

**SAP Reference IMG → Sales and Distribution → Basic Functions  
→ Pricing → Pricing Control → Define Condition types**

Choose *Maintain Condition Types*.

Select the **K007** condition type and click the *Details* button to view the field.

1-2-3 In Customizing for condition types, you can enter an **X** in the *Plus/minus* field to indicate that only discounts can be created with this condition type.

1-2-4 In the details screen of condition type PR00, you see that access sequence **PR02** is assigned to this condition type.

1-2-5 Access sequence PR02 uses condition tables **305**, **306**, and **304**.

***Menu path:***

***SAP Reference IMG → Sales and Distribution → Basic Functions → Pricing → Pricing Control → Define Access Sequences***

Choose *Maintain access sequences*.

Select PR02 and choose the *Accesses* node in the overview tree.

1-2-6 The document fields for the two accesses are different.

In access 20, the document currency (WAERK) is the source field for the access and in access 30, it is the local currency (HWAER).

Also, access 30 is carried out only if there is a foreign currency document. This requirement (3) improves performance by eliminating unnecessary accesses.

***Menu path:***

***Select access 20 and double click the Fields node to view the document fields. Repeat this process for access 30.***

# Solutions



## Unit: Pricing Configuration

### Topic: Comprehensive Pricing Exercise

1-3 Your project team has been asked to create and test a complete pricing strategy for the company. You will create all the necessary pricing elements and ensure that they function properly together. Completion of this exercise is required for some of the exercises in later units.

1-3-1 Condition table: *The definition of the key of the condition record.*

Access sequence: *A search strategy to locate the proper condition record.*

Condition types: *A calculation or formula used for a component of pricing.*

Pricing procedure: *A sequential list of condition types and subtotals.*

Condition records: *The data used by condition types to calculate pricing.*

1-3-3 Creating condition table 7##:

**Menu path:**

**SAP Reference IMG → Sales and Distribution → Basic Functions  
→ Pricing → Pricing Control → Define Condition Tables**

Choose *Create condition tables*.

Enter 7## in the *Table* field and the condition table number created by the instructor in the *Copy from condition* field.

Select *Validity period*.

Choose *Propose/Maintain text* and enter a description including your group number in the appropriate field.

Ensure that the *Sales organization*, *Incoterms*, and *Destination country* fields are selected.

Save your entries.

1-3-4 Click the *Generate* button.

### 1-3-5 Creating access sequence ZA##:

**Menu path:**

**SAP Reference IMG**  **Sales and Distribution**  **Basic Functions**  **Pricing**  
 **Pricing Control**  **Define Access Sequences**

Choose *Maintain access sequences*.

Click the *New entries* button.

Enter access sequence **ZA##** and a name. *Enter*.

Select your access sequence and choose the *Accesses* node in the overview tree.

Click the *New entries* button.

Enter access number **10** and table **7##**. *Enter*.

Select your access and choose the *Fields* node in the overview tree.



If you are warned that no field assignment has been made, simply click the *Enter* button to proceed

Save your entries.

### 1-3-6 Creating condition type ZF##:

**Menu path:**

**SAP Reference IMG** → **Sales and Distribution** → **Basic Functions**  
→ **Pricing** → **Pricing Control** → **Define Condition types**

Choose *Maintain Condition Types*.

Select condition type KF00 and click the *Copy as* button.

On the next screen, change the condition type to **ZF##**, the description to "**Group ## Freight**", and the access sequence to **ZA##**.

Click the *Enter* button to copy the new condition type.

Save the new condition type.

1-3-7 Creating pricing procedure Z##PRC:

*Menu path:*

**SAP Reference IMG → Sales and Distribution → Basic Functions  
→ Pricing → Pricing Control → Define and Assign Pricing Procedures**  
Choose *Maintain pricing procedures*.

Select pricing procedure RVAA01 and click the *Copy as* button.

On the next screen, change the procedure to **Z##PRC** and the description to "**Group ## Procedure**".

Click the *Enter* button.

On the prompt screen that appears next, click the *copy all* button.

1-3-8 Inserting condition type ZF## in pricing procedure Z##PRC:

*Menu path:*

**SAP Reference IMG → Sales and Distribution → Basic Functions  
→ Pricing → Pricing Control → Define and Assign Pricing Procedures**  
Choose *Maintain pricing procedures*.

Select the pricing procedure **Z##PRC** and choose the *Control* node in the overview tree.

Position the cursor on the line **KF00** and overwrite **KF00** with **ZF##**.

Save your pricing procedure.

1-3-9 Creating customer pricing procedures keys:

*Menu path:*

**SAP Reference IMG → Sales and Distribution → Basic Functions  
→ Pricing → Pricing Control → Define and Assign Pricing Procedures**  
Choose *Maintain pricing procedures*.

Choose *Define customer determination procedures*.

Click the *New entries* button.

On the next screen, enter your customer pricing procedure key and a description **GROUP ## CUPP**

Save your entries.

1-3-10 Pricing procedure determination:

**Menu path:**

**SAP Reference IMG → Sales and Distribution → Basic Functions  
→ Pricing → Pricing Control → Define and Assign Pricing Procedures**

Choose *Define pricing procedure determination*.

Click the *New entries* button.

On the next screen, enter the appropriate values and **Z##PRC** in the *Pricing procedure* field. Enter PR00 in the *Condition type* field.

Save your entries.

1-3-11 Changing the customer:

**Menu path:**

**Logistics → Sales and Distribution → Master Data → Business partners  
→ Customer → Change → Sales and Distribution**

Enter the customer number and the sales area.

Click the *Continue* button.

Choose *Sales area data*.

Change the *Customer pricing procedure* field to the value you created in exercise 1-3-9.

1-3-12 Creating condition records:

**Menu path:**

**Logistics → Sales and Distribution → Master Data → Conditions →  
Select using condition type → Create**

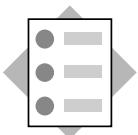
Choose condition type **ZF##**.

Enter the appropriate values and save the condition record.

1-3-13 If the item condition screen does not show condition type ZF## with the proper values, analyze the problem using the *Analysis* button.

## Contents:

- **Using pricing reports**
- **Maintaining conditions using pricing reports**
- **Creating condition records with reference**
- **Change condition records**
- **Copying condition records**
- **Create net price lists**
- **Creating a condition index**
- **Release procedure**
- **Changeable calculation types**
- **Long texts in condition records**

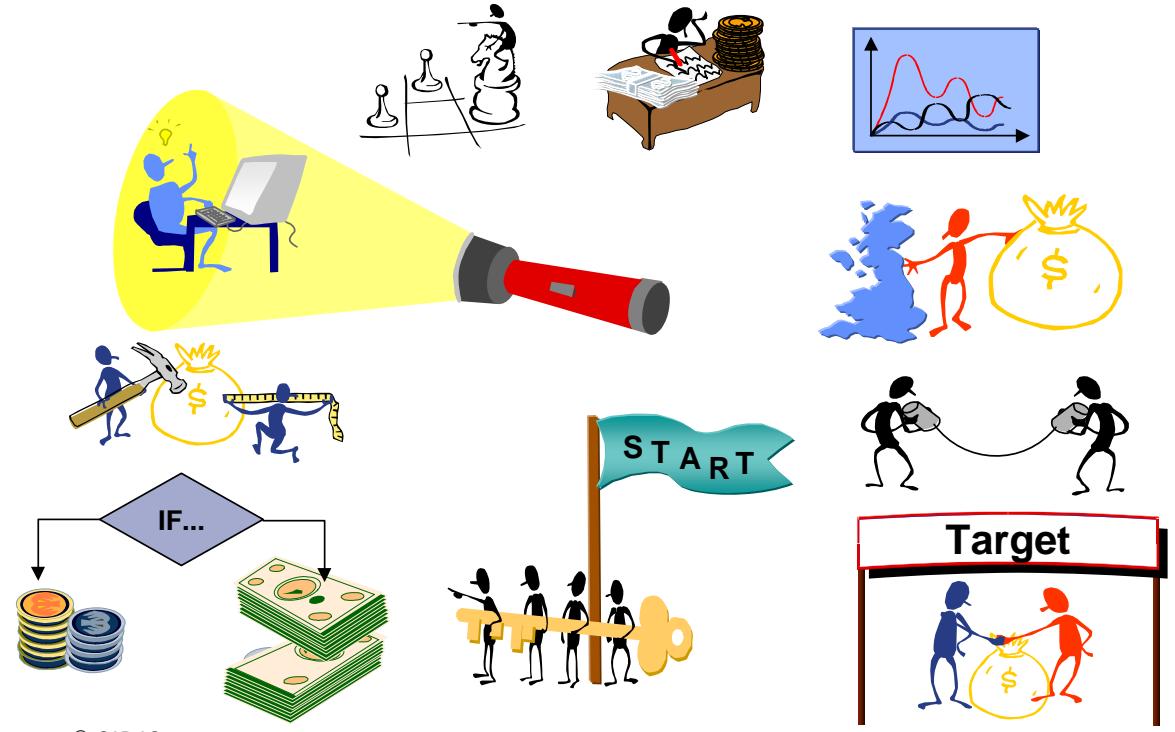


**At the conclusion of this unit, you will be able to:**

- **Create, copy, and change condition records**
- **Create lists of condition records**
- **Create net price lists**
- **Use a condition index to find condition records**
- **Use the release procedure for condition records**

# Course Overview Diagram

SAP





- In addition to all other master data, the condition records of the departments responsible must also be maintained.
- These tasks include changing prices, copying condition records, creating pricing reports and net price lists, for example.
- The R/3 System provides the end user with tools for carrying out these tasks.

## Pricing Reports - Customer-Specific Prices

SAP

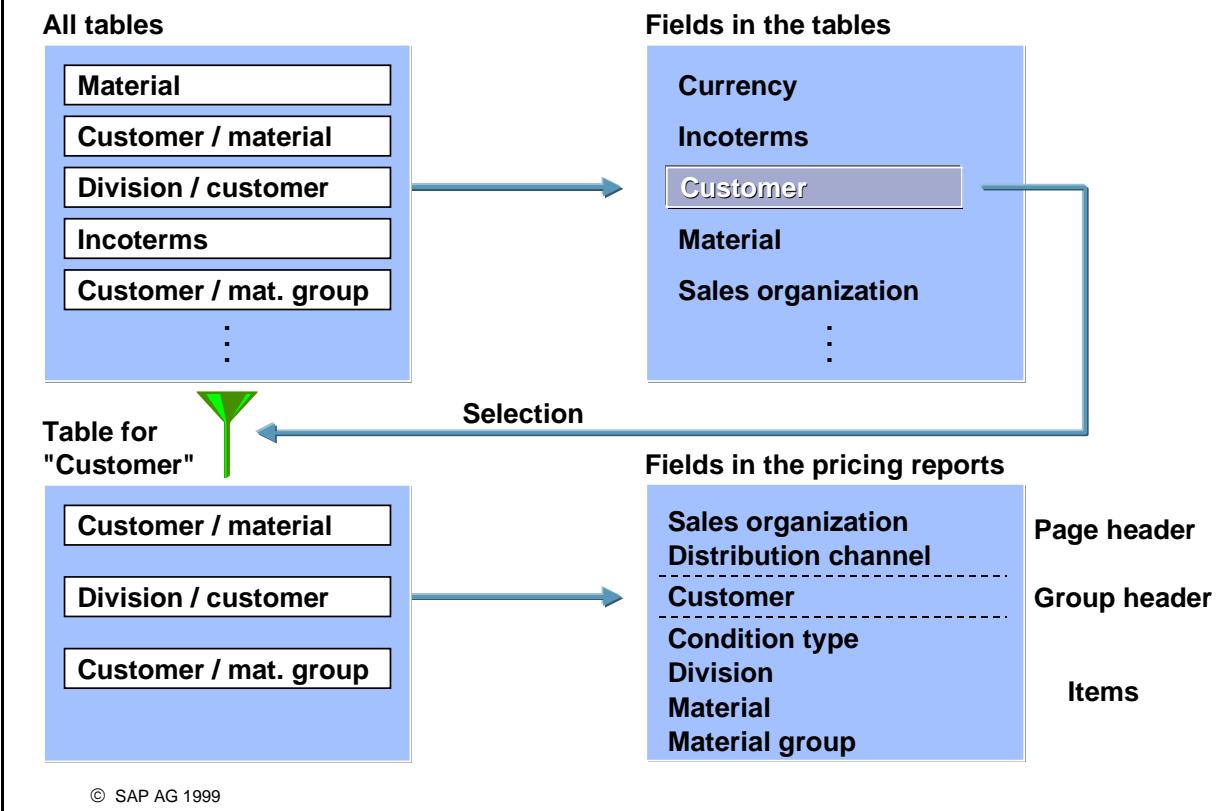
Customer-specific prices						
List	Edit	Goto	System	Help		
Sales organization .....	0001	North Germany				
Distribution channel	01	Rep. sales call				
Customer						
Cond. type	Material	Amount	Unit	per	UoM	Valid to
<b>Customer A</b>						
PR00	Mat.	10	\$	1	pc	10.01.1998
K005	Mat. 2	20-	\$	1	kg	15.01.1998
PR00	Mat. 3	15	\$	1	pc	15.01.1998
<b>Customer B</b>						
PR00	Mat. 1	9	\$	1	pc	10.01.1998
	.	.	.	.	.	.
	.	.	.	.	.	.

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- For an overview of existing condition records, you can generate a list of conditions for analysis. You might ask:
  - What customer-specific price agreements were made within a certain period?
  - What Incoterm condition records are stored in the system?
  - What price lists were created with scale prices?
- The layout of the lists and what condition records are reported is set in Customizing.

## Pricing Reports - Tables

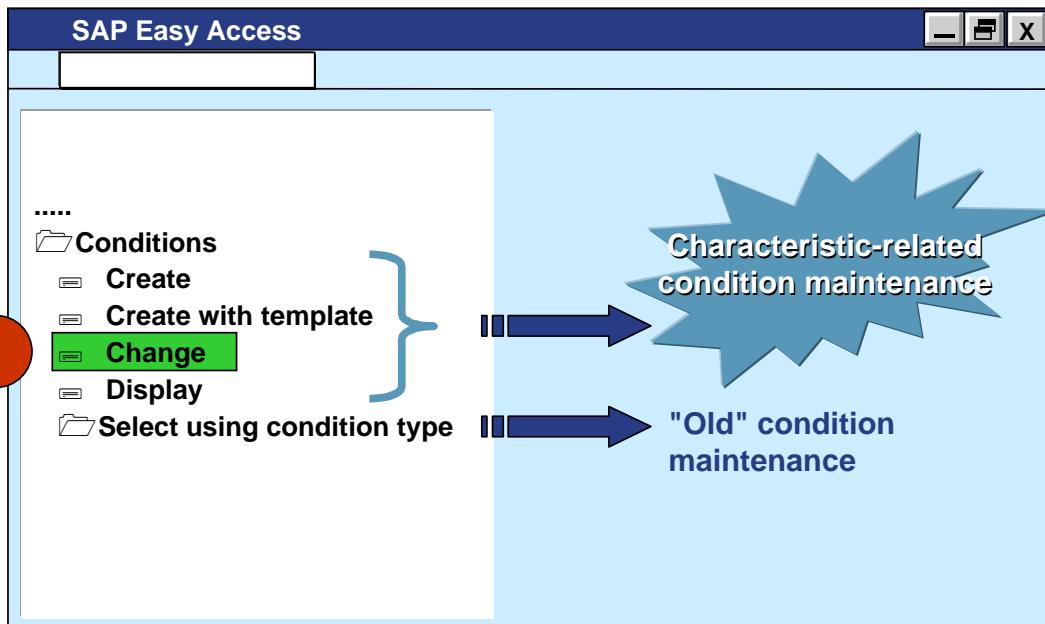
SAP



- When creating a new program for pricing reports, you first decide in which views you want to analyze the condition records. You do this by selecting specific fields from the existing condition tables.
- Depending on which fields are selected, the system will generate a list of tables, which contain at least one of the selected fields. From this list of tables, select which specific tables will appear in the report.
- The list layout is specified by positioning and sorting the fields which appear in the selected tables in one of three report sections:
  - Page header - a page break occurs when a value changes.
  - Group header - a new line heading is generated for each table analyzed.
  - Items - detailed record information.

# Maintaining Conditions Using Pricing Reports (1)

SAP

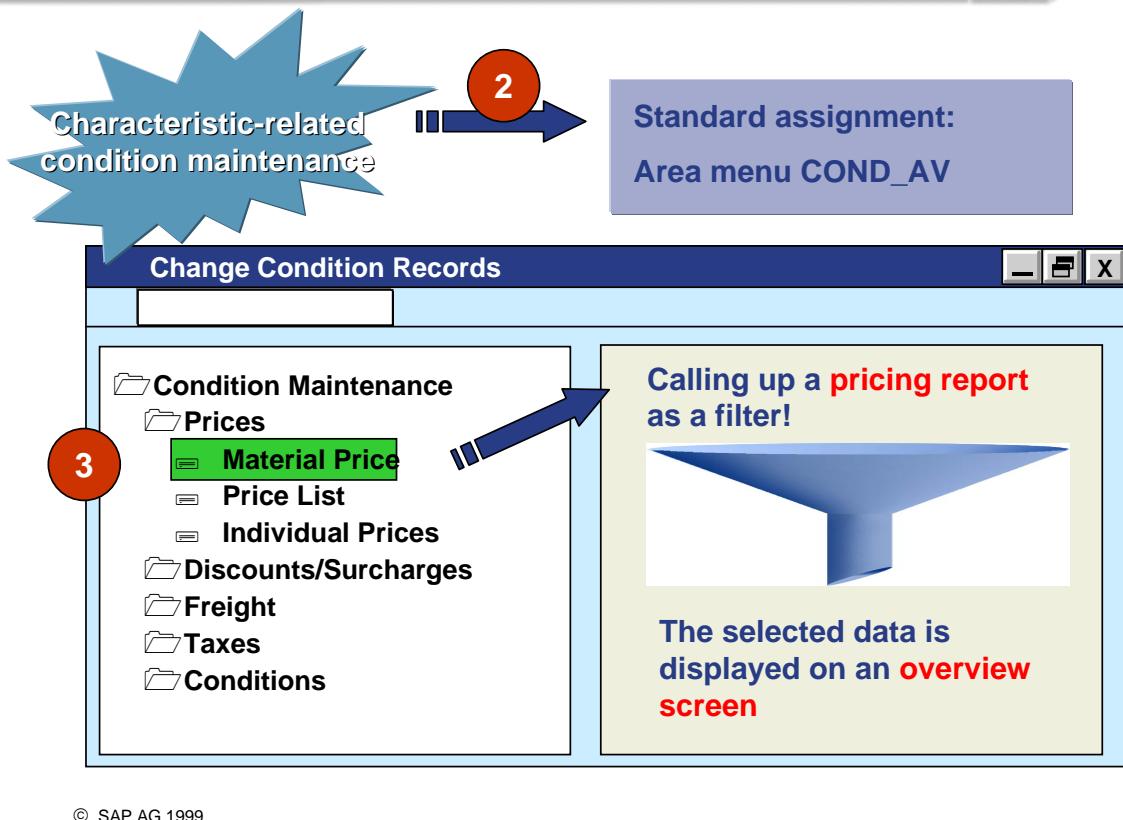


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- Condition maintenance has been provided with a **new maintenance interface** for Release 4.6A.
- The new interface allows mass maintenance of conditions based on characteristics (e.g. for the customers).
- This means that condition records can now be maintained **across all condition types and condition tables**. You will, for example, be able to display and maintain the material prices as well as the discounts and surcharges for a customer in one step.
- You can also call up the previous maintenance transaction for conditions by choosing *Select using condition type*.

## Maintaining Conditions Using Pricing Reports (2)

SAP



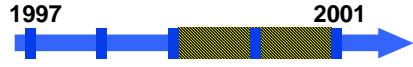
- The new condition maintenance function **can be configured using area menus**.
- The standard area menu for condition maintenance is **COND\_AV**.
- A user-specific area menu can be assigned by choosing the menu option *Environment -> Assignment Area Menu*.
- These **user-specific area menus** can be created using transaction SE43, e.g. by copying the user menu **COND\_AV**, and adapted to meet specific requirements.

## Creating Condition Records with Reference

SAP

<b>Customer:</b> C1
<b>Material:</b> M1
<b>PR00:</b> 20 \$
<b>Validity period:</b>


*Create with template  
(Specify source records)*

<b>Customer:</b> C1
<b>Material:</b> M1
<b>PR00:</b> 25 \$
<b>Validity period:</b>


*Specify new  
validity period  
of the rate, other data*

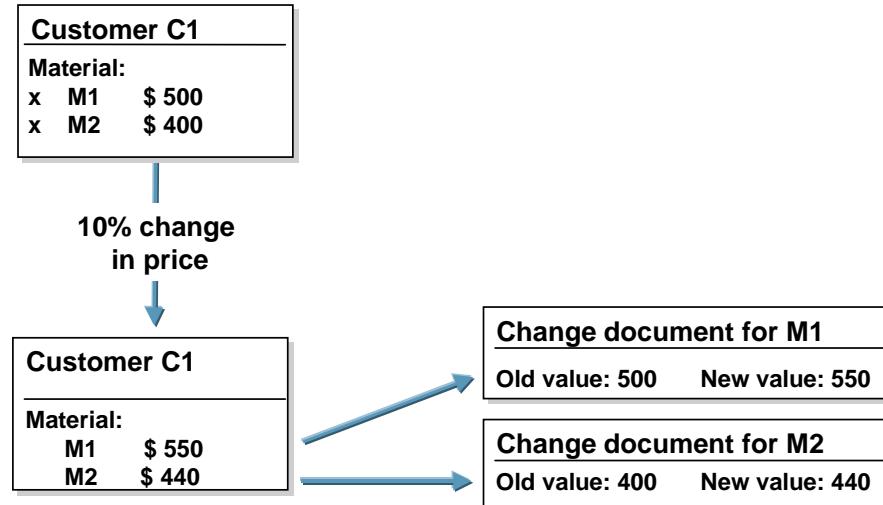
*Save  
(new records created)*

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- New condition records can be created with reference to existing condition records.
- During the process, changes can be made to the rate, validity period, and additional sales data for the newly created records.
- This function provides an efficient method for updating condition records simultaneously.

## Change Condition Records

SAP

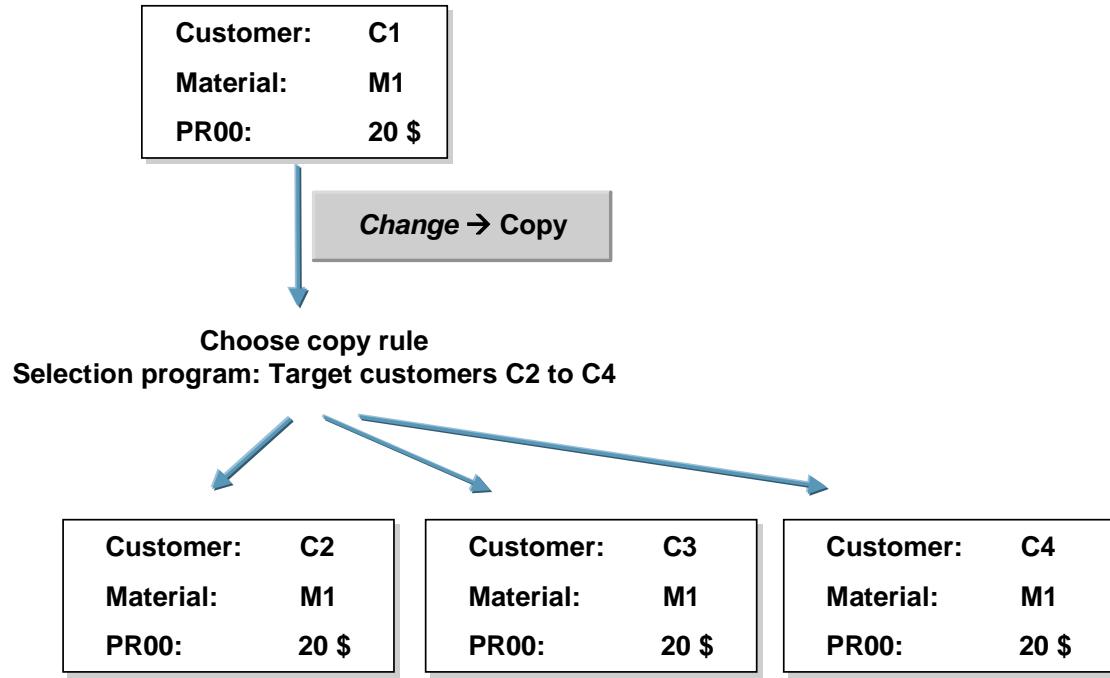


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- Individual condition records can be maintained manually.
- The price change function allows you to maintain multiple condition records simultaneously.
- Use the change documents to review and monitor changes made to condition records.

## Copying Condition Records

SAP

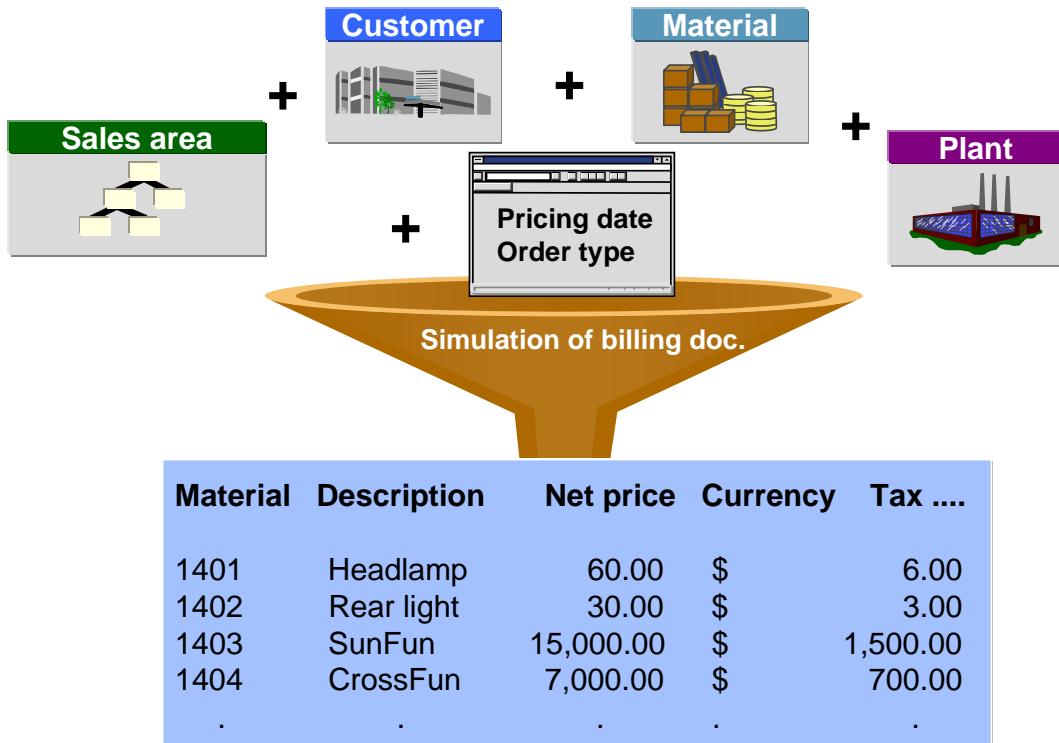


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- Multiple condition records can be created by copying an existing condition record.
- When copying, you may select from a range of copying rules. If, for example, you are copying a customer-specific price condition record, the standard system offers two possibilities:
  - Create the target conditions over a specified range of customer numbers.
  - Create the target conditions over a specified range of material numbers.
- Copying rules are maintained in Customizing and you may create your own.

## Net Price List

SAP

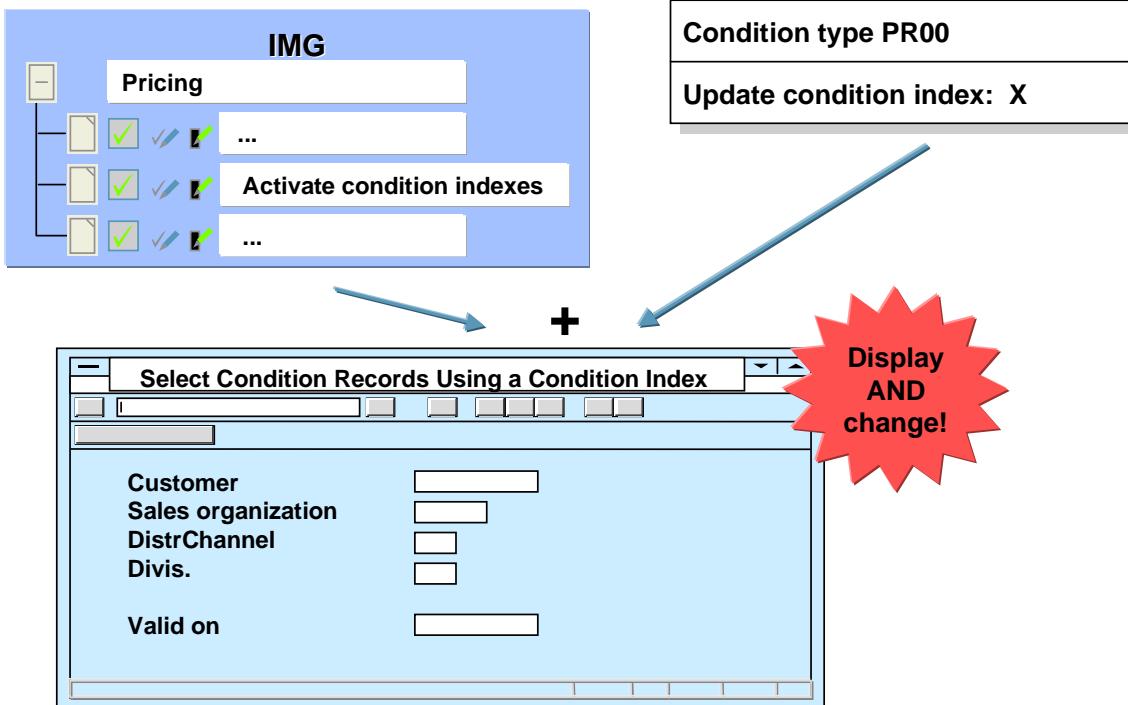


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- The net price list offers the option of creating price information for a customer on a selected quantity of materials.
- The net prices are determined by simulating a billing document.
- Using the ABAP list viewer is a simple way of creating customer-specific display variants. All fields in the VBRP table are available for this purpose.

# Condition Indexes

SAP

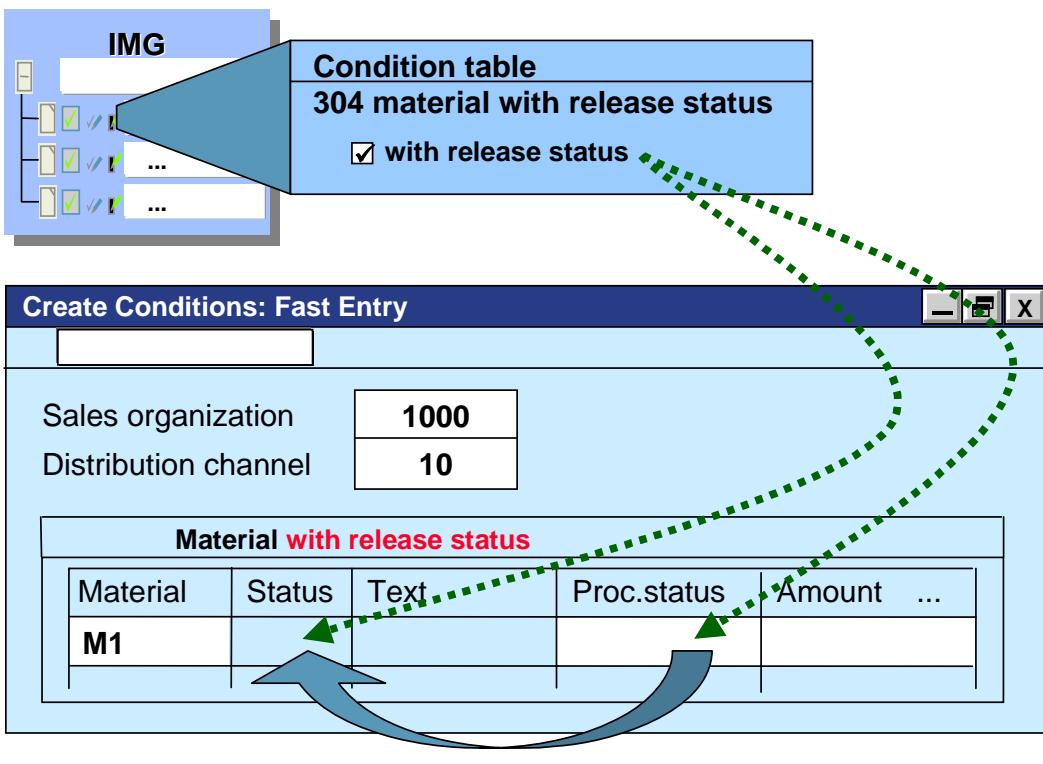


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- You can create and use condition indexes to search for condition records that were created for a variety of condition types and condition tables.
- For example, you want to see all condition records that apply to a particular customer or product.
- The activation function displays a list of all available condition indexes and indicates which are active. The system can use a condition index only when it is activated.
- Before you can use the indexes that are delivered in the standard version, you must first activate them in Customizing for sales.
- However, if you create your own indexes, the system automatically activates each new index when you generate it. In addition, you must specify an update requirement for each condition index.
- You can specify for each condition type you use whether the system updates the condition indexes when you post condition records for the corresponding condition type.

## Release Procedure for Conditions

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- You can allow a **release procedure to be used** when a **condition table is created**, by selecting the *With release status* checkbox.
- This adds the two following fields to the condition table automatically:
  - KFRST Release status as last key field
  - KBSTAT Processing status as a field of the variable data part (non-key field)
- The **release status** is predefined. At present the following statuses are defined:
  - released
  - blocked
  - released for price simulation (net price list)
  - released for planning and price simulation (planning in CO-PA)
- The release status is set indirectly by defining a **processing status** in Customizing for pricing and assigning a release status to it.
- *Business Transaction Event 00503303 Maintain Conditions: Transfers* is available for defining individual processing logic for the processing status.
- You can also convert old condition records without release indicators to new condition records with release indicators. A model is provided for this purpose.

## Changeable Calculation Types

SAP

Create Conditions: Fast Entry

Sales organization	1000
Distribution channel	10
Customer	47111

**Customer / material**

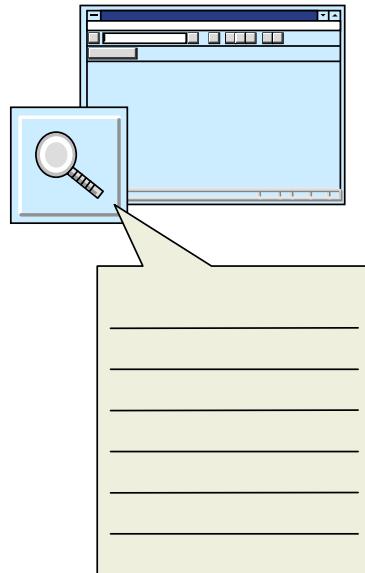
Material	Text	Calc. type	Amount	...
M1	Hard drive	C	249	\$ / PC
M2	Hard drive	A	10	%

The calculation type can now be selected when creating a condition record for the first time

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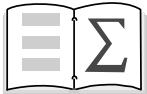
- The calculation type for a condition type is defined in Customizing. This calculation type determines how prices or discounts and surcharges are calculated for a condition.
- Before Release 4.6, this indicator was copied directly to the condition record.
- When creating new condition records, you can now select a calculation type that differs from the one set in Customizing.

- **Can be maintained for condition records**
- **Can be maintained for agreements**
  - Promotion
  - Sales deal
  - Rebate agreements



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- You can maintain long texts in the condition records for pricing and agreements (rebates, sales deals, and promotions).
- These provide information about:
  - Creating condition records
  - Approvals
  - Invalidity
- If required, long texts in the rebate agreement can be copied to the documents (for example, to the credit memo request for rebate payments and from there to the rebate credit memo).
- However, you cannot copy the pricing texts to the documents.
- Texts are not copied when you create condition records with reference.



You are now able to:

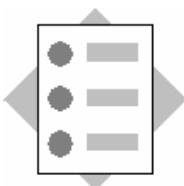
- Create, copy, and change condition records
- Create lists of condition records
- Create net price lists
- Use a condition index to find condition records
- Use the release procedure for condition records

# Exercises



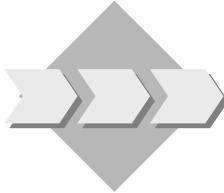
## Unit: Working with Condition Records

### Topic: Maintaining Conditions Using Pricing Reports



At the conclusion of these exercises, you will be able to:

- Adjust the condition maintenance to suit individual user needs via pricing reports with configurable area menus.



To simplify the condition maintenance for certain groups of customers, provide colleagues involved with an area menu, which allows them to maintain all conditions for the selected customers at once "at the touch of a button".

1-1 The default area menu for condition maintenance via pricing reports is area menu COND\_AV. You will add your own nodes to the overview tree at the user level in this area menu.

1-1-1 Determine first which pricing report is assigned to the *Conditions → By customer* node in the COND\_AV area menu.



You can maintain area menus by choosing:

***Tools → ABAP Workbench → Development → Other Tools → Area Menus***

- 1-1-2 Create a variant called "*Customer ##*" for the report found and enter the following selection data in its selection screen:

Sales organization	1000
DistrChannel	10
Customer number	T-L67A## and T-L67B##



You can create variants in Reporting.  
(System → Services → Reporting)

- 1-1-3 Create your own area menu called *ZZCOND\_##* with the description *Customer group ##*.  
Insert a *My customers* node to which you will assign the variants created in activity 1-1-2 for the pricing report in activity 1-1-1.  
Save your area menu as a local object.
- 1-1-4 Assign the area menu *ZZCOND\_##* that you just created to your user *Lo620-##*.



You can assign the area menu by maintaining the conditions and by choosing  
Environment → Assignment Area Menu.

Note: A newly assigned area menu only takes effect when you return to the SAP Easy Access overview tree and call up condition maintenance again.

- 1-1-5 The standard area menu for maintaining conditions is no longer displayed.  
To make this and your own area menu available, you must also assign area menu *COND\_AV* to your user, *Lo620-##*.



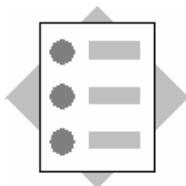
If you are assigning several area menus, you can use the *Number* field to control the display order.

# Exercises



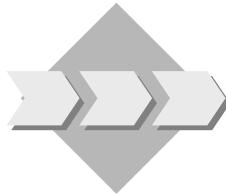
## Unit: Working with Condition Records

### Topic: Creating Condition Records with Reference



At the conclusion of these exercises, you will be able to:

- Create condition records for new validity periods on the basis of existing condition records.



In many cases, entire groups of prices expire after a certain time, with the result that new records must be created to replace them. You will learn how to create new condition records with validity dates in the future that can be used automatically at the start of the validity period.

1-2 In preparation for a new pricing strategy, which will take effect next year, you will create a new pricing condition from existing records.

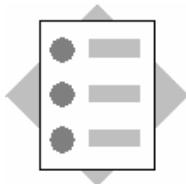
1-2-1 Create a new pricing condition with reference to the material price condition records for material T-AT2## and material T-AT3##.  
Change the validity period for the new records to be for 1 year, beginning January of next year.

# Exercises



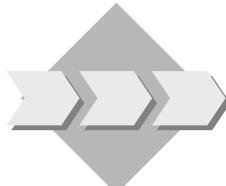
## Unit: Working with Condition Records

### Topic: Mass Change for Conditions



At the conclusion of these exercises, you will be able to:

- Change multiple condition records simultaneously.



Changing several condition rates at once is a practical and efficient way of managing condition records. You will be testing this function in preparation for implementing pricing.

1-3 Using the price change function, you will implement a price increase for the new condition records created earlier.

1-3-1 Select the condition records created in exercise 1-1-1 and increase the price by 5%. Save the changed records.

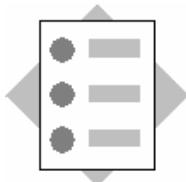
1-3-2 Display the corresponding change documents.

# Exercises



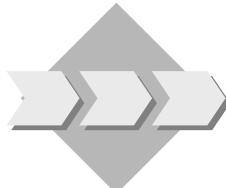
## Unit: Working with Condition Records

### Topic: Copying Condition Records



At the conclusion of these exercises, you will be able to:

- Practice copying one condition record to another with different key values.



Occasionally, you may need to create several new condition records using one record as the source. This can save time and help eliminate mistakes.

1-4 You will now copy one of your condition records using two different strategies.

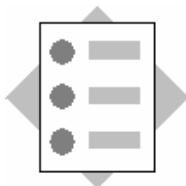
1-4-1 Copy the customer-specific pricing condition for customer T-L67A## and material T-AT1## to a new record for customer T-L67B## and the same material. Save the condition record.

# Exercises



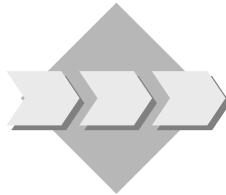
## Unit: Working with Condition Records

### Topic: Pricing Reports



At the conclusion of these exercises, you will be able to:

- Use pricing reports to produce a list of specific condition records.



Being able to manage the large number of condition records, as business typically has, requires easy-to-use reporting tools. The pricing reports provided in R/3 cover most reporting requirements. Additional, more tailored reports are easily developed.

1-5 You will use a standard pricing report to gain experience with this reporting function. Additionally, you may create your own pricing report tailored to your specific requirements.

1-5-1 Using the pricing report function, create a list of all currently valid customer-specific prices for customer T-L67A## (use list report 16).

- 1-5-2 Create your own pricing report, entitled "Group ## Pricing Report". The following table contains the short name of your list report:

Group number	List report
01	C1
02	C2
03	C3
04	C4
05	C5
06	C6
07	C7
08	C8
09	C9
10	C0
11	D1
12	D2
13	D3
14	D4
15	D5
16	D6
17	D7
18	D8
19	D9
20	D0

Your report should list condition records, which contain the fields Customer, Material or Sales organization. At a minimum, select tables 304, 305, and 007 to appear on your report. Position the fields and select formatting options as desired.

- 1-5-3 Run your report for customer T-L67A##.

# Solutions



## Unit: Working with Condition Records

### Topic: Maintaining Conditions Using Pricing Reports

- 1-1 The default area menu for condition maintenance via pricing reports is area menu COND\_AV. You will add your own nodes to the overview tree at the user level in this area menu.

1-1-1 Assigned pricing report: **/1SDBF12L/RV14AK28**

*Menu path:*

**Tools → ABAP Workbench → Development → Other Tools → Area Menus**

Enter in the Area menu field: **COND\_AV**

*Click the Display area menu button.*

*Select Conditions → By Customer.*

*Choose Edit → Display entry.*

1-1-2 Creating variants:

*Menu path:*

**System → Services → Reporting**

Enter in the Program field: **/1SDBF12L/RV14AK28**

*Choose Goto → Variants*

*Enter in the Variants field: Customer ##.*

*Choose Create.*

*Enter the selection data and save the variants.*

1-1-3 Creating area menus:

*Menu path:*

**Tools → ABAP Workbench → Development → Other Tools → Area Menus**

Enter in the Area menu field: **ZZCOND\_##**

Choose *Create*.

Enter the description: **Customer Group ##**

Select the *Customer Group ##* node.

Choose:

**Edit → Insert menu entry → Insert as subnode**

Choose *Add report*.

Enter in the *Report* field: **/1SDBF12L/RV14AK28**

Choose in the *Variants* field: **Customer ##**

Save your entry as a local object.

1-1-4 Assigning area menus:

*Menu path:*

**Logistics → Sales and Distribution → Master Data → Conditions → Change**

Choose: **Environment → Assignment Area Menu**

Click the *New entries* button

Enter your area menu: **ZZCOND\_##**

Save your entry.

1-1-5 Assigning additional standard area menus:

*Menu path:*

**Logistics   Sales and Distribution   Master Data   Conditions  
Change**

Choose: **Environment □ Assignment Area Menu**

Click the *New entries* button.

Enter: **COND\_AV**

Save your entry.

# Solutions



## Unit: Working with Condition Records

### Topic: Creating Condition Records with Reference

- 1-2 In preparation for a new pricing strategy, which will take effect next year, you will create a new validity period for existing records.

- 1-2-1 Creating condition records with reference:

*Menu path:*

**Logistics → Sales and Distribution → Master Data → Conditions → Create with template → Condition Maintenance → Prices → Material Price**

Enter the appropriate values for the reference conditions by choosing the *Multiple selection* button.

Click the *Copy* button at the bottom of the pop up screen and then click *Execute*.

Select the condition records.

Choose *Change validity*.

Change the validity period to start next January for a duration of 1 year.

Choose *Copy date*.

Save the new condition records.

# Solutions



## Unit: Working with Condition Records

### Topic: Mass Change for Conditions

- 1-3 Using the price change function, you will implement a price increase for the new condition records created earlier.

- 1-3-1 Price increase of 5%:

*Menu path:*

**Logistics → Sales and Distribution → Master Data → Conditions → Change → Condition Maintenance → Prices → Material Price**

Enter the appropriate values for selecting material 2 and material 3.

Ensure that the date in the *Valid on* field falls within the validity period during which you want to execute the price increase.

Click the *Execute* button.

Select the condition records.

Choose *Change amount*.

Enter 5 in the *Percentage* field and choose *Copy*.

Return to the previous screen and then save the changed records.

1-3-2 Display change documents:

**Menu path:**

***Logistics → Sales and Distribution → Master Data → Conditions → Change → Condition Maintenance → Prices → Material Price***

Enter the appropriate values for selecting material 2 and material 3.

Click the *Execute* button.

Select the displayed records and use the **menu path**:

***Environment → Changes → Per condition record***

The display shows the condition record author and creation date. You can use the *OldVal* and *NewVal* columns to see the before and after values.

# Solutions



## Unit: Working with Condition Records

### Topic: Copying Condition Records

1-4 You will be copying one of your condition records.

1-4-1 Copying condition records:

*Menu path:*

***Logistics → Sales and Distribution → Master Data → Conditions → Change → Condition Maintenance → Prices → Individual Prices***

Enter the appropriate data for selecting the key combination of Customer **T-L67A##** and Material **T-AT1##**. Choose *Execute*.

Select the condition line and choose *Select rule*.

Select **rule 1** and choose *Continue*.

Enter customer **T-L67B##** as the target customer on the next screen.

Click the *Execute* button.

Select the resulting line and click *Continue*.

Save the condition records.

# Solutions



## Unit: Working with Condition Records

### Topic: Pricing Reports

- 1-5 You will use a standard pricing report to gain experience with this reporting function. Additionally, you may create your own pricing report tailored to your specific requirements.

1-5-1 Executing pricing reports:

*Menu path:*

***Logistics → Sales and Distribution → Master Data → Conditions → List → Pricing Report***

Enter **16** in the *Pricing Report* field and choose *Execute*.

Specify your customer. Leave all other fields blank.

Click the *Execute* button.

1-5-2 Creating your own pricing report in Customizing:

**Menu path:**

**SAP Reference IMG → Sales and Distribution → Basic Functions  
→ Pricing → Maintain Pricing Report → Create Pricing Report**

Enter the short description and the title of your pricing report and choose *Enter*.

Select the following fields: **Customer number, Material number, Sales organization.**

Choose *tables, that contain at least one selected field.*

Select tables **304, 305, and 007** from the list (ensure that the list is not sorted according to table numbers!).

Choose *Continue to list structure.*

Use the *Position* column to place each field in the Page header, Group header or Item level of the report. Use the *Sort* field to sequence each group of fields as desired. Use the *Text* field to choose if the description of the item should be shown in addition to the key.

From the *Default values for the selection screen*, choose the additional options that you want to include.

When finished, save your report definition.

The name generated for the pricing report is **/1SDBF12L/RV14AKxx**.

1-5-3 Executing pricing reports:

**Menu path:**

**Logistics → Sales and Distribution → Master Data → Conditions → List  
→ Execute**

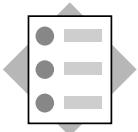
Enter your **short description in the table** in the *Pricing Report* field and choose *Execute*.

Specify **customer 1**. Leave all other fields blank.

Click the *Execute* button.

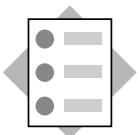
### Contents:

- **Group conditions**
- **Condition comparison**
- **Condition update**
- **Condition supplements**
- **Hierarchy accesses**
- **Data determination in access**



**At the conclusion of this unit, you will be able to:**

- **Use group conditions for carrying out pricing for several items in an order**
- **Compare condition types with a variety of methods and outcomes**
- **Set conditions for a maximum value, quantity or number of orders**
- **Describe how and when to use condition supplements**

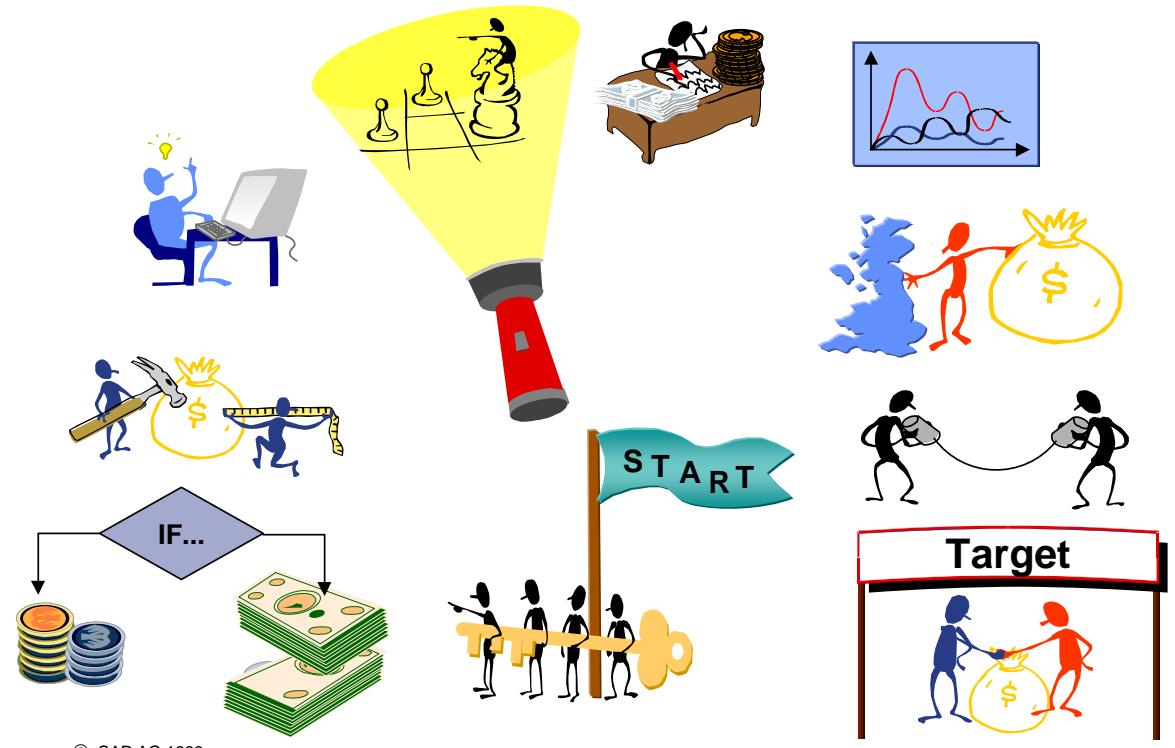


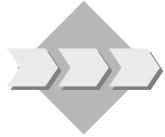
**At the conclusion of this unit, you will be able to:**

- **Optimize pricing for hierarchical data constellations via hierarchy accesses**
- **Explain the techniques of "data determination in access" using the example of the price book**

# Course Overview Diagram

SAP

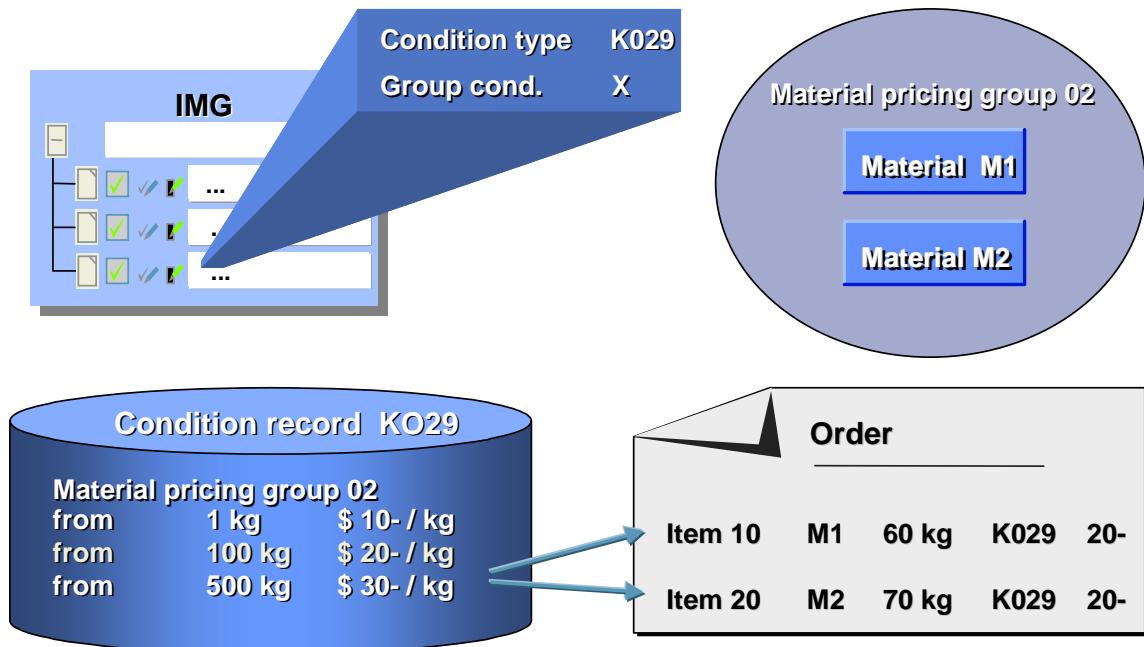




- In addition to the basic pricing elements that have been studied up to now, there are still a few special functions.
- These allow dependencies between condition types or groups of condition types to be mapped, for example, or cumulative values in selected condition records to be updated.
- These special functions allow the pool of solution options in pricing configuration to be expanded further.

## Group Conditions

SAP

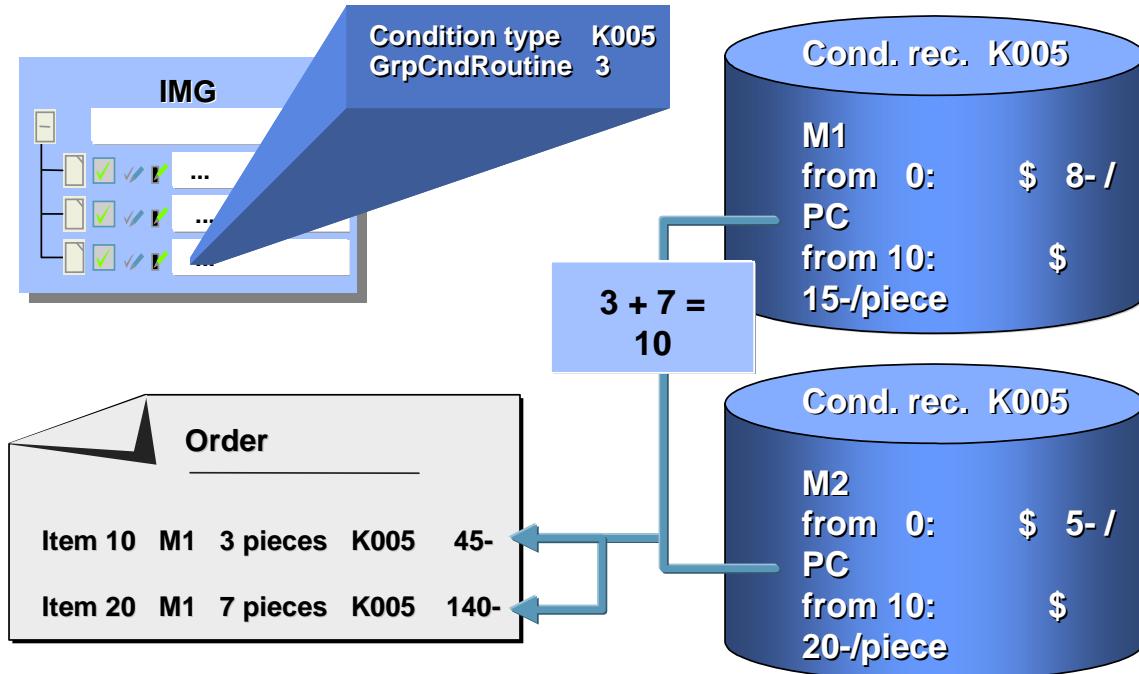


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- In Customizing you can set a condition type to be a group condition. The condition base value (e.g. weight) is then calculated as the sum of the individual items within one group.

## Group Conditions with Varying Keys

SAP

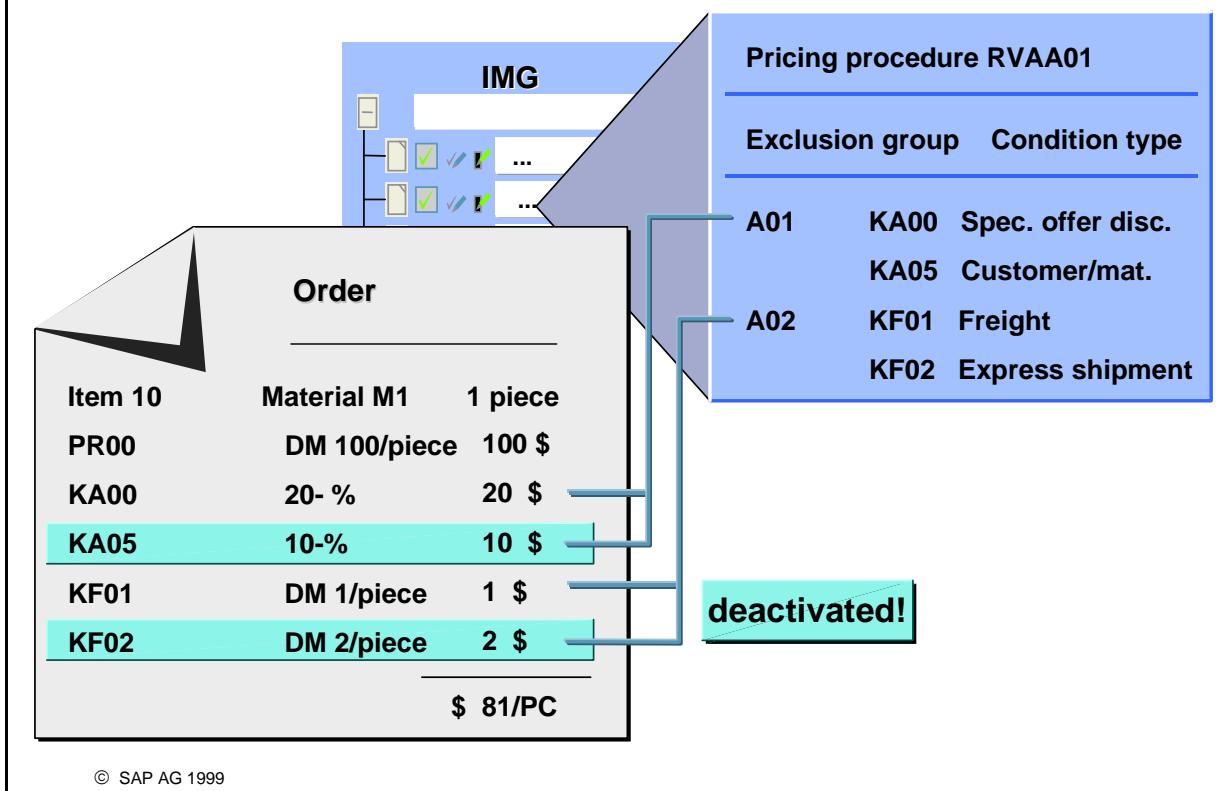


© SAP AG 1999

- For group conditions with varying keys, item quantities are accumulated for scale point determination purposes but the rate for each item is taken from its individual condition record.
- Control data: Entry for condition type  
Group condition: X  
Unit of measure for accumulation, e.g. pieces  
GrKey Number: 1, 2 or 3 (see explanation below)
  - 1. Complete document:  
All quantities with the same condition type are accumulated.
  - 2. For all condition types:  
All quantities are accumulated which belong to condition type routine 2.
  - 3. Material pricing group:  
All quantities with the same condition type and material pricing group are accumulated.

## Determining Best Price Using Condition Exclusion

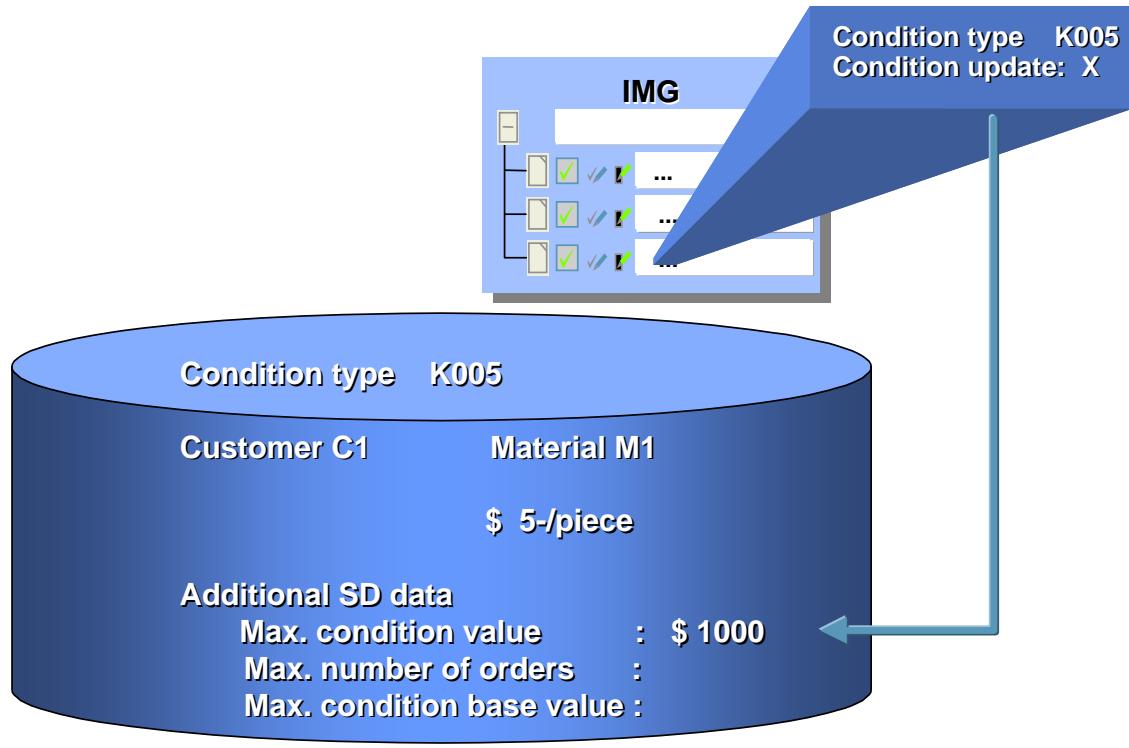
SAP



- Condition types to be compared are first placed in an exclusion group.
- During pricing, the conditions which result in the best price (lowest charge or highest discount) are selected from this group. All others are deactivated.
- There are several comparison methods which may be used:
  - A All conditions found within the first exclusion group are compared and the condition The best price is chosen. All others are deactivated.
  - B All condition records found for one condition are compared. The best price is chosen. All others are deactivated. This method can be used with condition type PR00, for example.
  - C The total of condition records found in the first exclusion group is compared to the total of condition records found in the second exclusion group. The group resulting in the best price is chosen.  
The conditions of the other group are deactivated.
  - D If a condition record is determined for the condition types of the first exclusion group, all condition records for the second exclusion group are deactivated.
  - E As for method B, except the **worst** (highest charge or lowest discount) price is chosen.
  - F As for method C, except the group with the **worst** overall price is chosen. The conditions of the other group are deactivated.

## Updating Conditions - Tracking Cumulative Values

SAP



- Values can be accumulated in condition records and tested against limits. In this way, you can set a maximum condition value, condition base value, or number of orders for a condition.
- These cumulative values in the condition record can be displayed.

## Condition Supplements

SAP

**Condition type:** PR00 price  
**Sales organization:** 1000  
**Distribution channel:** 01  
**Customer:** C1  
**Material:** M1

**Period:** 1997      2001

**PR00 price**

\$ 100

**Condition  
supplements**

**KA00 Discount 1**

10- %

**RA00 Discount 2**

\$ 1-

**Order**

**PR00 Price**

**KA00 Discount 1**

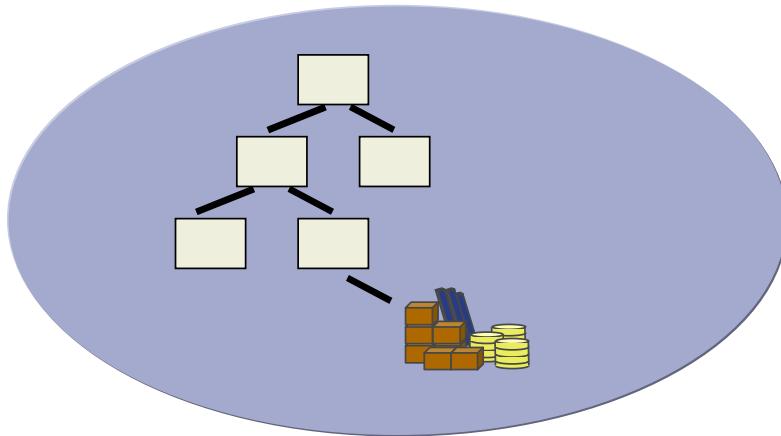
**RA00 Discount 2**

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- Group several conditions together in a condition supplement procedure if you want these conditions to be accessed together during pricing.

### Scenario:

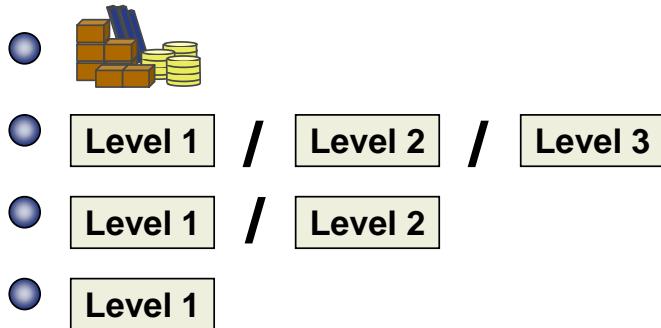
**You want to grant a discount that depends on characteristics related in a hierarchy.**



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- Hierarchy accesses optimize pricing for hierarchy data structures, such as the product hierarchy.

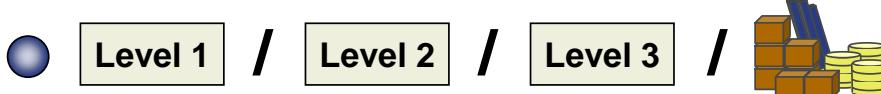
**Solution before R/3 Release 4.5:**  
***One condition table for each characteristic combination***



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- To define the condition table key for hierarchies like this, you might have to include partial quantities for a pre-defined quantity of characteristics.
- Without hierarchy accesses, you would need to create a condition table for each combination and assign all the accesses to these tables in an access sequence.
- This requires a lot of maintenance and will reduce system performance. The sequence of the accesses will also be fixed.
- This is particularly disadvantageous for hierarchy data such as product or customer hierarchies.

**Solution with R/3 Release 4.5:**  
**A single condition table (= one access)**



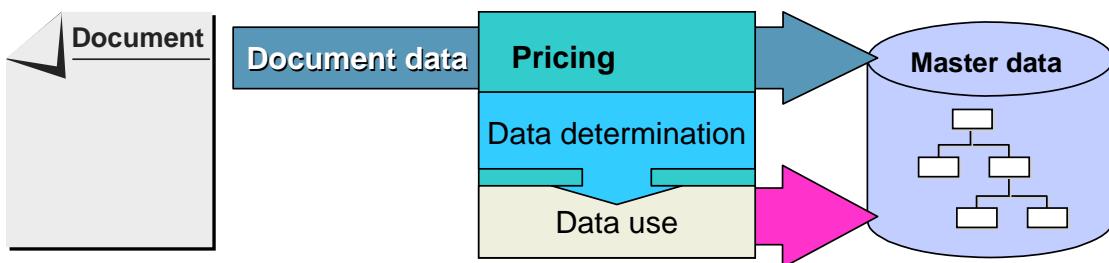
SOrg / Distr.Chnl 1000 / 12 (fixed key fields)				
LEVEL 1	LEVEL 2	LEVEL 3	MATERIAL	AMOUNT
			Sunfun 1200	20% -
00105	00100	00110		12% -
00105	00100			5% -

"Free fields" (optional fields)

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- The functions in hierarchy accesses enable you to solve these problems by using a single access to a condition table.
- In condition record maintenance, when you create the access sequence for using this condition table at field level, you have to define whether each field is a fixed component of the key or whether it is an optional field.
- Priorities are assigned to the optional fields.
- During pricing, the system sorts the records found with this access according to priority and displays the record with the highest priority.
- Hierarchy accesses also provide clearer and easier master data maintenance because the different condition records for a condition type are created together in the quick entry screen for maintaining conditions.

- For pricing, you can determine and use data that is not contained in the document
- This can be performed in two steps:
  - Step 1: Data determination
  - Step 2: Data use

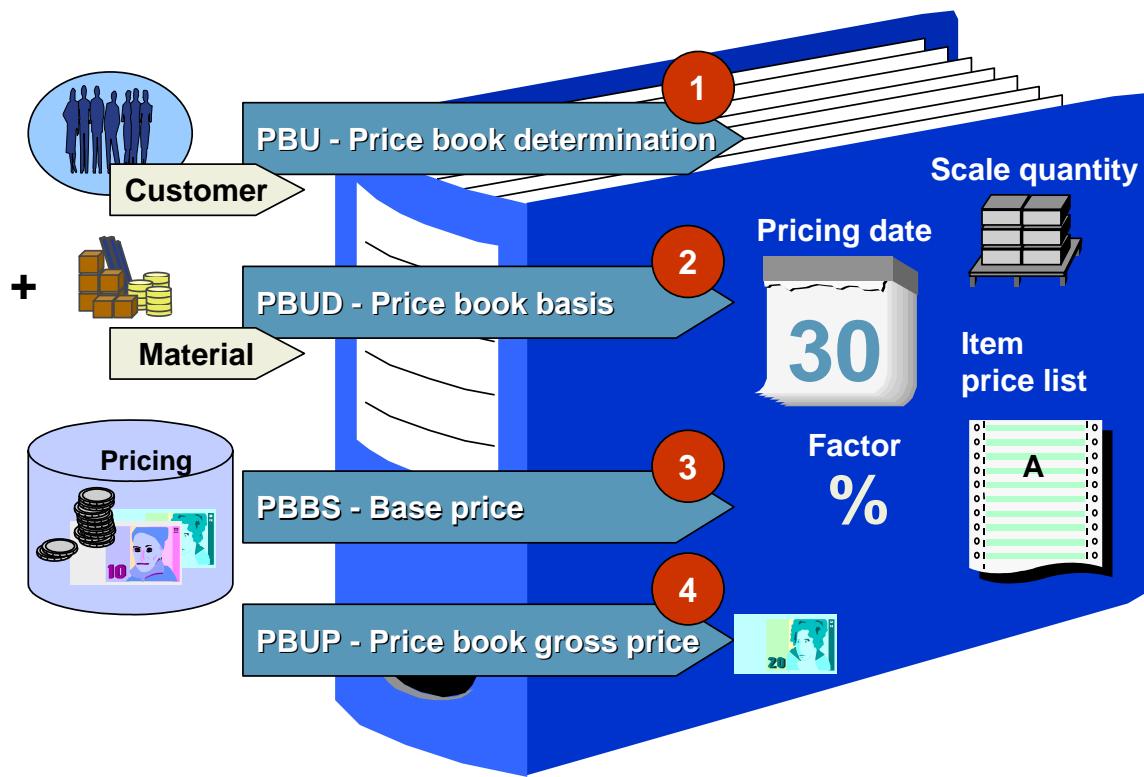


© SAP AG 1999

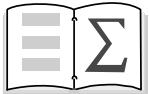
- The two steps for determining and using the data differ in the way that they collect data, which means that a distinction must be made between three data determination procedures:
  - Data determination using the communication structure KOMPAZD
  - Data determination using routines (condition 202, base value calculation formula 202)
  - Data determination for sales deals (condition class H)

## Data Determination in Access - Price Book

SAP

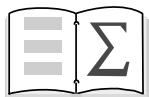


- The term **price book** refers to a price determination strategy.
- Pricing procedure RVAA02 was delivered in the SAP standard system as an example of this
  - The aim here is to set certain prices for a group of customers.
  - Special agreements are also to be set for these prices, depending on the material.
- This can be achieved using **two-step data determination**:
  - Step 1: A sales deal number (condition type PBU) is determined, depending on the customer group, for example.
  - Step 2: Using the material group as a basis, for example, special agreements are determined, which take:
    - Pricing date
    - Scale quantity
    - Item price list
    - into account (condition type PBUD).
  - In the following condition type PBBS, the special agreements determined are used and base prices therefore read.
  - On the basis of these prices, the gross price is calculated in the following condition type PBUP using the percentage value from condition type PBUD.



You are now able to:

- Use group conditions for carrying out pricing for several items in an order
- Compare condition types with a variety of methods and outcomes
- Set conditions for a maximum value, quantity or number of orders
- Describe how and when to use condition supplements



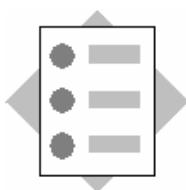
- Optimize pricing for hierarchical data constellations via hierarchy accesses
- Explain the techniques of "data determination in access" using the example of the price book

# Exercises



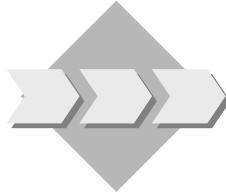
## Unit: Special Functions

### Topic: Creative Use of Condition Type Attributes



At the conclusion of these exercises, you will be able to:

- Solve pricing problems by combining various condition type attributes.



Often, certain pricing requirements can be satisfied by combining certain standard configuration settings. You will be presented with a new pricing scenario for your company and then analyze and solve the problems it entails.

1-1 Your company has signed an agreement with a new carrier, Walldorf Parcel. They will be your carrier of choice for all orders weighing 30 kg or less. All orders **over** 30 kg will continue to have freight calculated using the **ZF##** condition type. The proper determination of the freight is to happen automatically. This will require changes in the pricing model you constructed in the previous exercises.

1-1-1 Configure a new condition type **ZW##** to calculate Walldorf Parcel freight. It can use **ZA##** as its access sequence. This condition type must add together the gross weight of **all** order items and should properly handle the following scale:

from	0	kg	8	uni
	0.5	kg	10	uni
	1	kg	12	uni
	2	kg	14	uni
	5	kg	16	uni
	10	kg	20	uni
	20	kg	30	uni

Up to a maximum weight of 30 kg

- 1-1-2 Add the new condition type to your pricing procedure Z##PRC immediately before condition type ZF## (freight).
- 1-1-3 Create a condition record for the ZW## condition type for your sales organization, incoterms EXW, and destination country DE. Use the scale values shown in exercise 1-1-1. Save the condition record.
- 1-1-4 In order to test the new condition, enter an order from the customer purchase order shown below. Check the header and item pricing to ensure that ZW## is being calculated properly. At this point, you should see both conditions ZW## and ZF## in the order. Save the order.



Note that at present - depending on your procedures - the test can still be correct if both condition types ZW## and ZF## are effective together.

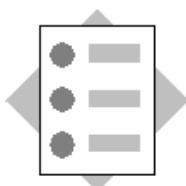
<b>TELEFAX</b>	
Customer: <b>T-L67A##</b>	
PO number: <b>##-6-1</b>	
Requested delivery date: <b>In one week</b>	
<u>Material</u>	<u>Quantity</u>
<b>T-AT1##</b>	<b>2</b>
<b>T-AT3##</b>	<b>1</b>

# Exercises



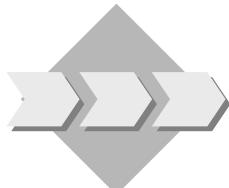
## Unit: Special Functions

### Topic: Exclusion Groups



At the conclusion of these exercises, you will be able to:

- Use condition exclusion for groups of conditions.



Exclusion groups allow you to easily compare the results of pricing calculations and take appropriate pricing actions. You will test the use of exclusion groups within the new carrier scenario.

1-2 It is important that only one of the two possible freight conditions is used on an order. One way to accomplish this is by using exclusion groups.

1-2-1 In the IMG, create and save two new exclusion groups, Z1## and Z2##.

1-2-2 Assign condition type ZW## to exclusion group Z1##. Assign condition type ZF## to exclusion group Z2##.

1-2-3 Assign these exclusion groups to your pricing procedure Z##PRC. Use a comparison type that will deactivate group Z2## if the condition type in group Z1## is found.

- 1-2-4 Test your new freight pricing strategy by creating an order from the customer purchase order shown below. Vary the quantities to test both the ZW## and the ZF## conditions.

<b>TELEFAX</b>	
Customer: <b>T-L67A##</b>	
PO number: <b>##-6-2</b>	
Requested delivery date: <b>In one week</b>	
<u>Material</u>	<u>Quantity</u>
<b>T-AT1##</b>	<b>2</b>
<b>T-AT3##</b>	<b>1</b>

 You can simplify testing considerably by checking whether the condition screen of the header data is functioning properly.

- 1-2-5 Instead of exclusion groups, what alternative methods could have been used in this scenario to accomplish the same purpose?

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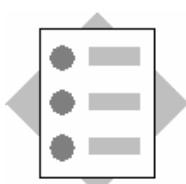
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# Exercises



## Unit: Special Functions

### Topic: Updating Conditions - Tracking Cumulative Values



At the conclusion of these exercises, you will be able to:

- Verify that cumulative conditions handle special pricing situations correctly.



Some of your pricing conditions are only good for the first order, or for a specified quantity of material. Using the condition update function for cumulative condition records, you will test this function.

- 1-3 Marketing has implemented a new customer/material discount, which is only good for the first order.



Make sure that the instructor has activated the *condition update* function for condition type K005 before you begin the exercise.

- 1-3-1 Create a K005 customer/material discount record for customer T-L67B## and material T-AT2## and a rate of 100 uni when buying from your sales organization and distribution channel. Use the defaults for the validity period.

- 1-3-2 Change the K005 discount record so that it will only be valid for the next order. Save the changes.

- 1-3-3 From the customer purchase orders shown below, create two standard sales orders. Do not create the second order with reference to the first. Enter each order separately. Save each order.

TELEFAX	
Customer: <b>T-L67B##</b>	
PO number: <b>##-5-3a</b>	
Requested delivery date: <b>In one week</b>	
<u>Material</u>	<u>Quantity</u>
<b>T-AT2##</b>	<b>10</b>



When creating the following order, do **not** *Create with reference* to the first order because it will "inherit" the conditions.

TELEFAX	
Customer: <b>T-L67B##</b>	
PO number: <b>##-6-3b</b>	
Requested delivery date: <b>In one week</b>	
<u>Material</u>	<u>Quantity</u>
<b>T-AT2##</b>	<b>10</b>

---

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- 1-3-4 Is the customer discount K005 used on the second order?
- 
- 

- 1-3-5 In the IMG, what setting is required in the condition type to enable the system to retain accumulated amounts? Use condition type K005 to determine your answer.
- 
- 

- 1-3-6 Change your condition record for condition type K005 so that it is only active for the first 15 pieces of material 2.

- 1-3-7 From the customer purchase order shown below, create a standard sales order.

<b>TELEFAX</b>	
Customer: <b>T-L67B##</b>	
PO number: <b>##-6-3-7</b>	
Requested delivery date: <b>In one week</b>	
<u>Material</u>	<u>Quantity</u>
<b>T-AT2##</b>	<b>15</b>

- 1-3-8 Examine the item pricing and determine how many of the pieces received the K005 discount. Why?
- 
- 
- 
-

# Solutions



## Unit: Special Functions

### Topic: Creative Use of Condition Type Attributes

- 1-1 Your company has signed an agreement with a new carrier, Walldorf Parcel. They will be your carrier of choice for all orders weighing 30 kg or less. All orders **over** 30 kg will continue to have freight calculated using the ZF## condition type. The proper determination of the freight should happen automatically. This will require changes in the pricing model you constructed in exercise 3-3.

#### 1-1-1 Condition type ZW##:

*Menu path:*

**SAP Reference IMG → Sales and Distribution → Basic Functions  
→ Pricing → Pricing Control → Define Condition types**

Choose *Maintain Condition Types*.

Select condition type KF00 and click the *Copy as* button.

On the next screen, change the condition type to **ZW##**, the description to **Group ## Parcel**, and insure that the access sequence is **ZA##**.

Click the *Enter* button to copy the new condition type.

In order to use the values in the scale properly, the *Calculation type* must be set to **B**, Fixed amount.

Since it will be adding together the gross weight of all items, the condition type must be set as a group condition with the **Scale base type D**, Gross weight.

In order to test for the maximum weight of 30 kg, the condition record must have a final line in the scale section of:

**From 30,001 kg 0 uni.**

To allow this type of scale which is first ascending, then descending, the *Check value* field in the ZW## condition type must be set to **blank** (scale rates are not checked).

Save the new condition type.

1-1-2 In your pricing procedure Z##PRC, click the *New entries* button to insert a new line. Choose Step and Counter values which will place the new line immediately before condition type ZF##. Enter the same values for requirements and other fields that you find for condition type ZF##.

1-1-3 Creating condition records:

*Menu path:*

***Logistics → Sales and Distribution → Master Data → Conditions → Select using condition type → Create***

Choose condition type **ZW##**.

Enter the appropriate values and save the condition record.

# Solutions



## Unit: Special Functions

### Topic: Exclusion Groups

- 1-2 It is important that only one of the two possible freight conditions is used on an order. One way to accomplish this is by using exclusion groups.

- 1-2-1 Creating exclusion groups:

*Menu path:*

**SAP Reference IMG → Sales and Distribution → Basic Functions → Pricing → Condition Exclusion → Condition Exclusion for Groups of Conditions**

Choose *Define condition exclusion groups*.

Click the *New entries* button to add exclusion groups **Z1##** and **Z2##**.

Save your entries.

- 1-2-2 Assigning condition types to the exclusion groups:

*Menu path:*

**SAP Reference IMG → Sales and Distribution → Basic Functions → Pricing → Condition Exclusion → Condition Exclusion for Groups of Conditions**

Choose *Assign condition types to the exclusion groups*.

Click the *New entries* button to add assignments of condition type **ZW##** to exclusion group **Z1##** and condition type **ZF##** to exclusion group **Z2##**.

Save your entries.

- 1-2-3 Assigning exclusion groups to the pricing procedure:

**Menu path:**

**SAP Reference IMG → Sales and Distribution → Basic Functions → Pricing → Condition Exclusion → Condition Exclusion for Groups of Conditions**

Choose *Maintain condition exclusion for pricing procedures*.

Select your pricing procedure Z##PRC and double click the *Exclusion* node in the overview tree.

Choose the *New entries* button to add the necessary entries. Use a sequence number of 10, a condition exclusion procedure of D, an exclusion group 1 value of Z1##, and an exclusion group 2 value of Z2##.

Save your entries.

- 1-2-4 Test result:

If the weight of all the items is 30 kg or less, condition type ZW## should be active. Once the combined weight of both items exceeds 30 kg, ZF## should be an active freight condition.

For the test to function correctly, condition type ZF## must also be marked as a group condition.

- 1-2-5 Alternative procedures:

The condition record for ZF## could use a scale that starts at 30,001 kg.

Likewise, a new exclusion indicator could possibly be created and used on the ZW## and ZF## conditions. A new pricing procedure requirement would have to be created to check for the existence of this new exclusion indicator.

# Solutions



## Unit: Special Functions

### Topic: Updating Conditions - Tracking Cumulative Values

- 1-3 Marketing has implemented a new customer/material discount, which only applies to the first order from a customer.

- 1-3-1 Creating a condition record:

*Menu path:*

***Logistics → Sales and Distribution → Master Data  
→ Conditions → Create → Condition Maintenance →  
Discounts/Surcharges → By Customer/Material***

Choose condition type **K005**.

Enter the appropriate values and save the condition record.

- 1-3-2 Changing a condition record:

*Menu path:*

***Logistics → Sales and Distribution → Master Data  
→ Conditions → Change → Condition Maintenance →  
Discounts/Surcharges → By Customer/Material***

Enter the value **1** in the *Number of orders* field.

Save the condition record.

- 1-3-4 The second order does not include the K005 discount since it was valid for only one order.

- 1-3-5 The *Condition update* indicator must be set.

- 1-3-6 Changing a condition record:

**Menu path:**

***Logistics → Sales and Distribution → Master Data  
→ Conditions → Change → Condition Maintenance →  
Discounts/Surcharges → By Customer/Material***

Choose *Execute*.

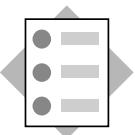
Enter the value **15** in the *MaxCondBaseVal.* field and leave the *Number of orders* field blank.

Save the condition record.

- 1-3-8 Only a quantity of 5 received the K005 discount because the condition record already had a cumulative value of 10 pieces from the first order in exercise 1-3-3.

## Contents:

- Manual order value HM00
- Net Price PN00
- Minimum order value AMIW, AMIZ
- Minimum price PMIN
- Interval price PR02
- Hierarchy discount HI01
- Pallet discounts KP00, KP01, KP02, KP03
- Rounding DIFF

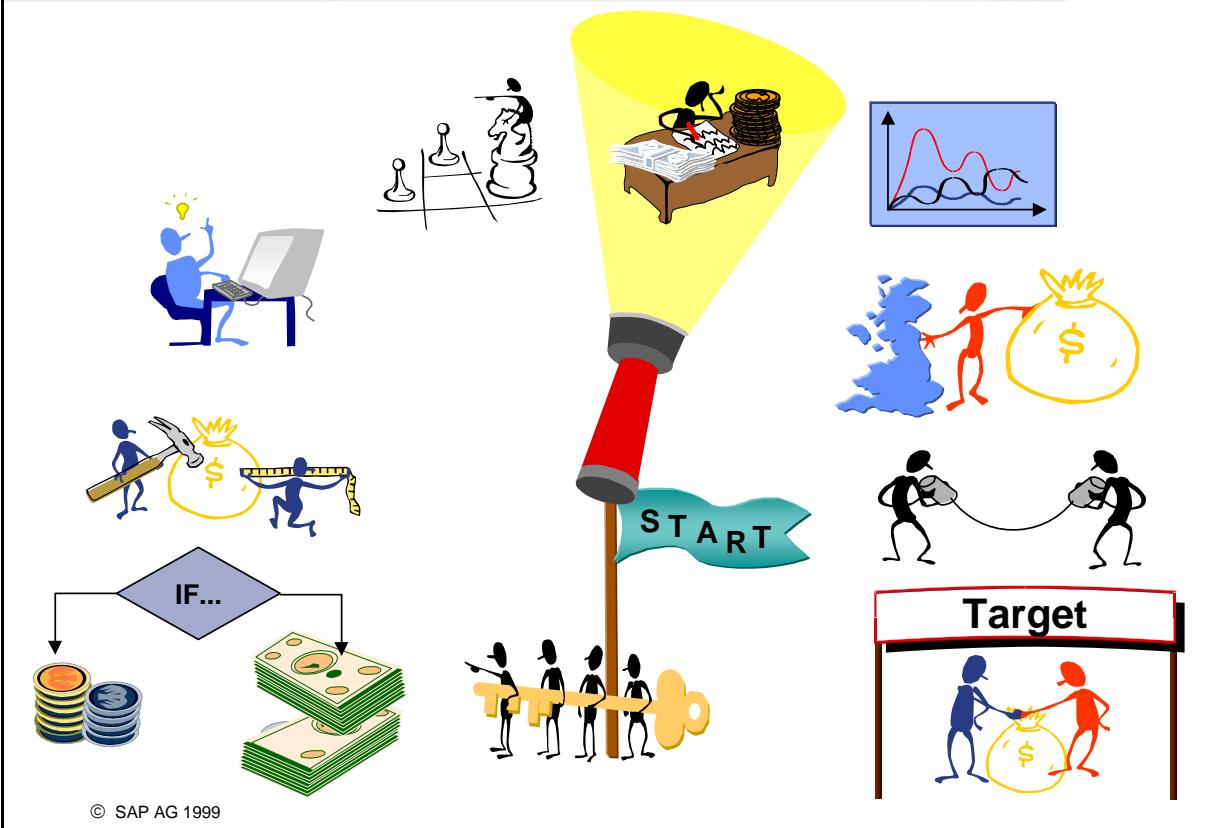


**At the conclusion of this unit, you will be able to:**

- Enter order values and net prices manually
- Set a minimum price for a material or a minimum value for an order
- Set interval scales for conditions
- Use customer hierarchies for price agreements
- See the effect of condition formulas
- Round final amounts

# Course Overview Diagram

SAP

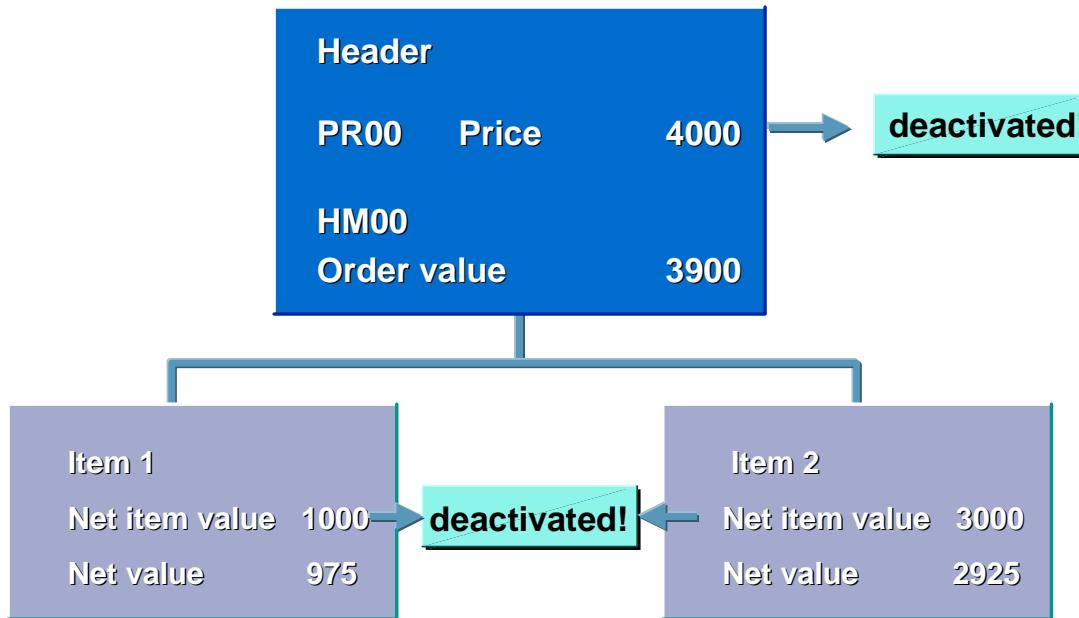




- The R/3 System has a variety of delivered condition types that can be used immediately, if necessary.
- Everyone involved in pricing should know which are the most important condition types.
- It is also important to observe the configuration of these individual condition types, so that you can profit from the experience and techniques when designing your own condition types.

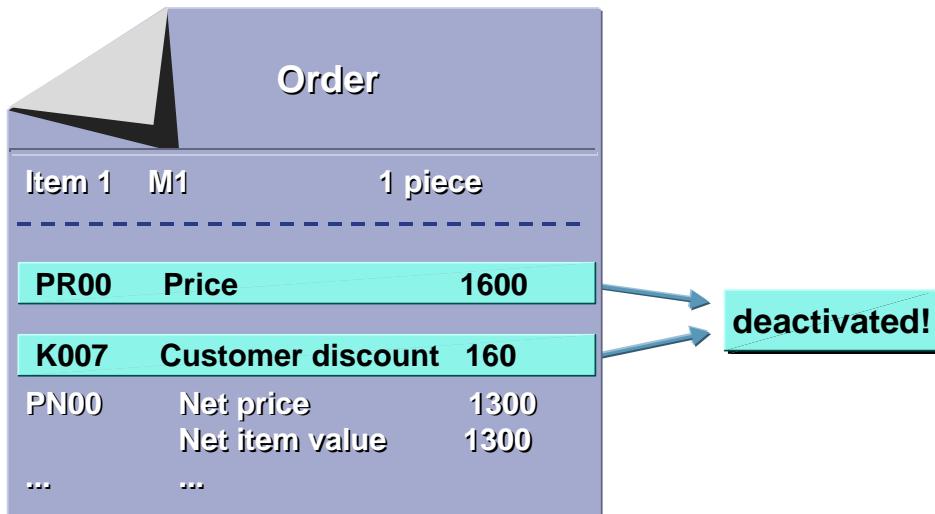
## Manual Order Value HM00

SAP



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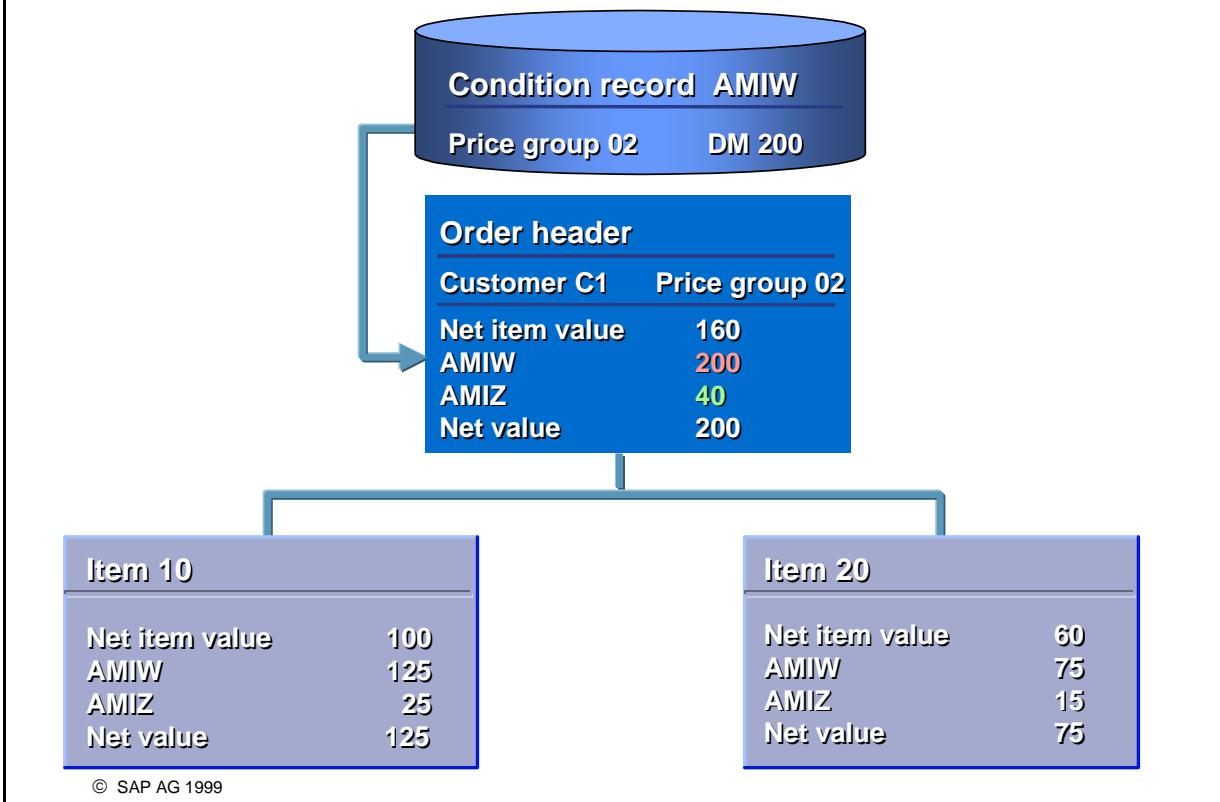
- A condition exists in the standard version, which allows you to enter the order value manually.
- The difference between the old and the new order value is distributed between the items (taking into account the net item value).
- Taxes are redetermined for each item.



- The PN00 condition in the standard system allows you to specify the net price for an item manually.
- The original conditions are deactivated.

## Minimum Order Values AMIW and AMIZ

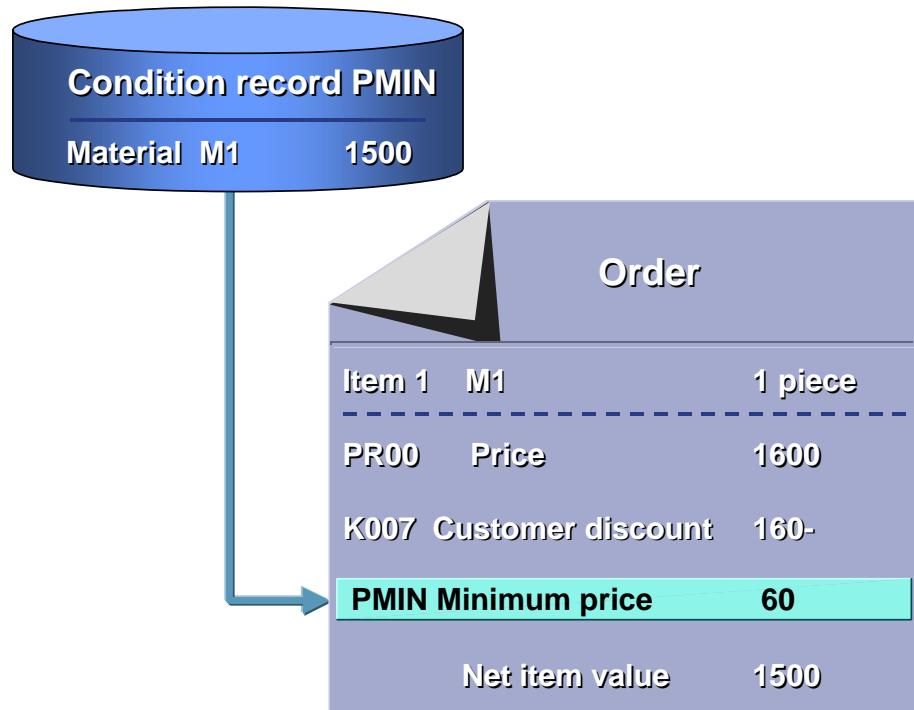
SAP



- You may create a minimum value for each order using condition type AMIW.
- If the value in the order header falls short of this minimum order value during pricing, the system will copy it as the net order value automatically.
- The minimum order value is a statistical condition.
- Condition type AMIW is a group condition and is divided among the different items according to value.
- Calculation formula 13 is assigned to condition type AMIZ in the pricing procedure. This calculates the minimum value surcharge by subtracting the net item value from minimum order value AMIW.

## Minimum Price PMIN

SAP

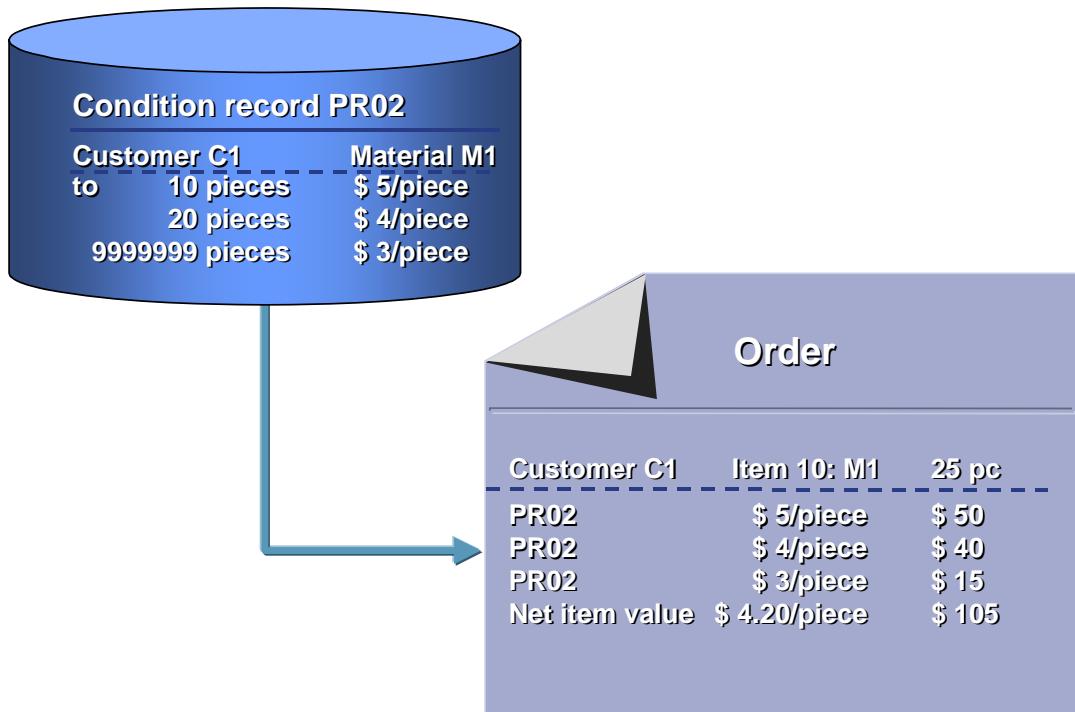


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- You can create a minimum price for a material using condition type PMIN.
- If the minimum price is not met during pricing, the system determines the difference using condition type PMIN.

## Interval Price PR02

SAP

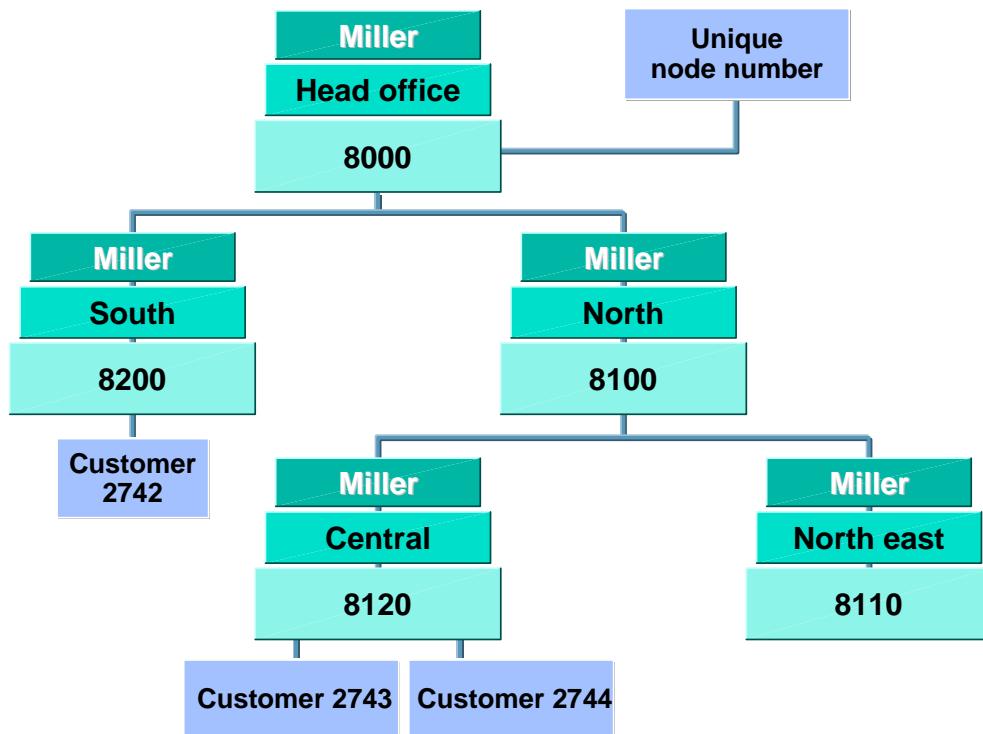


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- You can maintain condition records with interval scales if the condition type is set to scale type D in Customizing.
- Interval scales cannot be used for group conditions.

## Customer Hierarchy

SAP

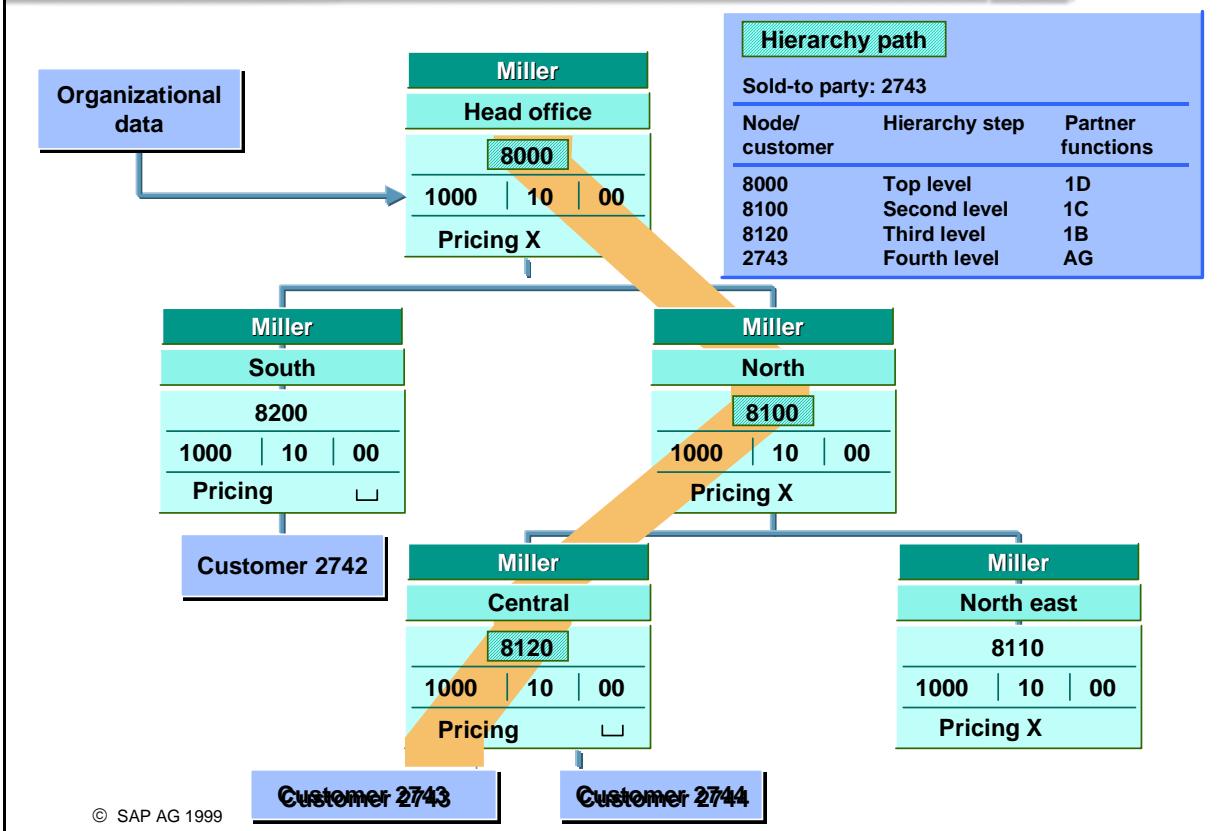


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- Customer hierarchies are available in Sales and Distribution, so that you can create flexible hierarchies to reflect the structure of customer organizations. If your customer base includes multi-level buying groups, cooperatives, or chains of retail outlets, for example, you can create hierarchies to reflect the structure of these groups. Use customer hierarchies during sales order processing and billing for determining pricing and running statistics.
- A customer hierarchy consists of nodes.
- To create a customer hierarchy:
  1. Create master records for each node.
  2. Assign the nodes to each other.
  3. Assign the customer master records to the relevant nodes.
- Hierarchy nodes are only valid for a certain period of time. They may also be moved. If a node is moved, the system automatically reassigns all related nodes and customer master records.

## Hierarchy Path

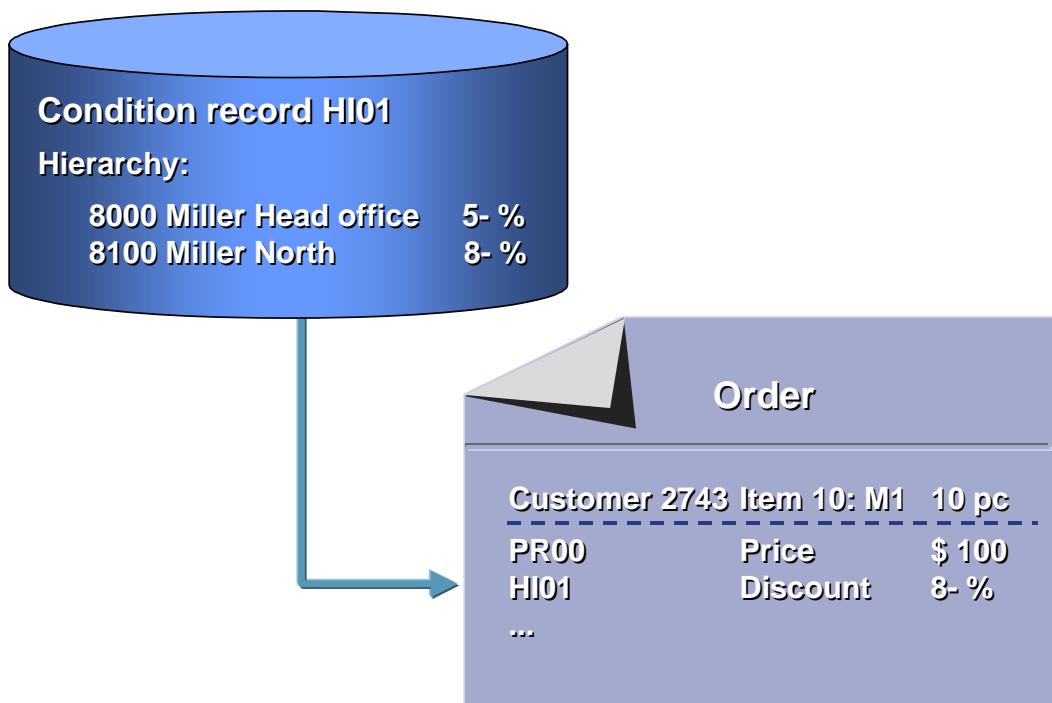
SAP



- With customer hierarchies, you can assign price or rebate agreements to a higher level node. The agreements are then valid for customers at all subordinate levels to this node. You can create pricing condition records for each node indicated as relevant for pricing. If one or more nodes in the hierarchy path of a sales order contain pricing information, the system takes them into account automatically during pricing.
- The customer hierarchy above represents the multi-level buying group Miller. The headquarters, Miller Head office, is the highest node defined in the hierarchy. The southern, northern, central and northeastern regional offices are also defined as nodes. A price agreement is reached with the Miller buying group for a particular product line. You offer a discount valid for all regions and offices in the buying group. In addition, you grant a promotional discount for Miller North. You create the appropriate condition records for the Miller Head office and Northern nodes. An order for customer 2742 is received and granted the cross-regional discount. When you receive orders from customers 2743 and 2744, however, the system uses the pricing data stored for Miller North and grants the exclusive promotional discount.

## Hierarchy Discount HI01

SAP

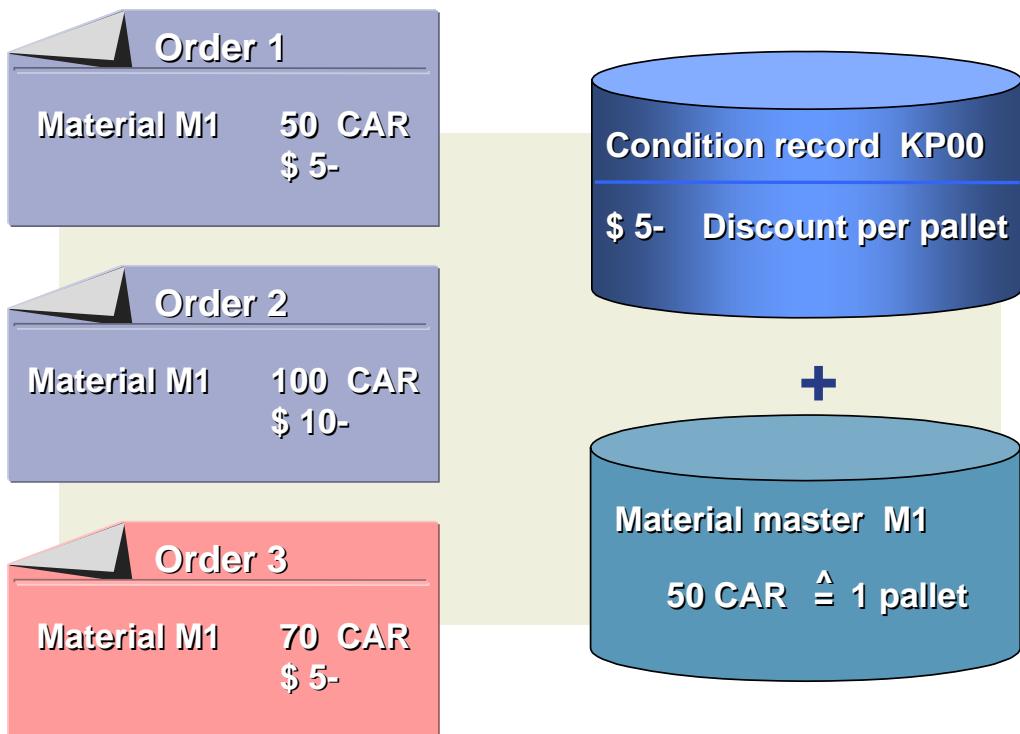


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- Customer 2743 belongs to the Miller northern office. This is why a discount of 8% has been assigned.
- In the standard system, the access sequence is set in Customizing so that the discount is initiated at the lowest hierarchy level.

## Pallet Discount KP00

SAP

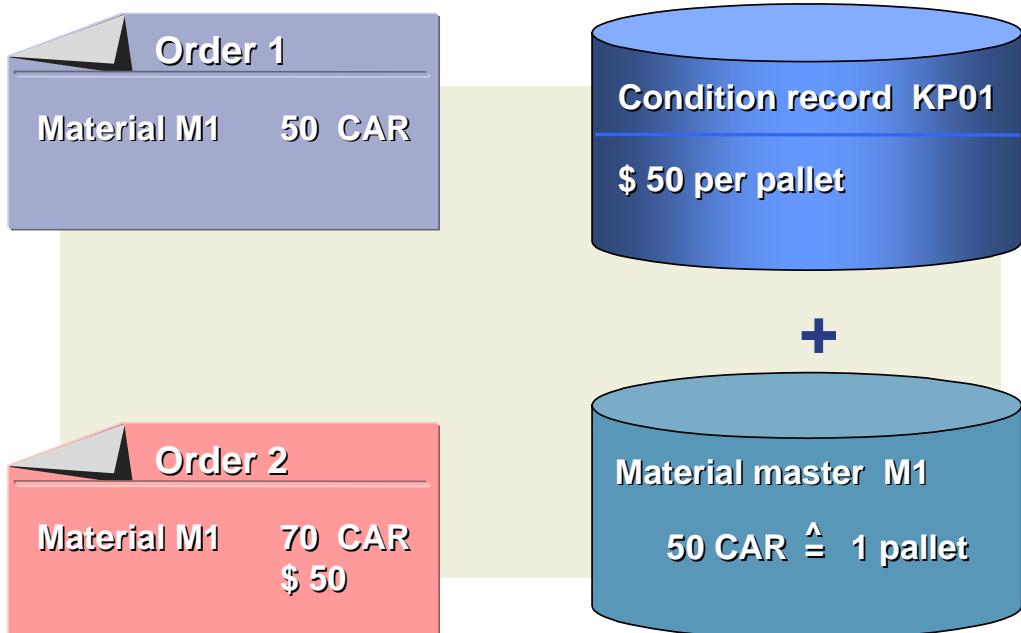


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- The pallet discount grants the customer a discount for whole units of measure only. For example, a complete pallet.
- This is controlled by basic formula 22 in the pricing procedure, which only takes the number of complete pallets into account.

## Incomplete Pallet Surcharge KP01

SAP

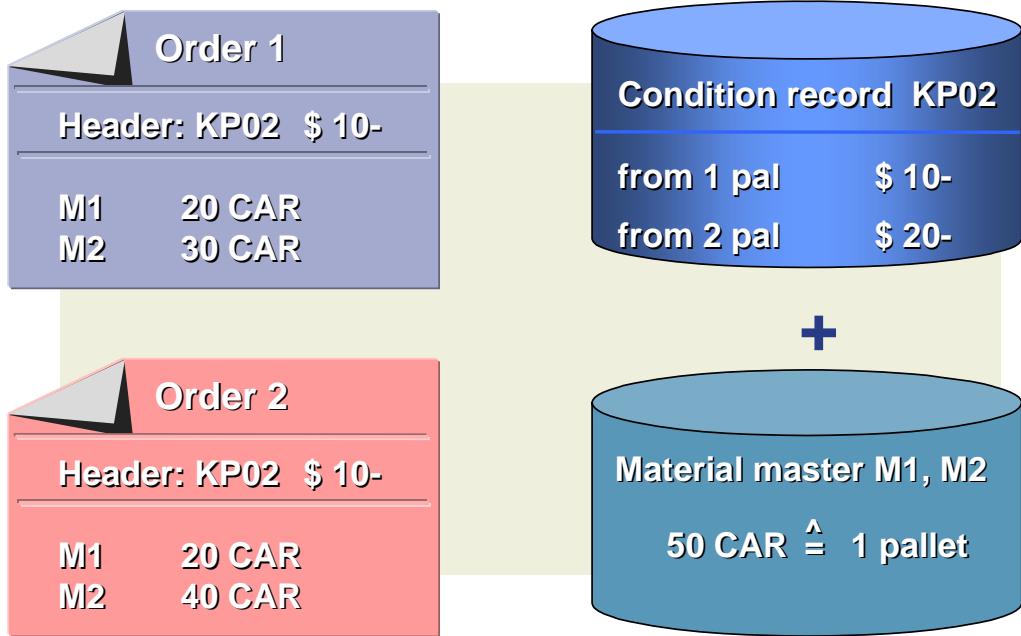


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- In this case, the customer pays a surcharge for an incomplete pallet.
- This is controlled in basic formula 24 in the pricing procedure, which tests the quantity for a fractional portion.

## Mixed Pallet Discount KP02

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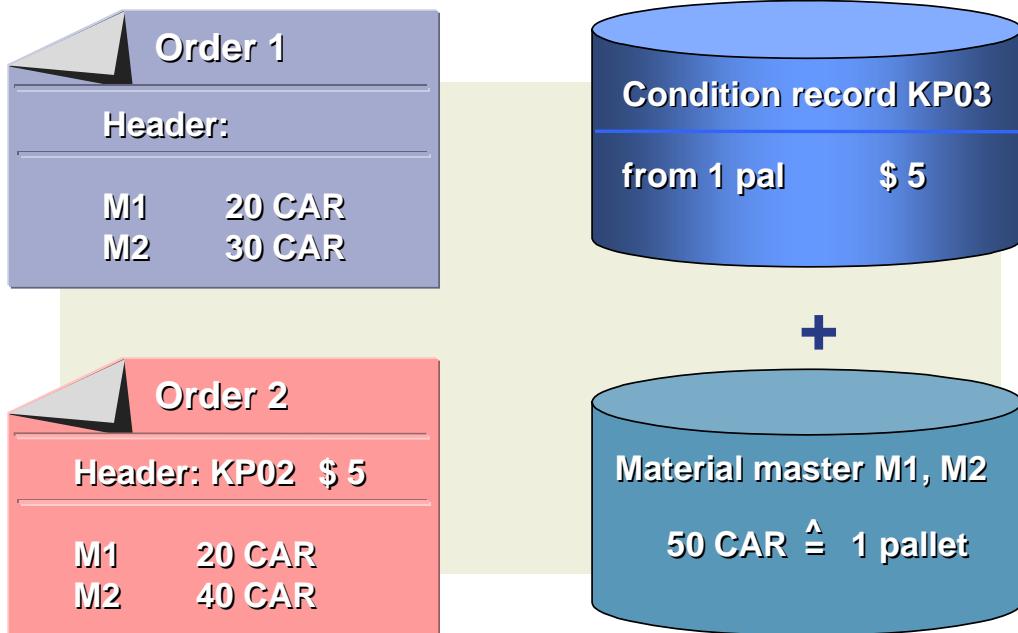


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- The mixed pallet discount accumulates the quantities of the individual items, then calculates the discount for complete pallets only.
- This is controlled by condition type KP02 (group condition = X, unit of measure = PAL) and the corresponding condition record.

## Surcharge for Incomplete Mixed Pallets KP03

SAP



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- The mixed pallet discount accumulates the quantities of the individual items. It then calculates the surcharge on any fractional portion of the total quantity.
- This is controlled by condition type KP03 (group condition = X, unit of measure = PAL and scale formula 23, which calculates the fractional proportion of the total quantity).

## Order header

Net value	DM 67.25
TAX	DM 10.08
Final amount	DM 77,33

Table 001R

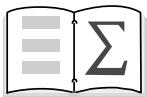
CCod	Curr	Rounding unit
1000	DM	5

## Order header

Net value 2	DM 67.25
TAX	DM 10.08
DIFF	DM 0.02
Final amount	DM 77.35

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- You can maintain a rounding unit in Table T001R for each company code and currency.
- If the final amount in the order header differs from the rounding unit, the system will round the amount up or down as specified.
- Condition DIFF determines the difference amount. Condition type DIFF is a group condition and is distributed among the different items according to value.



### You are now able to:

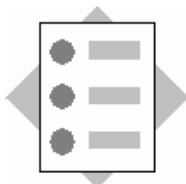
- Enter order values and net prices manually
- Set a minimum price for a material or a minimum value for an order
- Set interval scales for conditions
- Use customer hierarchies for price agreements
- See the effect of condition formulas
- Round final amounts

# Exercises



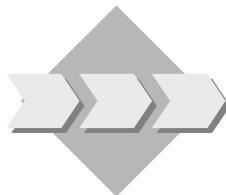
## Unit: Special Condition Types

### Topic: Selected Condition Type Configuration



At the conclusion of these exercises, you will be able to:

- Test a variety of calculations which can be accomplished using the special condition types
- Examine what Customizing settings enable the actions of each special condition type



Special condition types are supplied with the R/3 System, which provide a wide range of calculation variations. You will be analyzing the special needs of your business to determine if any of these condition types will be useful.

- 1-1 You will test the ability of order entry personnel to specify the total net value for the order and view the effect that has on the order items.

- 1-1-1 From the customer purchase order shown below, create a standard sales order.

TELEFAX	
Customer: <b>T-L67A##</b>	
PO number: <b>##-7-1</b>	
Requested delivery date: <b>In one week</b>	
<u>Material</u>	<u>Quantity</u>
<b>T-AT1##</b>	<b>1</b>
<b>T-AT2##</b>	<b>1</b>

- 1-1-2 You have come to an agreement with the customer that the total net for this order will be 2000 uni. Using a header condition, enter this data into the order using condition type HM00.

1-1-3 Activate the header pricing changes.

1-1-4 Review condition type HM00 for each item. What has been done with the header amount for HM00?

---

---

1-1-5 Save the order and record the document number.

1-2 Your company also requires that the person entering the order be able to override the net price of any line item. You will test this function of the system.

1-2-1 In an exceptional case, you agree with your customer on a one time net price of 600 uni per piece of material T-AT1##. From the customer purchase order shown below, create a standard sales order.

<b>TELEFAX</b>	
Customer: <b>T-L67A##</b>	
PO number: <b>##-7-2</b>	
Requested delivery date: <b>In one week</b>	
<u>Material</u>	<u>Quantity</u>
<b>T-AT1##</b>	<b>10</b>

---

---

1-2-2 Manually enter the item net price of 600 uni with condition type PN00.

1-2-3 What happens during pricing?

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- 1-2-4 Save the order and record the document number.
- 1-3 For certain materials, there is a price floor set regardless of how many discounts are applicable. You will create this condition type for one of your materials and then test it with an order.
- 1-3-1 You require that material T-AT1## not be sold for less than a net price of 800 uni for the next three months. With this information, create and save a minimum price condition record for this material with condition type PMIN.
- 1-3-2 From the customer purchase order shown below, create a standard sales order.

<b>TELEFAX</b>	
Customer: <b>T-L67A##</b>	
PO number: <b>##-7-3</b>	
Requested delivery date: <b>In one week</b>	
<u>Material</u>	<u>Quantity</u>
<b>T-AT1##</b>	<b>10</b>

1-3-3 What happens during pricing for the item?

---

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---

1-3-4 Save the order and record the document number.

1-3-5 Delete the PMIN condition record you created.

1-4 You will explore the behavior of interval scales by creating a special price condition record and then test its use in an order.

1-4-1 Create and save a PR02 price condition record with an interval scale for customer T-L67A## and material T-AT2##. Use the default validity period.

Use the following scale values for the condition record:

to	10 pieces	2000 uni
	20 pieces	1800 uni
	999999 pieces	1600 uni

- 1-4-2 From the customer purchase order shown below, create a standard sales order.

<b>TELEFAX</b>	
Customer: <b>T-L67A##</b>	
PO number: <b>##-7-4</b>	
Requested delivery date: <b>In one week</b>	
<u>Material</u>	<u>Quantity</u>
<b>T-AT2##</b>	<b>25</b>

---

---

- 1-4-3 What gross price and value is determined in automatic pricing?

---

---

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- 1-4-4 Save the order and record the document number.

---

---

- 1-4-5 What settings are necessary for the condition type in Customizing in order to use interval scales? Check these settings for condition type PR02.

---

---

1-5 Being able to negotiate pricing at various levels in the organization of your larger customers is important to your company. You will test customer hierarchy pricing by assigning one of your customers to an existing hierarchy, creating the necessary condition record and then viewing the effect on pricing for customer orders.

- 1-5-1 Assign your customer T-L67A## to the TOPCO Buying Group customer hierarchy under the *Western Europe* division, node 6222.
- 1-5-2 An agreement is reached with TOPCO's European region for a blanket discount on material T-AT2##. Create an HI02 Hierarchy/Material discount condition record for customer hierarchy node 6220 and material T-AT2## with a rate of 150 uni.
- 1-5-3 From the customer purchase order shown below, create a standard sales order.

TELEFAX	
Customer: <b>T-L67A##</b>	
PO number: <b>##-7-5</b>	
Requested delivery date: <b>In one week</b>	
<u>Material</u>	<u>Quantity</u>
<b>T-AT2##</b>	<b>1</b>

- 
- 
- 1-5-4 Examine the item pricing to determine if the HI02 discount was taken.
- 
- 

- 1-5-5 Save the order and record the document number.
-

# Solutions



## Unit: Special Condition Types

### Topic: Selected Condition Type Configuration

1-1 You will test the ability of order entry personnel to specify the total net value for the order and view the effect that has on the order items.

1-1-2 Condition type HM00:

Choose the *Display document header details* button at the top right of the screen.

Choose the *Conditions* tab.

Click the *Insert line* button.

Enter the condition type and rate.

1-1-3 Activate HM00 by choosing *Activate: new document pricing*. Original prices will then become inactive and condition HM00 becomes active.

1-1-4 The total net order value is divided up among the items according to their proportional value.

1-2 Your company also requires that the person entering the order be able to override the net price of any line item. You will test this function of the system.

1-2-3 All original conditions on the condition screen down to PN00 become inactive. You can recognize this change either by the colors of the display or in the detail screen for each condition.  
(Inactive field = Y).

- 1-3 For certain materials, there is a price floor set regardless of how many discounts are applicable. You will create this condition type for one of your materials and then test it with an order.

- 1-3-1 Creating a minimum price condition record:

*Menu path:*

***Logistics → Sales and Distribution → Master Data → Conditions → Select using condition type → Create***

Choose condition type **PMIN**.

- 1-3-3 If the item net value determined is less than the minimum price, the system calculates the condition value of minimum price PMIN as the **difference** between the minimum price and the gross amount less any discount amount. The item net value per piece will then correspond to the minimum price per piece.

- 1-3-5 Deleting a condition record:

*Menu path:*

***Logistics → Sales and Distribution → Master Data → Conditions → Select using condition type → Change***

Enter condition type PMIN and choose *Enter*.

Enter the appropriate values for your condition record and choose *Execute*.

Select the condition record.

Choose *Delete line*.

- 1-4 You will explore the behavior of interval scales by creating a special price condition record and then test its use in an order.

1-4-1 Creating prices with an interval scale:

*Menu path:*

***Logistics → Sales and Distribution → Master Data → Conditions → Select using condition type → Create***

Choose condition type **PR02**.

To enter the scale values, select the condition line and choose *Scales*.

1-4-3 Gross: 1840 uni per piece = 46000 uni

1-4-5 Scale type **D** (graduated-to interval scale) must be used.

- 1-5 Being able to negotiate pricing at various levels in the organization of your larger customers is important to your company. You will test customer hierarchy pricing by assigning one of your customers to an existing hierarchy, creating the necessary condition record and then viewing the effect on pricing for customer orders.

1-5-1 *Menu path:*

***Logistics → Sales and Distribution → Master Data → Business partners  
→ Customer hierarchy → Edit***

Enter: Customer hierarchy type **A**.

and: Customer **6200**

Choose *Execute*.

Choose *Expand all*.

Select the hierarchy node **6222 TOPCO Western Europe**.

Choose *Create assignment*.

Enter the data below.

"Customer" field group	<u>Input data</u>
Customer	T-L67A##
Sales organization	1000
DistrChannel	10
Divis.	00

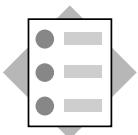
Choose *Transfer*. Customer T-L67A## is now assigned to TOPCO's "Western Europe" division.

Save the assignment.

- 1-5-4 The HI02 hierarchy/material discount created for node 6220 is used by customer T-L67A## which is assigned to a lower node of that hierarchy.

### Contents:

- **Cost VPRS**
- **Cash discount SKTO**
- **Expected customer price EDI1 and EDI2**

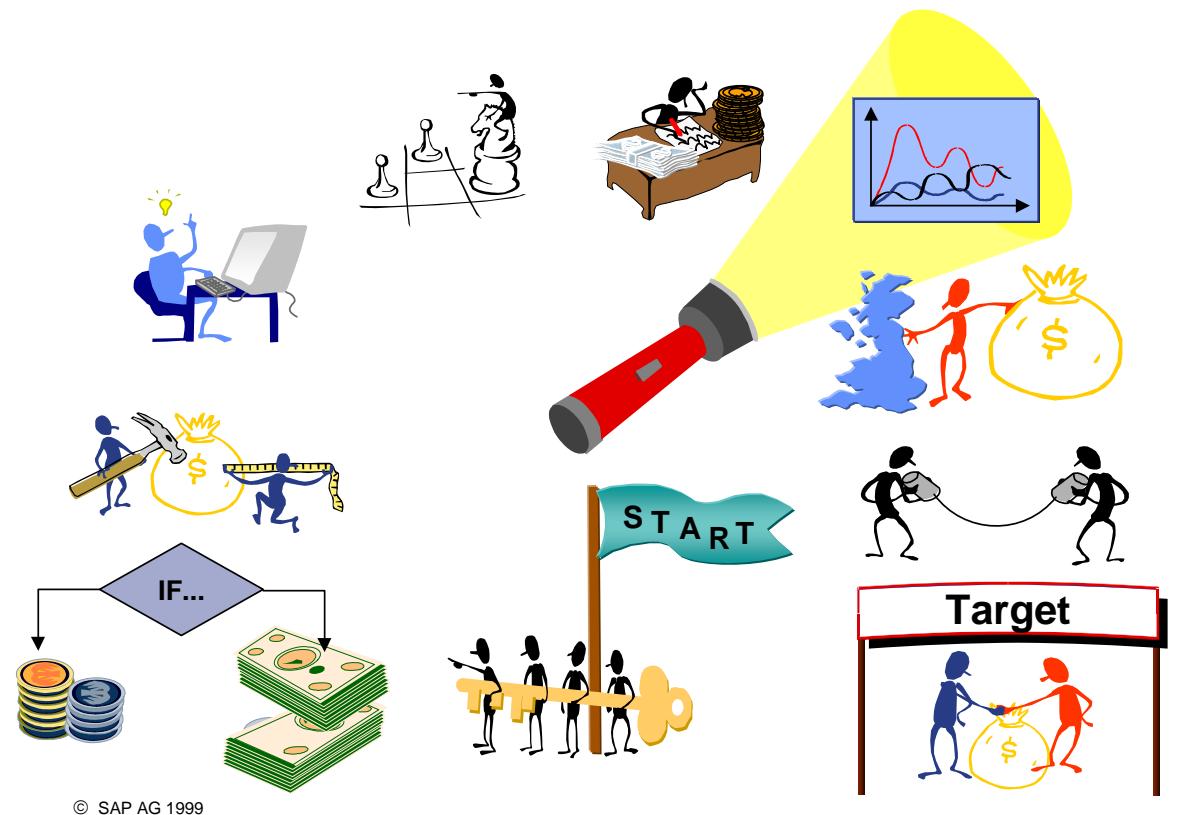


**At the conclusion of this unit, you will be able to:**

- Determine costs and cash discount amounts statistically in pricing
- Describe how expected customer prices transferred via EDI are used

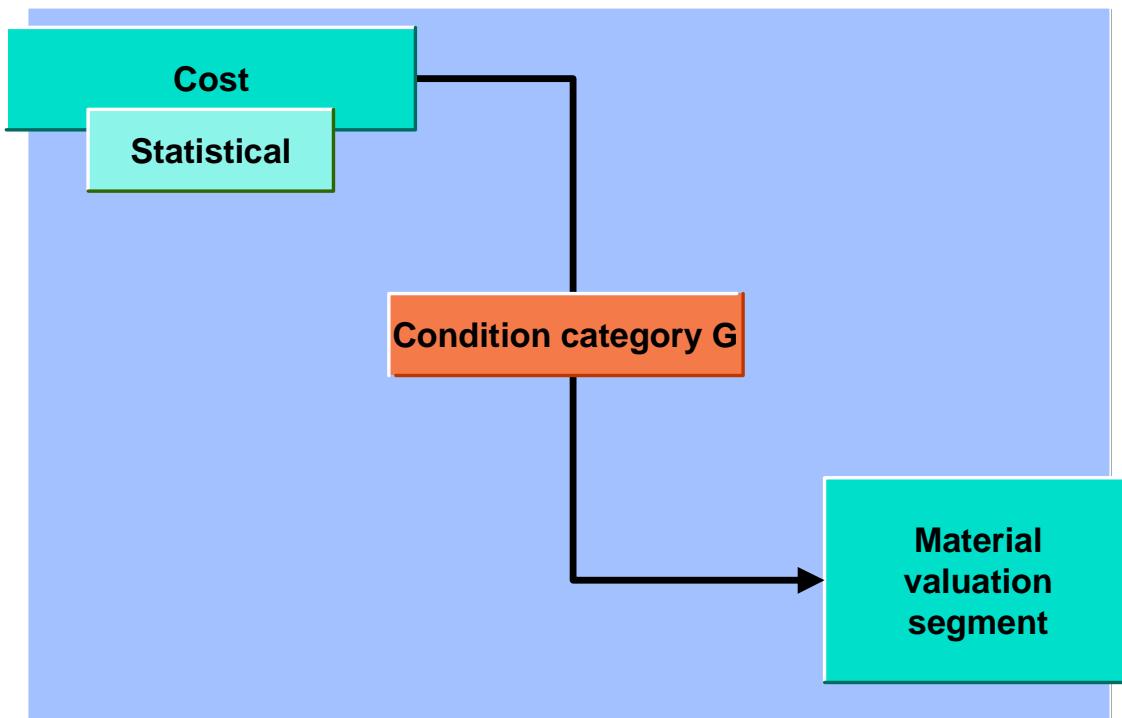
# Course Overview Diagram

SAP





- When processing a pricing procedure, it is often necessary to determine and make values in the procedure available for various purposes. These do not, however, change the net value of the item.
- This can be achieved by marking a condition type as "statistical".
- The cost from the material master and the maximum cash discount amount are determined as statistical conditions in the sales document, for example.



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- In the standard version, condition type VPRS is used to retrieve the standard cost of the material.
- It is used as a statistical value by the pricing procedure.
- Using condition category G, VPRS accesses the valuation segment of the material master locating either the standard cost or the moving average cost, as specified in the material master.
- Condition category S will always access the standard cost, while condition category T will always access the moving average cost.
- The profit margin is calculated using formula 11 in the pricing procedure. This formula subtracts the cost from the net value 2 subtotal.

## Cash Discount SKTO

SAP

Cash discount SKTO

Statistical

Condition category E

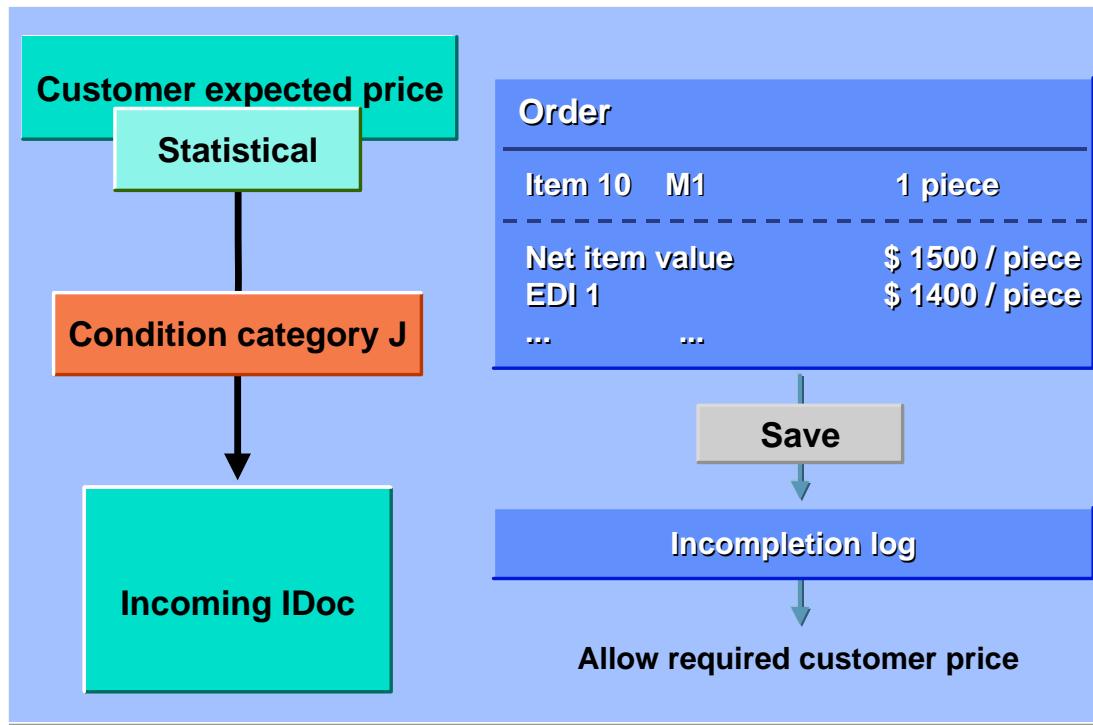
Table T052  
30 days (3 %)

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- In the standard system, condition type SKTO is used to retrieve the cash discount rate.
- It is used as a statistical value by the pricing procedure.
- Table T052 is accessed using condition category E and an amount is calculated from the first percentage rate of the item payment terms.

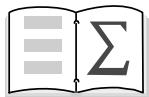
## Customer Expected Prices EDI1 and EDI2

SAP



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- The customer expected price can either be entered manually in the order, or retrieved from the incoming IDoc in an EDI environment.
- Condition type EDI1 is used to compare the net price for each item. Condition type EDI2 is used to compare the overall item value (net price \* quantity).
- Calculation formula 9 is assigned to condition type EDI1 in the pricing procedure. This formula tests for a maximum deviation of 0,05 currency units.
- Calculation formula 8 is assigned to condition type EDI2 in the pricing procedure. This formula tests for a maximum deviation of 1.0 currency units.
- If the customer expected price differs from the automatically determined price or value by more than the maximum difference allowed, the system will regard this order as incomplete when it is saved.
- You may process lists of orders having differences in prices, allowing the system to use or correct the price it determined.

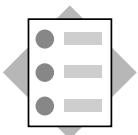


### You are now able to:

- Determine costs and cash discount amounts statistically in pricing
- Describe how expected customer prices transferred via EDI are used

**Contents:**

- **Criteria for determining taxes**
- **Determining taxes**

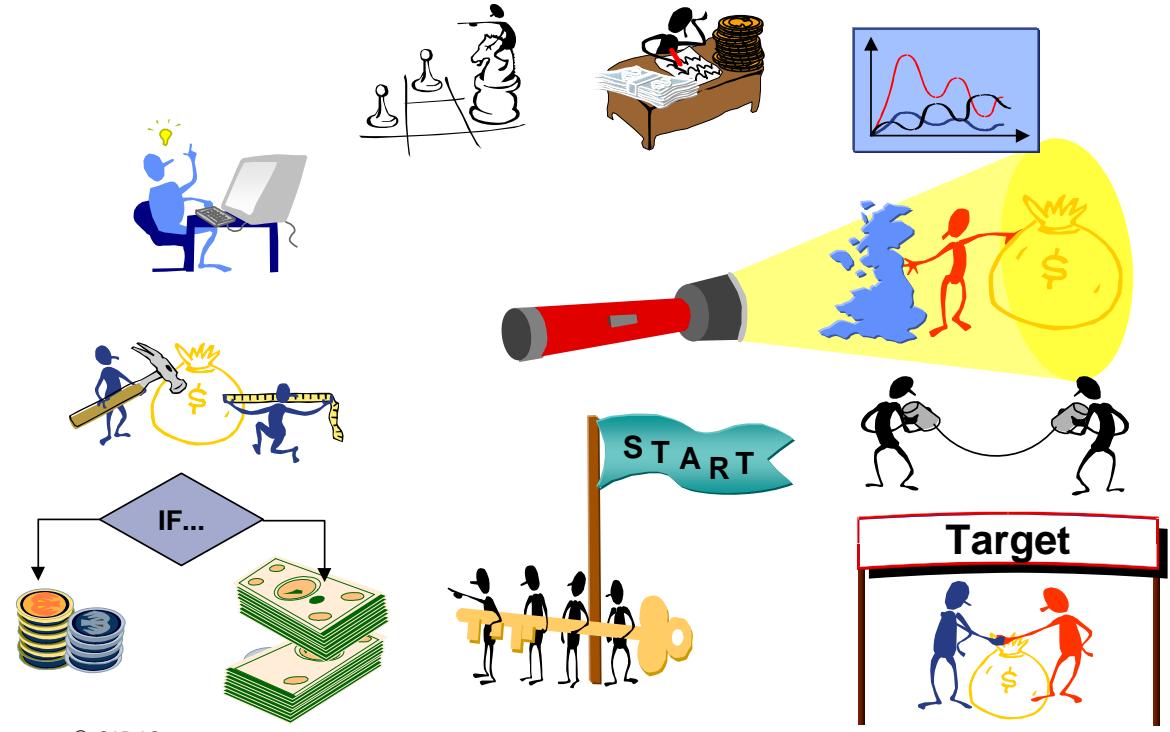


**At the conclusion of this unit, you will be able to:**

- **Describe the criteria taken into account when taxes are determined**
- **Describe how taxes are determined for each order item**

# Course Overview Diagram

SAP

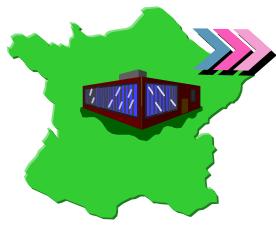




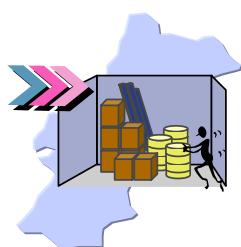
- Taxes are also to be determined automatically within pricing in your company.
- Valid tax categories and tax determination rules must be defined for every country with which you do business.

# Criteria for Tax Determination

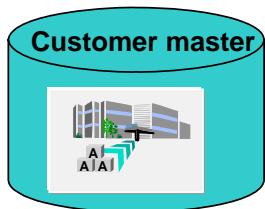
SAP



Departure country (country of the delivering plant)



Destination country  
(country of the ship-to party)



Customer tax classification:  
(for businesses within the EU on the basis of the  
tax number STCEG)



Material tax classification  
(access with departure country)

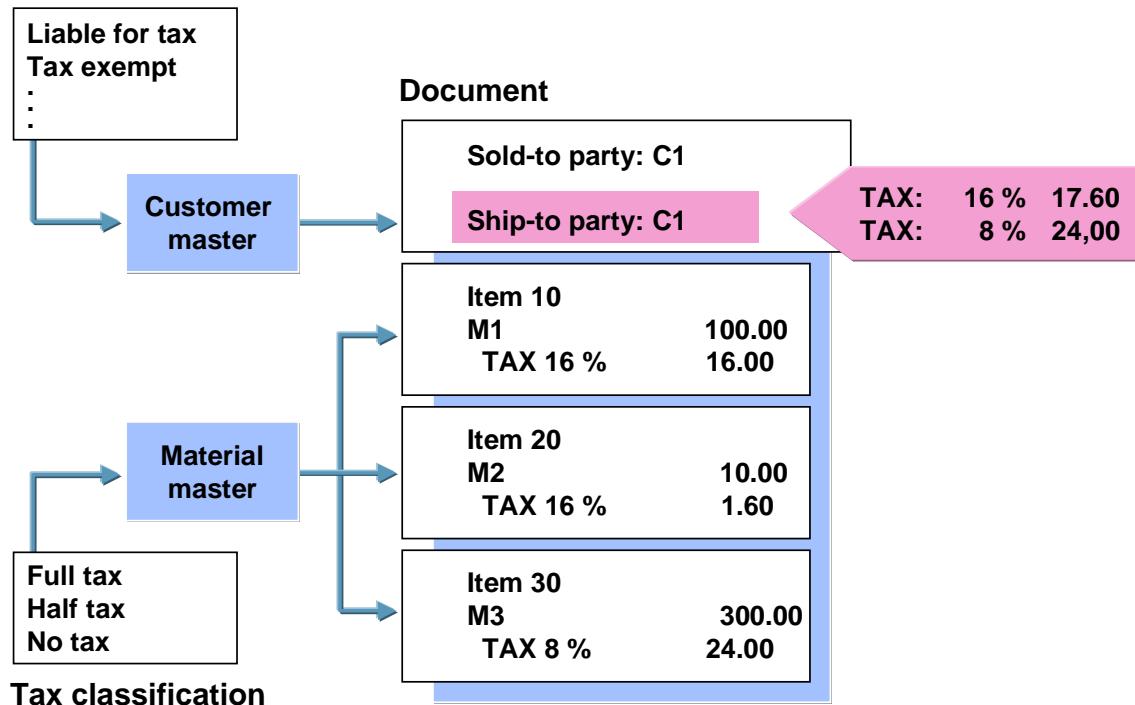
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- You can assign a **rule** (blank, A, B) at the **sales organization** level to determine the sales tax identification number in the order and billing document (the tax classification determination is linked to this)
- **For the status BLANK**, the standard priority rules are as follows:
  - 1. If PY has a sales tax ID and a different SP
    - The tax number and tax classification are taken from PY (the SH is then no longer relevant).  
The tax number is determined according to the 'tax destination country'.
  - 2. If 1. does not apply:
    - If the SH has a sales tax ID or the SP has NO sales tax ID, the tax number and tax classification are taken from the SH.
  - 3. If 2. does not apply:
    - Tax number and tax classification are transferred from the sold-to party.
- **With status 'A'**, the tax number and tax classification are generally transferred from the sold-to party. The tax number is transferred according to the 'tax destination country'.
- With status 'B': Data is transferred from the payer in the same way as rule A.

# Tax Classifications

SAP

## Tax classification

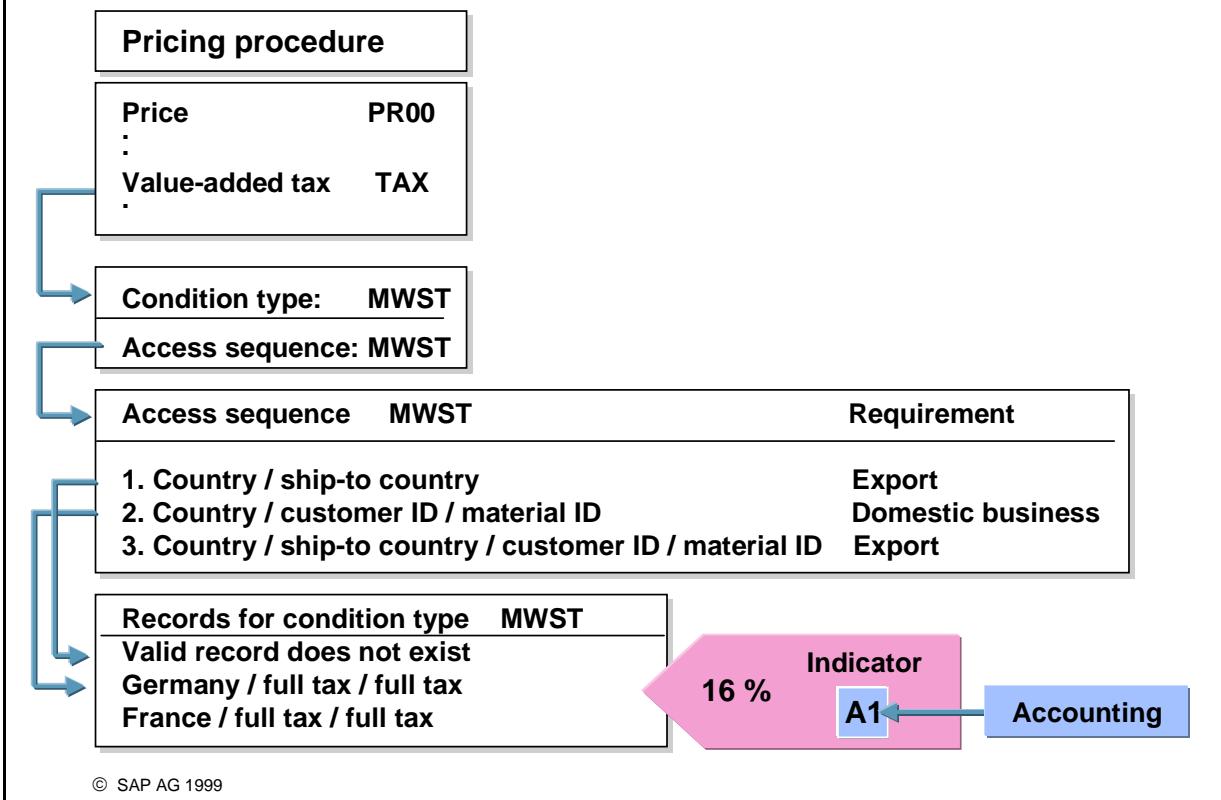


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- The following factors play a role in tax determination:
  - Business transaction - domestic or export/import
  - Tax liability of the ship-to party
  - Tax liability of the material
- The system determines a tax rate in the document (order/billing document) on the basis of these three criteria.

## Pricing Procedures for Tax

SAP

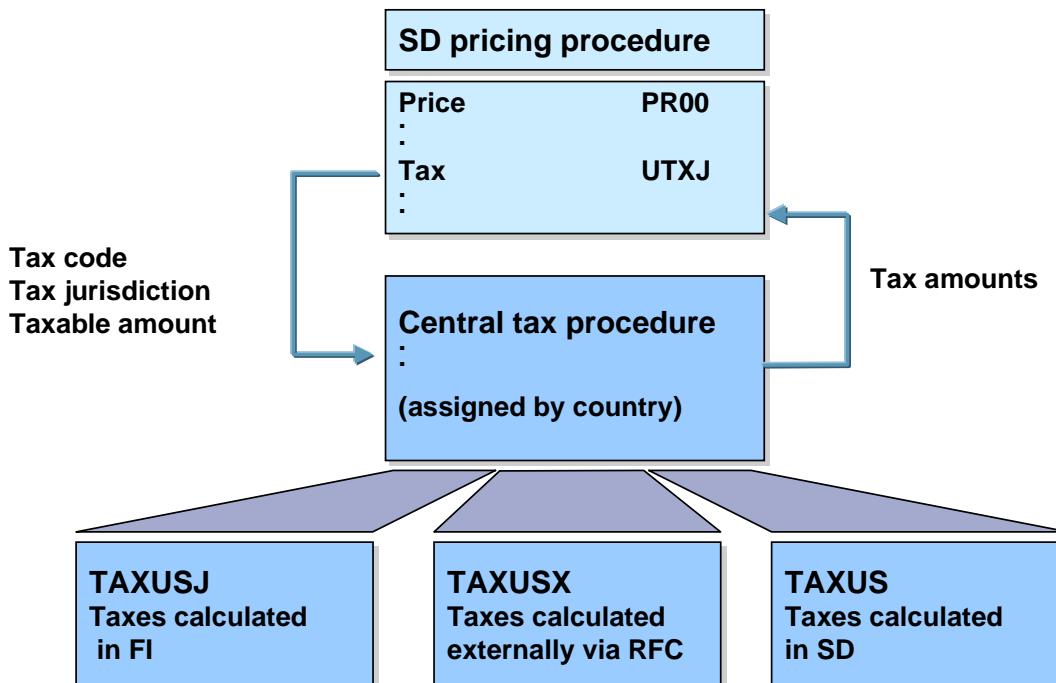


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- Taxes may be calculated in Sales and Distribution using normal condition techniques.
- The condition type for tax is entered into the pricing procedure.
- The access sequence is used to find the appropriate condition record for the current situation.

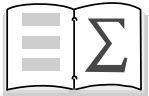
## Tax Interfaces (Example USA)

SAP



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- You decide when taxes are to be calculated. The tax procedure is assigned **in the defaults for Financial Accounting** according to country. For the USA, for example, you have the following options:
  - TAXUS (taxes are calculated in Sales and Distribution.)
  - TAXUSJ (taxes are calculated in the central tax procedure using the tax jurisdiction stored in the master data for the ship-to party)
  - TAXUSX (taxes are calculated via an RFC and a central tax procedure.)
- For jurisdictional and third party tax calculations, once the procedure has been determined, the corresponding pricing procedure in SD will have the appropriate condition types. For example, if the tax procedure assigned to the country is TAXUSJ, the pricing procedure RVAJUS will have condition types UTXJ, JR1, JR2, JR3, and JR4. If the Central tax procedure is TAXUSX, the pricing procedure RVAXUS uses condition types UTXJ, XR1, XR2, XR3, XR4, XR5, and XR6.
- The condition type UTXJ initiates the tax calculation. JR1-4 and XR1-6 are condition types that receive the jurisdictional breakdown of the TAX amounts returned from the Central tax procedure.

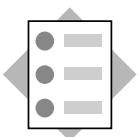


### You are now able to:

- **Describe the criteria taken into account when taxes are determined**
- **Describe how taxes are determined for each order item**

## Contents:

- Promotion
- Sales deal

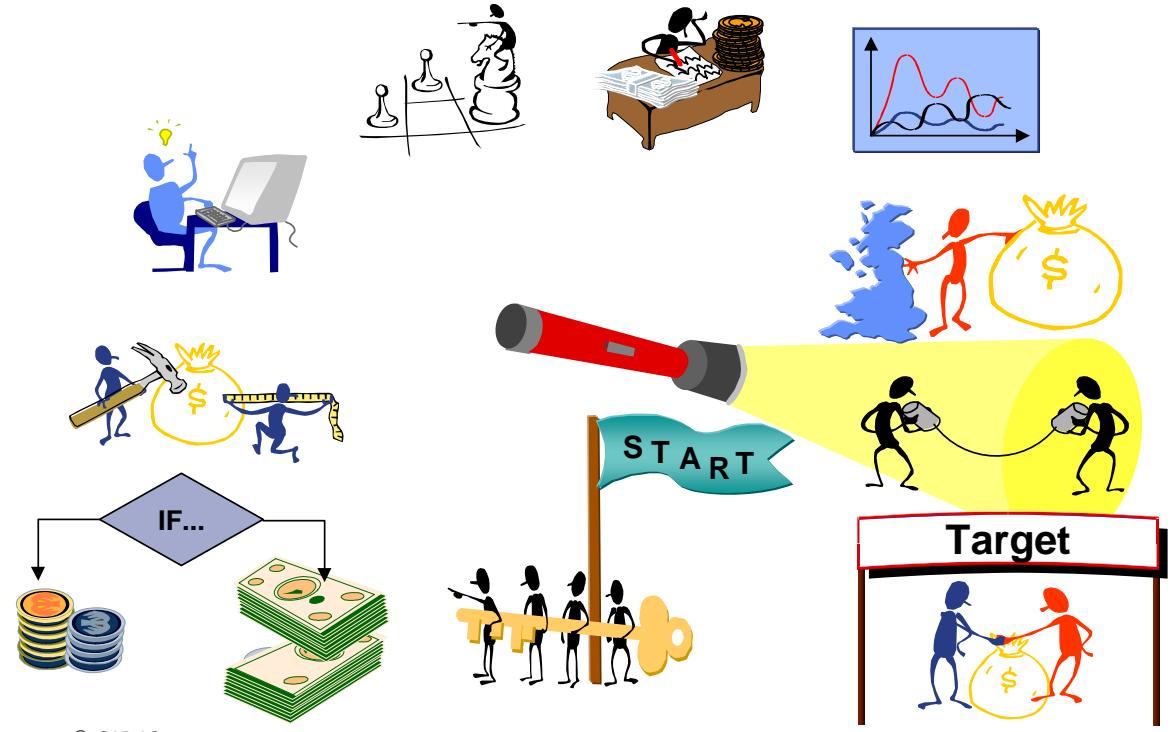


**At the conclusion of this unit, you will be able to:**

- **Use agreements to carry out and evaluate marketing projects**

# Course Overview Diagram

SAP

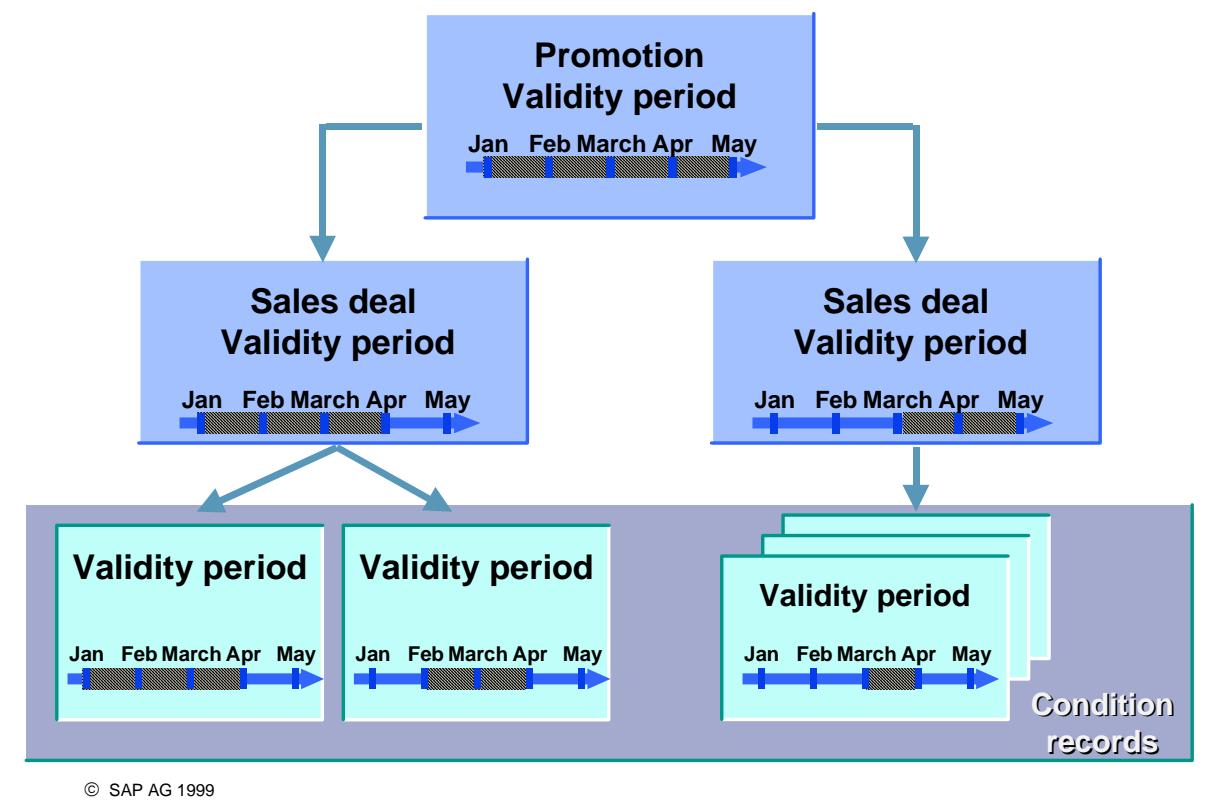




- Marketing programs are being used in your company, in other words special conditions for particular periods are being set for individual products or product groups, for example.
- To be able to analyze this data later, agreement types such as promotions and sales deals are to be created, within which special condition records can be added.

## Validity Period

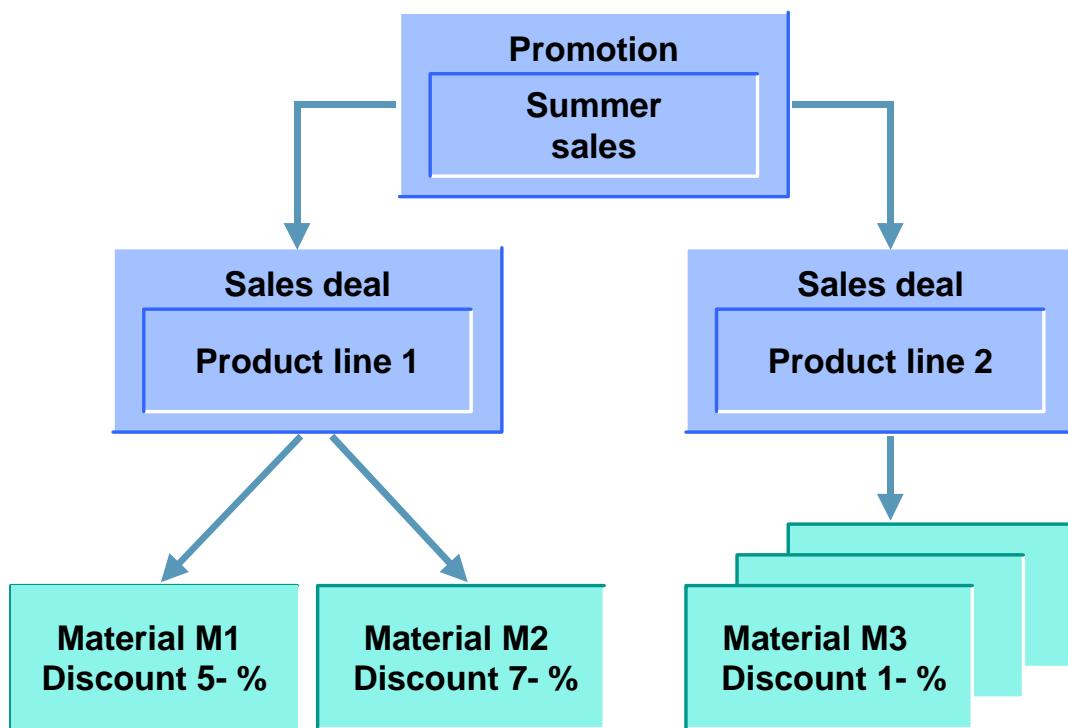
SAP



- You can define a promotion or general marketing plan for a product line for a certain period of time.
- You can then link this promotion with specific sales deals, which are themselves linked to special condition records. These condition records can be used for promotional pricing or discounts.

## Sales Deal: Example

SAP

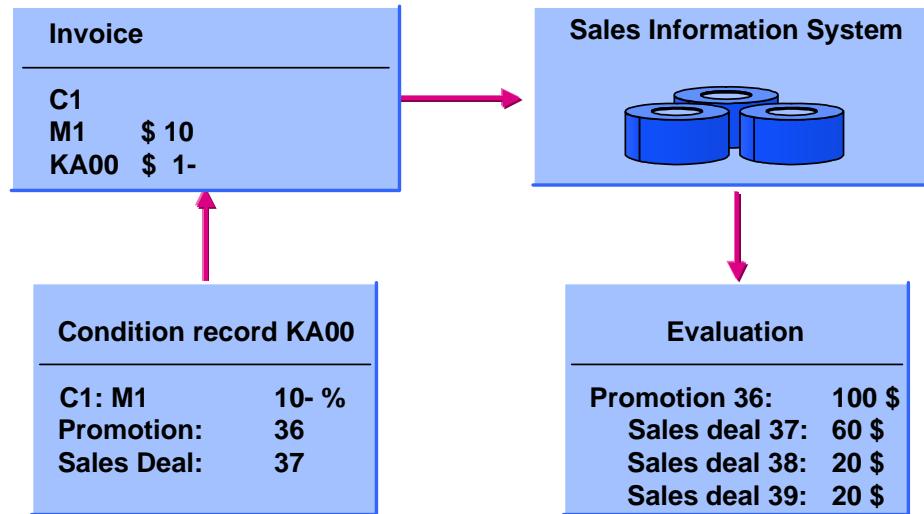


© SAP AG 1999

- This example depicts a summer sales promotion. It contains different sales deals for different product lines.
- Condition records for discounts are linked to the corresponding sales deals.

# Sales Deals and Promotions in the Billing Document

SAP



© SAP AG 1999

- The 'sales deal number' and 'promotion number' fields are in the detail screen of the billing item.
- The Sales Information System can be used for capturing and reporting statistics for sales deals and promotions with a user-defined information structure.

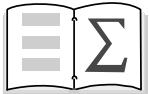
Sales deal: Star markets Status: A	
Material	Amount
M1	\$ 2- / PC
M2	\$ 4- / PC
M3	\$ 4- / PC

### Possible values:

- \_ = released
- A = blocked
- B = released for price simulation
- C = released for price simulation and planning

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- The release status of a sales deal controls where you can find the condition records for a sales agreement.
- If, for example, the activity has status B, its records are included in pricing simulation (net price list) but are not used in the current documents.
- If the activity has status C, the condition records are also considered in planning in the CO-PA module.



You are now able to:

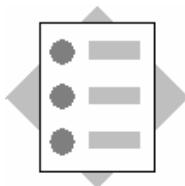
- Use agreements to carry out and evaluate marketing projects

# Exercises



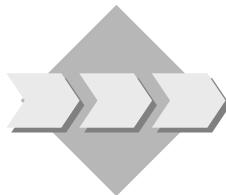
## Unit: Agreements

### Topic: Promotions and Sales Deals



At the conclusion of these exercises, you will be able to:

- Create promotions and sales deals.
- Link condition records to agreements.
- Display agreement information in the billing document.



Your sales department has a requirement to be able to report pricing information. Your implementation team will investigate promotion and sales deal agreement functionality to see if it will meet the requirement.

- 1-1 You have been asked to test the capability of promotions and sales deals to ensure that the necessary information flows from the order to the invoice for reporting purposes.

- 1-1-1 Create and save a promotion, using your group number in the description.
- 
- 

- 1-1-2 Create a sales deal with reference to your promotion. Any sales orders placed by your customer using this sales deal will be offered special payment terms of 20 days 2%, 30 days net.
- 
-

- 1-1-3 Your sales deal is specific to certain customers. Customer T-L67B## will receive an additional 5% discount for the life of this sales deal. Create and save a K007 condition record for your sales deal.
- 1-2 For reporting purposes, management needs to be able to link customer invoices to a particular promotion/sales deal combination. You will test the ability of the system to meet this requirement.
- 1-2-1 From the customer purchase order shown below, create a standard sales order.

TELEFAX	
Customer: <b>T-L67B##</b>	
PO number: <b>##-9-2</b>	
Requested delivery date: <b>In one week</b>	
<u>Material</u>	<u>Quantity</u>
<b>T-AT3##</b>	<b>10</b>

- 1-2-2 View the pricing for the item. Was the sales deal discount used on the order?

---

---

- 1-2-3 Save the order and record the document number.

---

---

- 1-2-4 Create a delivery for the order, pick the required quantity, and then post goods issue. Use shipping point 1200 and a selection date of 10 days from today. Choose warehouse number 012 for the transfer order. Note the document number.
- 
- 

- 1-2-5 Create an invoice for the delivery.

- 1-2-6 View the item details in the invoice and locate the promotion number and sales deal number.
- 
- 

- 1-2-7 Save the invoice and record the document number.
- 
-

# Solutions



## Unit: Agreements

### Topic: Promotions and Sales Deals

- 1-1 You have been asked to test the capability of promotions and sales deals to ensure that the necessary information flows from the order to the invoice for reporting purposes.

1-1-1 Creating a promotion:

*Menu path:*

**Logistics → Sales and Distribution → Master Data → Agreements → Promotion → Create**

Choose promotion type **0030**.

1-1-2 Create a sales deal:

*Menu path:*

**Logistics → Sales and Distribution → Master Data → Agreements → Sales deal → Create**

Choose sales deal type **0020**.

Choose *Reference promotion*.

Enter your promotion number and choose *Copy*.

Enter a description and payment terms (ZB03).

Save the sales deal and record the agreement number.

1-1-3 Creating a condition record for sales deal:

*Menu path:*

**Logistics → Sales and Distribution → Master Data → Agreements → Sales deal → Change**

Enter your sales deal number and choose *Enter*.

Choose *Conditions*.

Select K007 Customer discount and click the *Choose* button.

Enter the appropriate values and save the condition record.

1-2 For reporting purposes, management needs to be able to link customer invoices to a particular promotion/sales deal combination. You will test the ability of the system to meet this requirement.

1-2-2 Pricing automatically calculates a customer discount (K007) of 5% from the sales deal.

1-2-4 Creating an outbound delivery order, a transfer order to do the picking, and then posting goods issue.

*Menu path:*

***Logistics → Sales and Distribution → Shipping and Transportation  
→ Outbound Delivery → Create → Single Document → With Reference  
to Sales Order***

To pick the required quantity directly from within the delivery document, choose:

***Subsequent functions → Create transfer order***

Enter the warehouse number **012**.

In the *Picking quantity* field, choose function **2** (copy the picking quantity to the delivery and post goods issue).

Save the transfer order.

1-2-5 Creating a billing document:

*Menu path:*

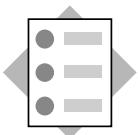
***Logistics → Sales and Distribution → Billing → Billing document →  
Create***

Enter your delivery document number and click the *Execute* button.

1-2-6 The promotion and sales deal number are displayed.

## Contents:

- **Processing rebates**
- **Creating rebate agreements**
- **Settling rebates**
- **Rebate configuration**

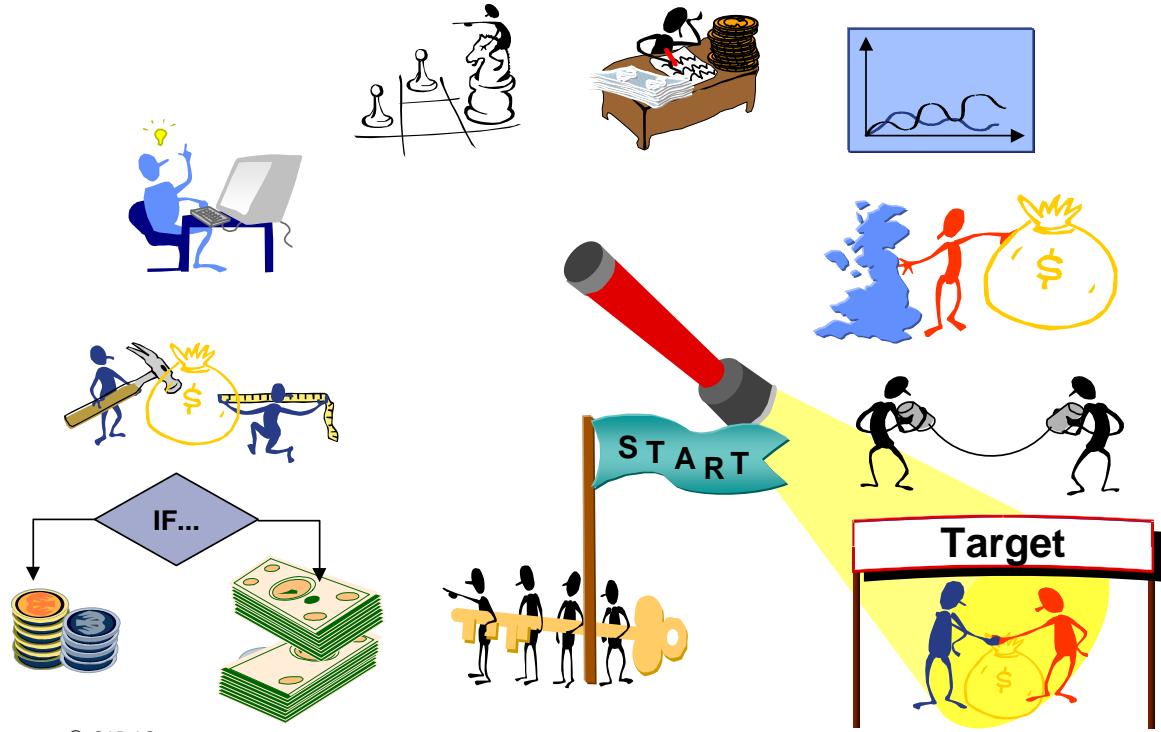


**At the conclusion of this unit, you will be able to:**

- **Describe the entire rebate processing procedure**
- **Create rebate agreements**
- **Carry out rebate settlements**
- **Control rebate processing in Customizing**

# Course Overview Diagram

SAP

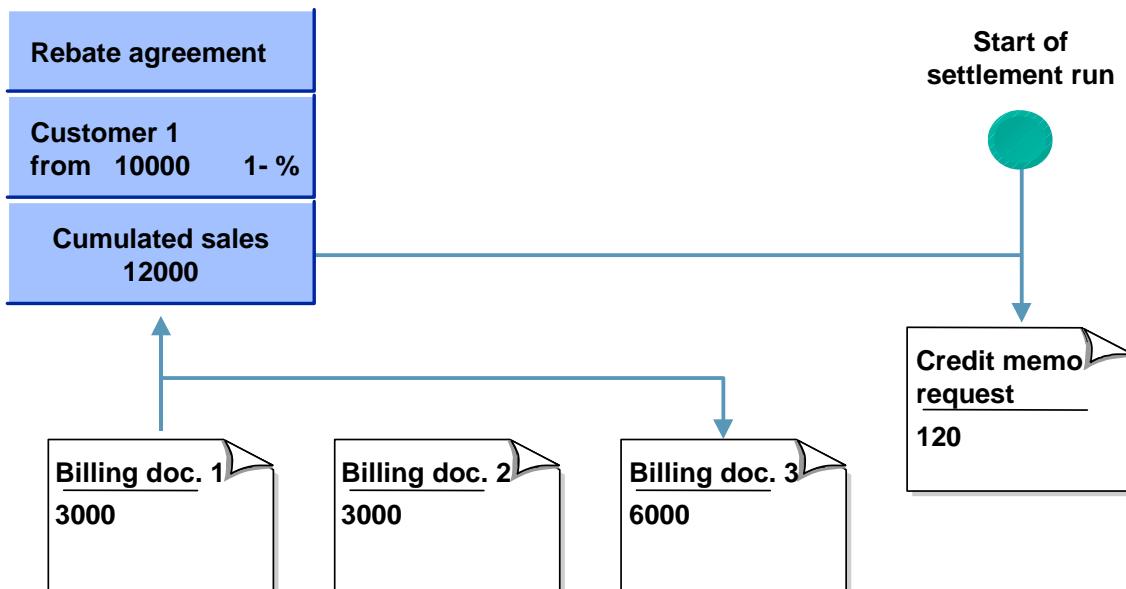




- A rebate is a discount, which is granted subsequently to a rebate recipient on the basis of a defined sales volume within a certain period.
- Rebate agreements are created to determine the values required for a rebate settlement within the validity period of the rebate agreement.

# Processing Rebates

SAP



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- Rebates are different from other discounts in that they are based on the sales volume generated by the customer within a specified period and are paid retrospectively. The rebate details are defined in a rebate agreement.
- A settlement run creates the required credit memo request automatically.
- When the rebate-relevant billing documents are processed, accruals can be determined and posted automatically. The rebate credit memo then reverses these accruals, if desired.

## Prerequisites for Rebate Processing

SAP

Sales organization

Payer

Billing type



Rebate active

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- In order for rebates to function, rebate processing must be activated for:
  - The sales organization
  - The payer master
  - The billing document type
- For performance reasons, you should deactivate rebate processing if it is not necessary.

## Creating Rebate Agreements (1)

SAP

### Rebate agreement type: 0001 Mat./group rebate

Rebate recipient:	C1
Valid from:	01.01.2000
Valid to:	31.12.2000
Status:	open

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- The rebate agreement is created with reference to a rebate agreement type. The features of each rebate agreement type are set in Customizing.

## Creating Rebate Agreements (2)

SAP

### Rebate agreement type: 0001 Mat./group rebate

Rebate recipient: C1  
Valid from: 01.01.2000  
Valid to: 31.12.2000  
Status: open

### Condition record BO01 Group rebate

Customer 1 Validity period 01/01/2000 to 12/31/2000

#### Material

M1	Amount:	from \$ 1000	2- %
		\$ 5000	4- %
	Accrual:		3- %

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- Condition records are linked to the rebate agreement specifying the rebate rate and the accrual rate.
- With the rebate agreement, you can specify:
  - The condition types used with this rebate agreement type
  - A validity period proposal

## Rebate Processing (1)

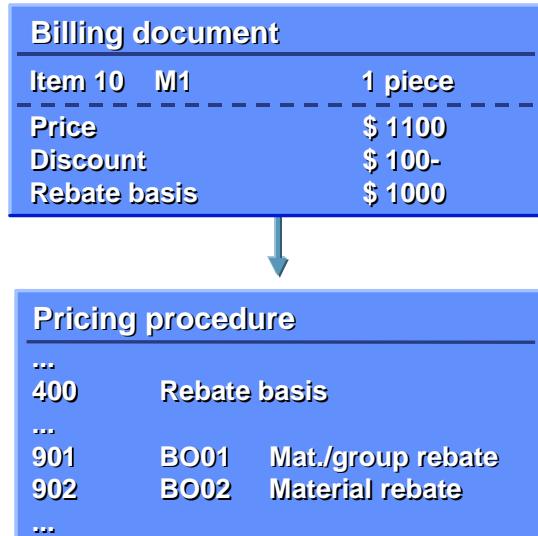
SAP

### Billing document

Item 10	M1	1 piece
Price		\$ 1100
Discount		\$ 100-
Rebate basis		\$ 1000

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- Rebate processing begins by creating a rebate-relevant billing document.

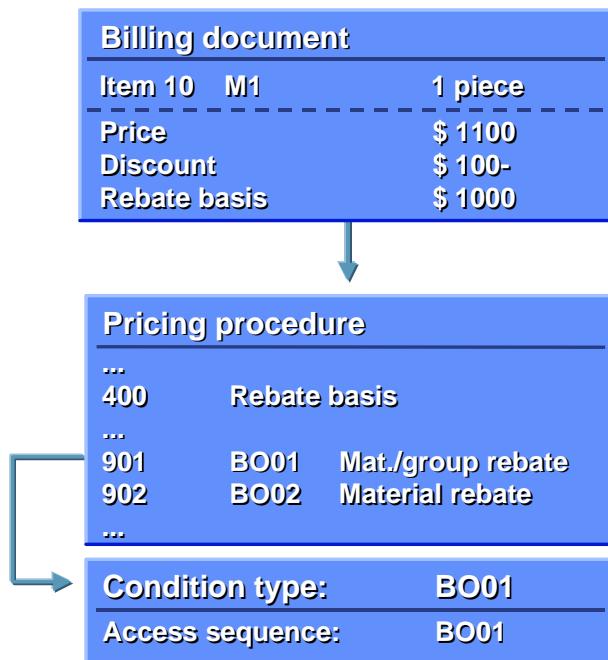


© SAP AG 1999

- The valid rebates are determined by the pricing procedure **using the rebate basis subtotal**.

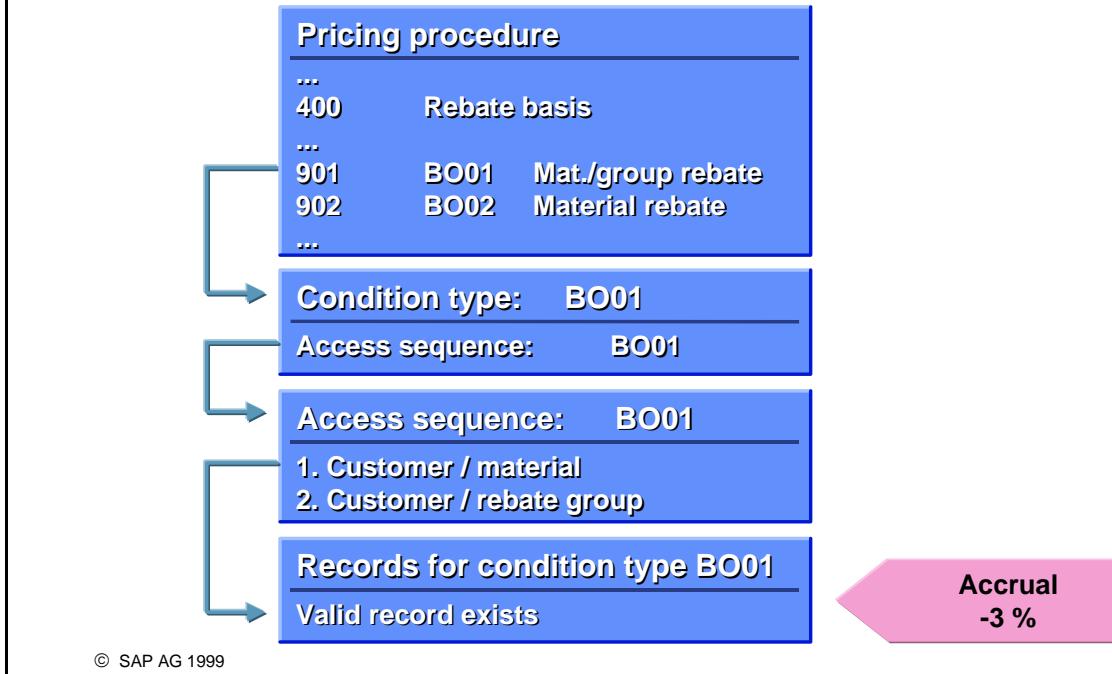
## Rebate Processing (3)

SAP



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- Each rebate condition type has an assigned access sequence.



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- The system uses the access sequence to search for the valid rebate condition records. If valid condition records are found, the accrual rate is read.
- Requirement 24 in the pricing procedure enforces that the rebate conditions are used only in billing documents.
- Requirement 25 in the pricing procedure enforces that the rebate conditions are used only in rebate-relevant billing documents.

## Rebate Processing (5)

SAP

Accrual 3- %

### Billing document

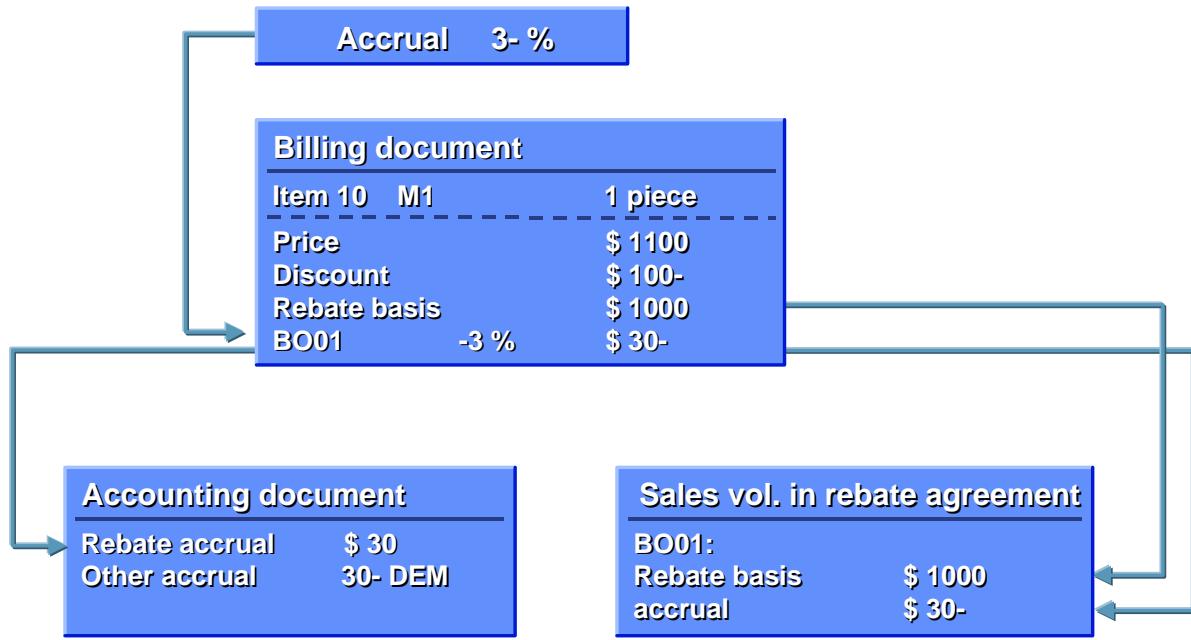
Item 10	M1	1 piece
Price		\$ 1100
Discount		\$ 100-
Rebate basis		\$ 1000
BO01	3- %	\$ 30-

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- The rebate accrual amount is calculated using the rebate basis.

## Rebate Processing (6)

SAP



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- The system posts an accrual to financial accounting as soon as the rebate-relevant billing document is released to accounting.
- At the same time, the system updates the rebate basis and the accrual amount in the rebate agreement sales volume screen.

## Creating Rebate Settlements (1)

SAP

### Sales vol. in rebate agreement

BO01:

Payment	Amount	Basis	Accrual
20 \$	2%	1000 \$	30- \$

Status

A

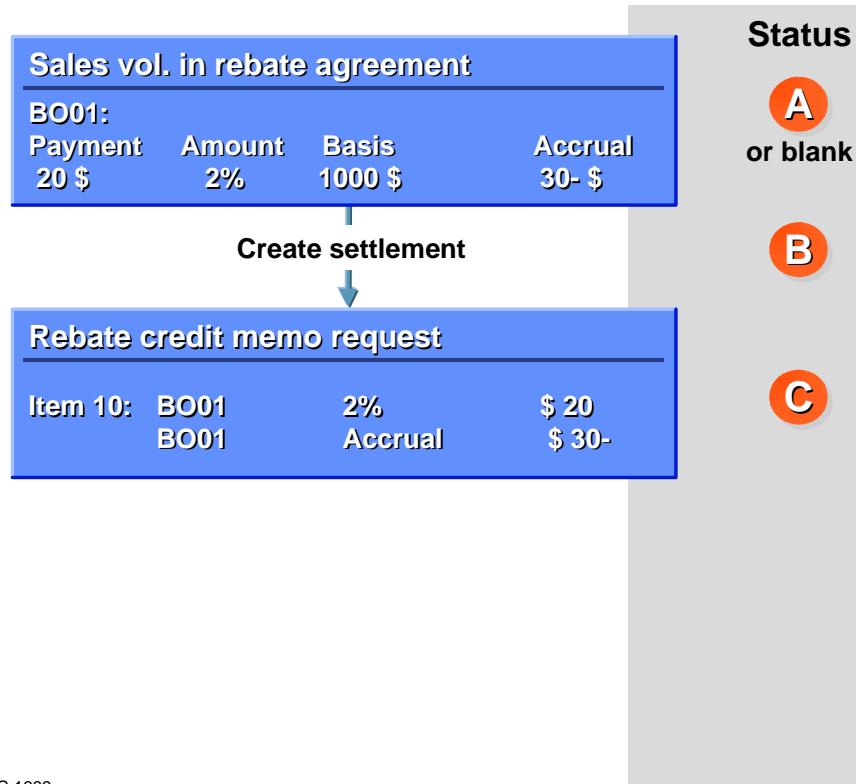
or blank

© SAP AG 1999

- The system uses the accumulated amounts in the rebate agreement to create a rebate settlement.
- Status A refers to an open rebate agreement.

## Creating Rebate Settlements (2)

SAP

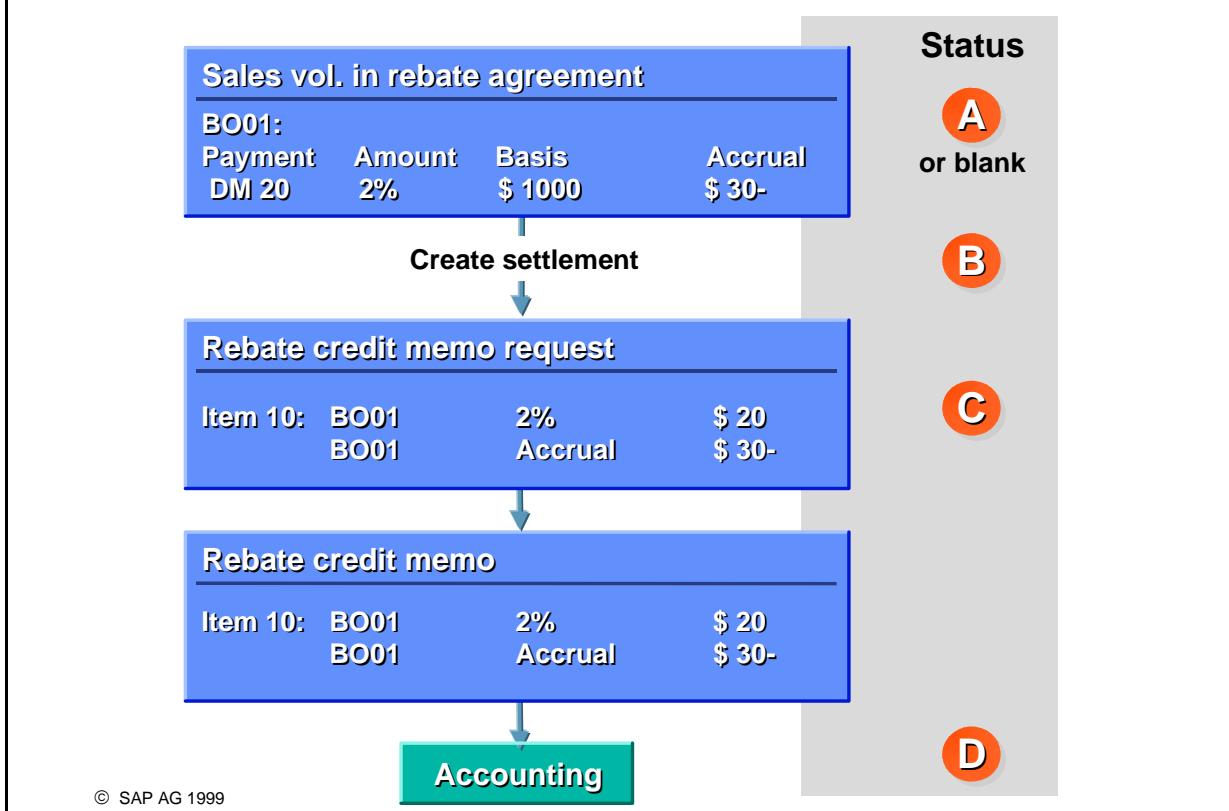


© SAP AG 1999

- The system generates a rebate credit memo request for the rebate payment amount specified.
- Status B means the rebate is released for settlement.
- Status C means you have actually executed the settlement. The System creates a credit memo request for the accrual amount.

## Creating Rebate Settlements (3)

SAP



- You can display the sales volume and drill-down in the rebate agreement.
- You can carry out a final settlement for the rebate agreement either:
  - manually
  - automatically
  - in the background (batch programs: **RV15C001** and **RV15C002**)
- Accruals are reversed as soon as the rebate agreement is settled by credit memo.

## Retroactive Rebate Agreements (1)

SAP

Billing document from Oct 01, 2000

Rebate basis	\$ 1000
--------------	---------

Billing document from Nov 02, 2000

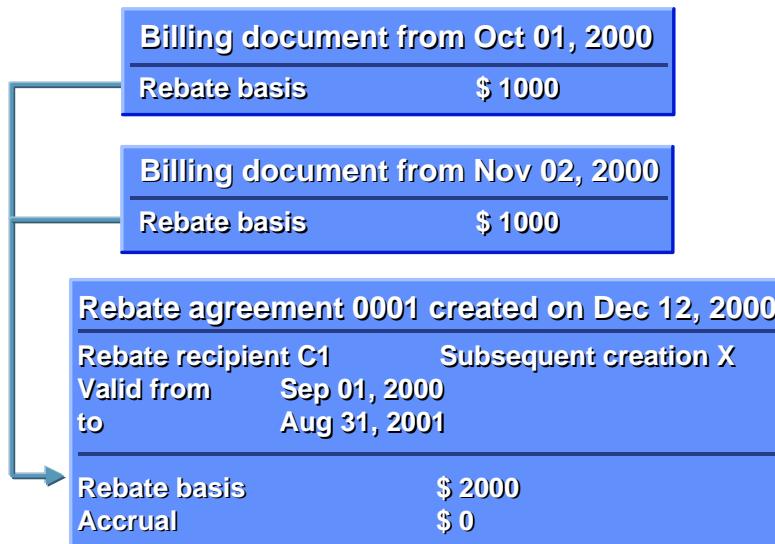
Rebate basis	\$ 1000
--------------	---------

© SAP AG 1999

- Retroactive rebate agreements allow you to take into account billing documents created before the rebate agreement is created.

## Retroactive Rebate Agreements (2)

SAP

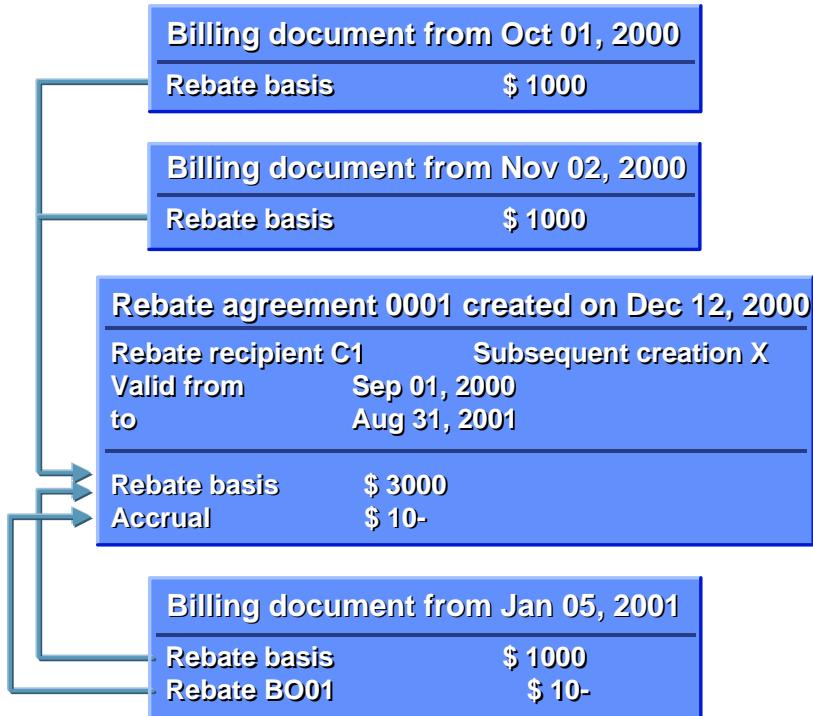


© SAP AG 1999

- The rebate basis for the billing documents created previously is accumulated and recorded in the rebate agreement.
- The accrual amount is not automatically updated for previously created billing documents. This amount must be entered manually.

## Retroactive Rebate Agreements (3)

SAP

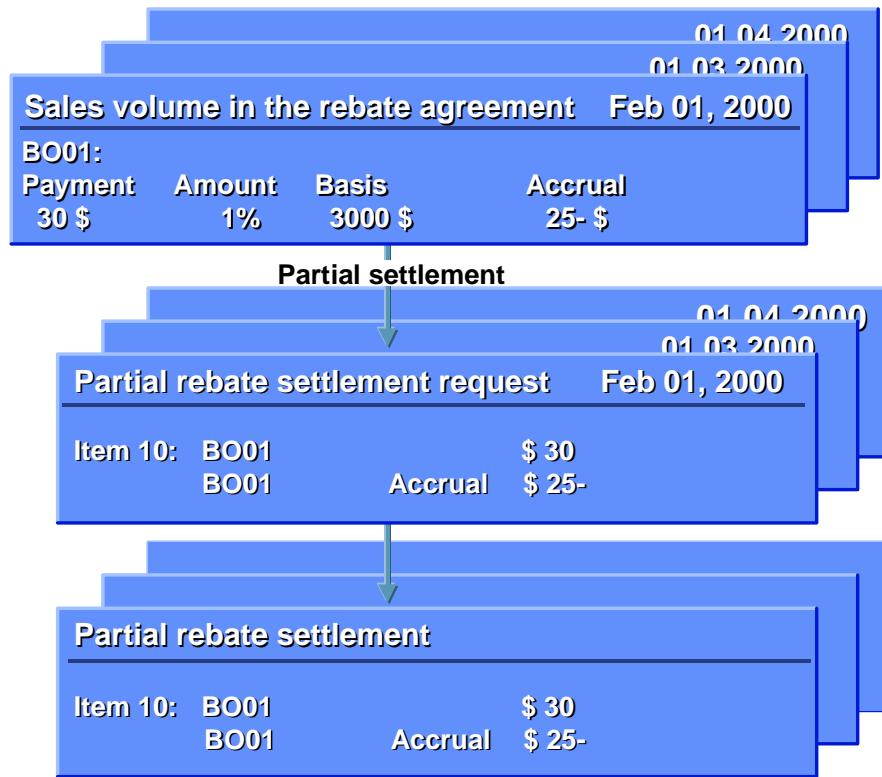


© SAP AG 1999

- Rebate-relevant billing documents created after the rebate agreement is created update both the rebate basis and accrual fields automatically.

## Partial Rebate Settlement

SAP



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- Partial rebate settlements can be limited for each rebate agreement type as follows:
  - up to the accumulated accrual amount
  - up to the calculated payment amount for the current date
  - unlimited
- Accruals are cancelled automatically when a credit memo is created, provided that the rebate agreement type is set accordingly in Customizing.

## Settlement Material (1)

SAP

### Condition record BO03 Customer rebate

#### Customer

C1	Amount:	from	\$ 1000	2- %
			\$ 5000	4- %
	Accrual:			3- %

Settlement material: Rebate material 01

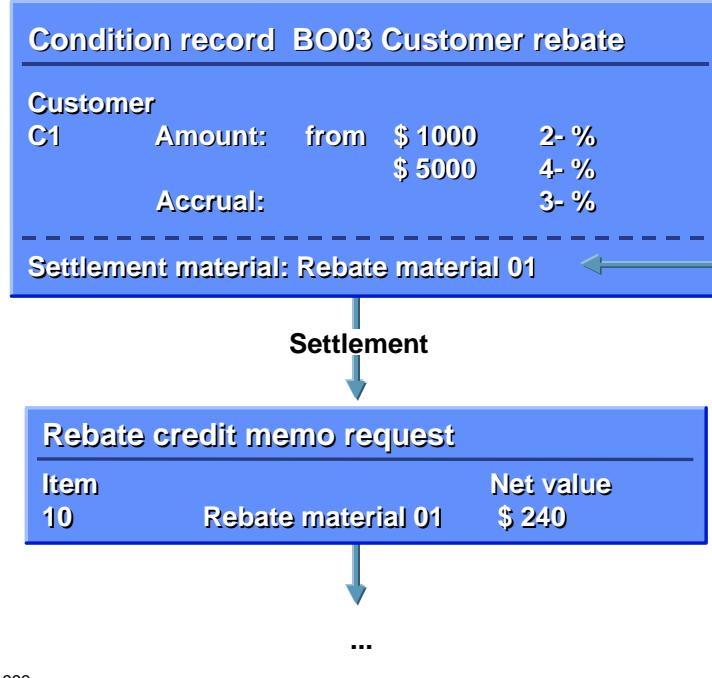


© SAP AG 1999

- You may have a rebate that does not refer to a particular material, but rather to a group of materials or to a customer. In this case, you must refer to a settlement material in order to provide information at the material level.
- **Maintain the rebate material in the material master in the Sales and Accounting views.**

## Settlement Material (2)

SAP



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- When creating a credit memo, the settlement material is the source for important material master data, for example, account determination.

## Rebate Agreement Types

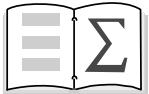
SAP

The following rebate agreement types have been defined in the SAP R/3 standard version. Related condition types are listed as well.

Rebate agreement type	Condition table	Condition type
0001	Customer / material (percentage rebate)	BO01
	Customer / rebate group (percentage rebate)	BO01
0002	Customer / material (absolute rebate)	BO02
0003	Customer (percentage rebate)	BO03
0004	Customer hierarchy (percentage rebate)	BO04
	Customer hierarchy / material (percentage rebate)	BO05
0005	Independent of sales volume	BO06

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- You may define rebates on as many levels as you require, just as for any other pricing condition.
- The standard system provides the following rebate agreement types:
  - Material rebate
  - Customer rebate
  - Customer hierarchy rebate
  - Material group rebate
  - Independent of sales volume



You are now able to:

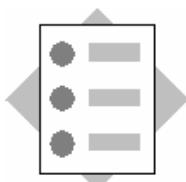
- **Describe the entire rebate processing procedure**
- **Create rebate agreements**
- **Carry out rebate settlements**
- **Control rebate processing in Customizing**

# Exercises



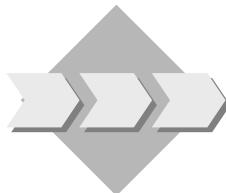
## Unit: Rebates

### Topic: Creating Rebate Agreements



At the conclusion of these exercises, you will be able to:

- Create rebate agreements and rebate condition records.



Rebates are frequently offered to your customers to promote sales and build customer loyalty. You must explore the rebate functionality to ensure that it meets your needs.

1-1 In order to use the rebate functionality of the system, certain parameters must be set in the system. You will ensure that these parameters are set properly in the system.

1-1-1 Check whether rebate processing is active for customer T-L67B##, billing type F2, and your sales organization. Make them active, if necessary.

---

---

1-2 Now that rebate processing is active, you will create rebate agreements and rebate condition records for one of your customers to reward them for buying a certain material.

1-2-1 Create a material rebate agreement for rebate recipient customer T-L67B##.

- 1-2-2 Enter the rebate conditions on your rebate agreement. You will be offering customer T-L67B## a rebate on each material T-AT3## they purchase using the following scale:

from	1 pieces	20 uni
	20 pieces	30 uni

Use 20 uni as the accrual rate.

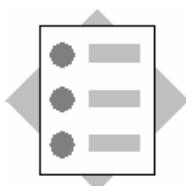
- 1-2-3 Save the rebate agreement and record the document number.
- 
-

# Exercises



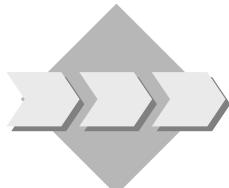
**Unit: Rebates**

**Topic: Processing Rebate Agreements**



At the conclusion of these exercises, you will be able to:

- Test the calculation and updating of rebate accruals.



For rebates to function properly, the billing values must be accumulated accurately in the rebate agreement. You will test the updating of these accrual amounts.

1-3 You will test your rebate agreement functionality by creating orders for the applicable material, shipping and then billing the orders.

1-3-1 Create **two** separate orders from the customer purchase orders shown below.

TELEFAX	
Customer: <b>T-L67B##</b>	
PO number: <b>##-10-3a</b>	
Requested delivery date: <b>In one week</b>	
<u>Material</u>	<u>Quantity</u>
<b>T-AT3##</b>	<b>3</b>

**TELEFAX**

Customer: **T-L67B##**

PO number: **##-10-3b**

Requested delivery date: **In one week**

Material

Quantity

**T-AT3##**

**3**

- 1-3-2 Save both orders and record the document numbers.
- 
- 

- 1-3-3 Create separate outbound deliveries for the orders. Use shipping point 1200 and a selection date of 10 days from today. Pick the required quantities for the two deliveries and then post a goods issue. Record all document numbers.
- 
- 

- 1-3-4 Create and save a billing document separately for each outbound delivery. Record all document numbers.
- 
-

- 1-3-5 Display the rebate agreement. View the payment data screen and record the accruals, rebate payments and maximum payable amount.
- 
- 

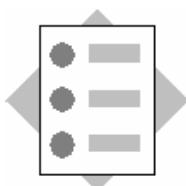
- 1-3-6 When were the accruals and business volume updated in the rebate agreement?
- 
-

# Exercises



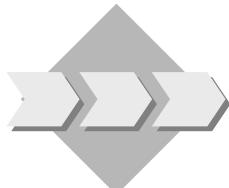
**Unit: Rebates**

**Topic: Settling Rebates**



At the conclusion of these exercises, you will be able to:

- Test the calculation of rebate amounts and the settlement of the rebate agreement.



Typically, once rebates have been accrued in the rebate agreement, payment can be made to the rebate recipient according to a payment schedule. You will test this functionality.

1-4 You will test the settlement function of rebates by settling your rebate agreement with a partial payment credit memo. You will also view various screens in the rebate agreement to ensure that the settlement transaction has been recorded properly.

1-4-1 Carry out a manual partial settlement for the rebate agreement. Create a credit memo request for 80 uni. You must first change the status of the rebate agreement to B (released for payment).

1-4-2 Save the document. The credit memo request document is generated automatically.

---

---

- 1-4-3 Find and record the number of the credit memo request created from the agreement.

---

---

- 1-4-4 Release the billing block on the credit memo request and save your changes.

- 1-4-5 Create and save the credit memo from the credit memo request.

---

---

- 1-4-6 Release the credit memo to accounting.

- 1-4-7 What happened with regard to the accrual amount in the rebate agreement?

---

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---

- 1-4-8 Call up the 1) Business volume, 2) Rebate documents and 3) Rebate payment drill-down screens and review the information.

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# Solutions



## Unit: Rebates

### Topic: Creating Rebate Agreements

- 1-1 In order to use the rebate functionality of the system, certain parameters must be set in the system. You will ensure that these parameters are set properly in the system.

- 1-1-1 The *Rebates* field is on the *Billing document* tab and should be selected.

*Menu path:*

***Logistics → Sales and Distribution → Master Data → Business partners → Customer → Display → Sales and Distribution***

Enter the customer number and the sales area.

Click the *Continue* button.

Choose *Sales area data*.

To check the **billing type** in Customizing, choose the following:

*Menu path:*

***SAP Reference IMG → Sales and Distribution → Billing → Rebate Processing → Activate Rebate Processing → Select Billing Documents for Rebate Processing***

The *Relevant for rebate* field should be marked for document type **F2**.

To check the **sales organization** in Customizing, choose the following:

*Menu path:*

***SAP Reference IMG → Sales and Distribution → Billing → Rebate Processing → Activate Rebate Processing → Activate Rebate Processing for Sales Organizations***

The *Rebate proc. active* field should be marked for sales organization **1000**.

- 1-2. Now that rebate processing is active, you will create rebate agreements and rebate condition records for one of your customers to reward them for buying a certain material.

1-2-1 Creating a material rebate agreement:

*Menu path:*

***Logistics → Sales and Distribution → Master Data → Agreements → Rebate arrangement → Create***

Choose agreement type **0002**, material rebate.

Enter the appropriate values.

1-2-2 Enter rebate conditions

*Menu path:*

Choose *Conditions*.

Enter the values specified.

Select the condition line and choose *Scales*.

Enter the scale values.

# Solutions



## Unit: Rebates

### Topic: Processing Rebate Agreements

- 1-3 You will test your rebate agreement functionality by creating orders for the applicable material, shipping and then billing the orders.
  - 1-3-3 Creating an outbound delivery, a transfer order to do the picking, and then posting goods issue.

*Menu path:*

***Logistics → Sales and Distribution → Shipping and Transportation  
→ Outbound Delivery → Create → Single Document → With Reference  
to Sales Order***

To pick the required quantity from directly within the delivery, choose:

***Subsequent functions → Create transfer order***

Enter the warehouse number **012**.

In the *Picking quantity* field, choose function **2** (copy the picking quantity to the delivery and post goods issue).

Save the transfer order.

- 1-3-4 Creating a billing document:

*Menu path:*

***Logistics → Sales and Distribution → Billing → Billing document →  
Create***

Enter your delivery document number and click the *Execute* button.

Save the billing document and record the number.

(The accounting document is automatically created at the same time).

Repeat this process for the second delivery document.

1-3-5	Accruals:	<b>120-</b>	uni
	Rebate payments:	<b>0</b>	uni
	Max. payable amount:	<b>120-</b>	uni

*Menu path:*

***Logistics → Sales and Distribution → Master Data → Agreements → Rebate arrangement → Display***

Enter the agreement number and choose *Enter*.

Choose *Conditions*.

Select the condition line.

Choose *Payment data*.

1-3-6 The accruals and business volume are updated when the accounting document for billing is created.



## Unit: Rebates

### Topic: Settling Rebates

- 1-4 You will test the settlement function of rebates by settling your rebate agreement with a partial payment credit memo. You will also view various screens in the rebate agreement to ensure that the settlement transaction has been recorded properly.

- 1-4-1 Executing manual partial settlements:

*Menu path:*

***Logistics → Sales and Distribution → Master Data → Agreements → Rebate arrangement → Change***

Enter the agreement number and choose *Enter*.

Change the *Agreement status* field to **B**.

Choose *Create manual accrual Shift+F12*.

Enter the amount to be paid.

Save the rebate agreement.

- 1-4-3 Viewing settlement documents:

*Menu path:*

***Logistics → Sales and Distribution → Master Data → Agreements → Rebate arrangement → Display***

Enter the agreement number and choose *Enter*.

Choose: ***Rebate payments → Rebate documents***

Select *Partial settlement*.

Click the *Choose* button.

View the credit memo request number.

1-4-4 Removing the billing block:

**Menu path:**

***Logistics → Sales and Distribution → Sales → Order → Change***

Enter the credit memo request number and choose *Enter*.

Choose the *Item Overview* tab.

Release the billing block by selecting the blank line (at the end) from the possible entries and save the document.

1-4-5 Creating a rebate credit memo:

**Menu path:**

***Logistics → Sales and Distribution → Billing → Billing document → Create***

Enter the credit memo request number and choose *Execute*.

Save the credit memo document.

1-4-6 Release the credit memo to accounting.

**Menu path:**

***Logistics → Sales and Distribution → Billing → Billing document → Change***

Enter the billing document number and choose *Release To Accounting*.

- 1-4-7 The accruals are canceled as soon as the rebate agreement is settled in a credit memo.

*Menu path:*

***Logistics → Sales and Distribution → Master Data → Agreements → Rebate arrangement → Display***

Enter the agreement number and choose *Enter*.

Choose *Conditions*.

Select the condition line.

Choose *Payment data*.

Accruals:	<b>120-</b>	uni
Accruals reversed:	<b>80</b>	uni
Rebate payments:	<b>80-</b>	uni
Max. payable amount:	<b>40-</b>	uni

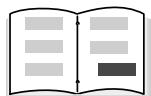
- 1-4-8 Checking data:

*Menu path:*

1) Choose:      ***Rebate payments: Sales volume***

2) Choose:      ***Rebate payments → Rebate documents***

3) Choose:      ***Rebate payments → Drill-down***

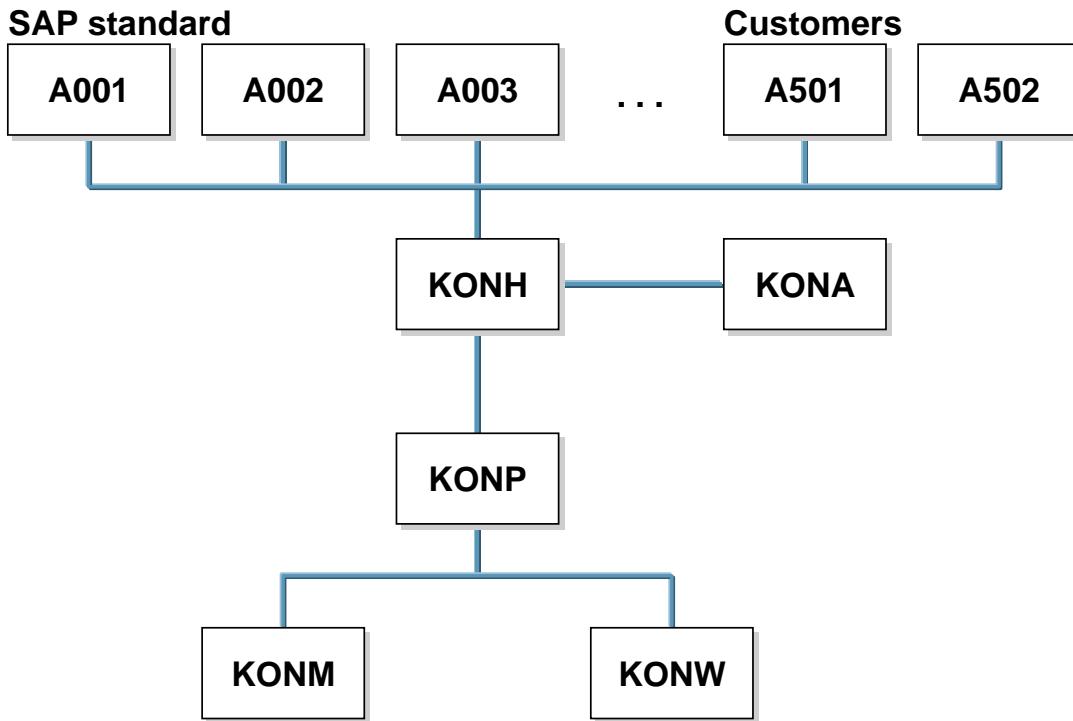


### Contents:

- **Table structures**
- **IDES data**
- **Optional troubleshooting exercise**

## Table Structure: Conditions in Pricing

SAP



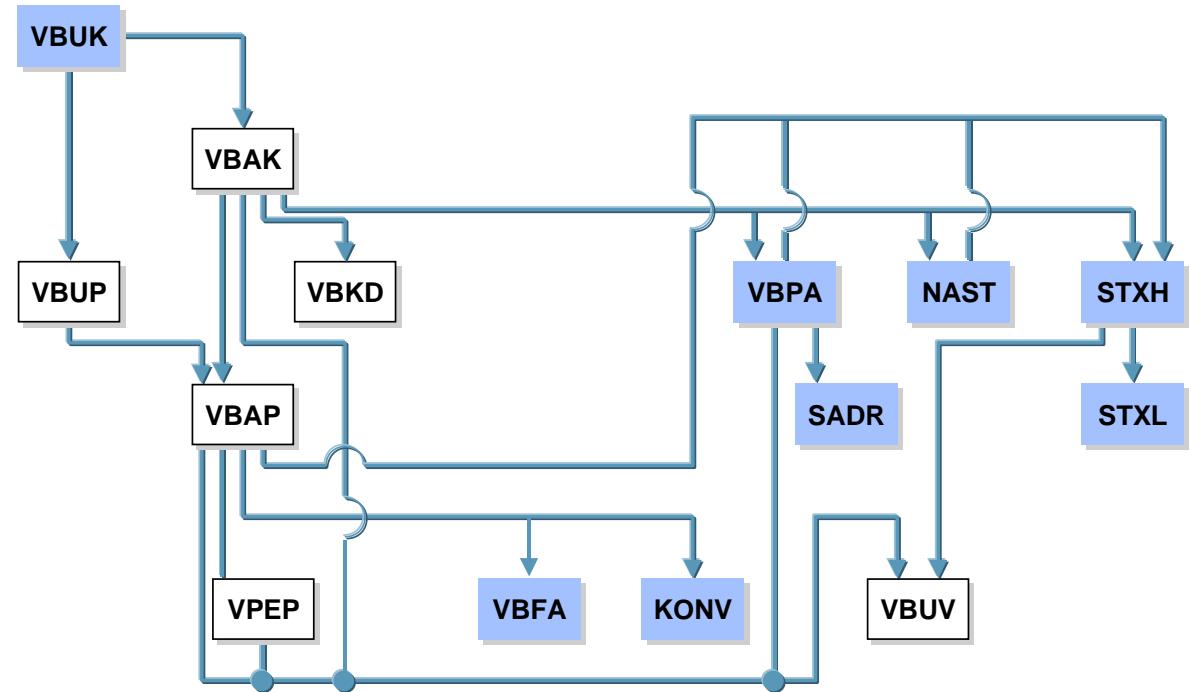
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- The tables above contain the following information:

- Annn: Condition table
- KONH: Condition header
- KONA: Agreement (only with rebate)
- KONP: Condition item
- KONM: Quantity scale
- KONW: Value scale
- Note:  
KONM and KONW are never available at the same time.

## Table Structure: Sales Document

SAP

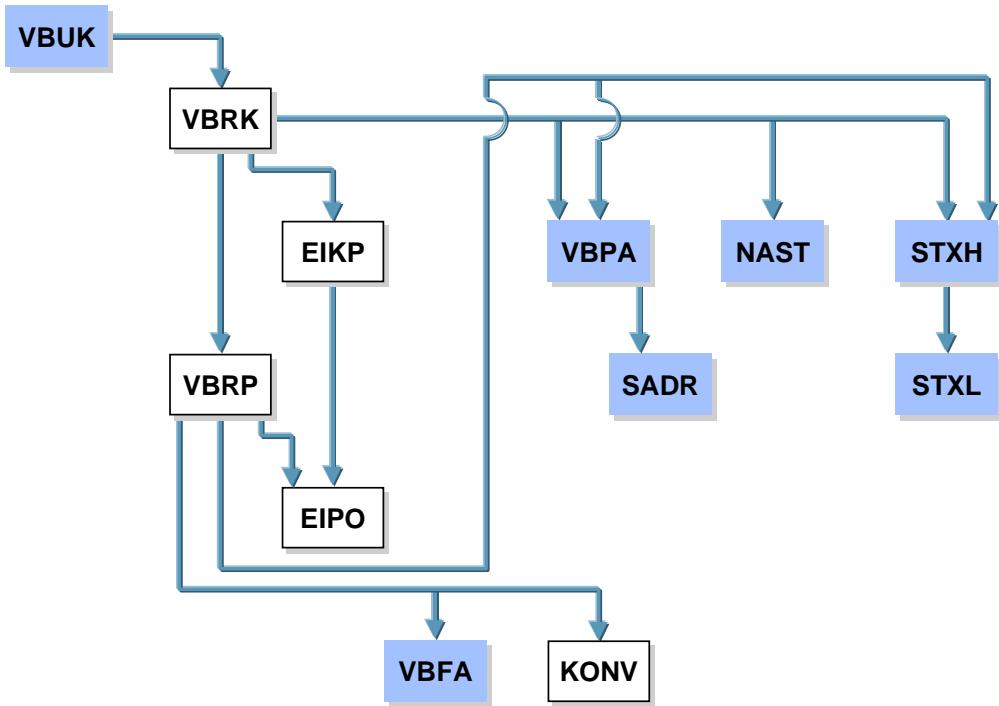


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- VBUK: SD document: Header status and management data
- VBAK: Sales document: Header data
- VBKD: Sales document: Business data
- VBUP: SD document: Item status
- VBAP: Sales document: Item data
- VPEP: Sales document: Schedule line data
- VBPA: Sales document: Partners
- SADR: Address
- VBFA: SD document flow
- KONV: Conditions
- NAST: Output
- STXH: Texts: Header
- STXL: Texts: Lines
- VBUV: Incompletion log

## Table Structure: Billing Document

SAP



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- **VBUK:** Header status and management data
- VBRK:** Billing document: Header data
- VBRP:** Billing document: Item data
- VBPA:** SD document: Partners
- SADR:** Address
- VBFA:** SD document flow
- KONV:** Conditions
- NAST:** Output
- STXH:** Texts: Header
- STXL:** Texts: Lines

You can use this data to complete the exercises  
in your IDES system (Release 3.1)

**Customer master data:**

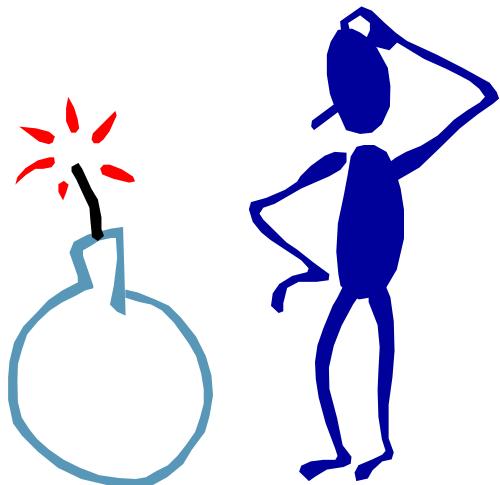
Customer	IDES customer number	Name	Sales organization/ Distribution channel/ Division
1	1360	Amadeus Software Solutions	1000 / 10 / 00
2	2130	Compu Tech AG	1000 / 10 / 00

**Material master data:**

Material	IDES material number	Description	Sales organization/ DistrChannel	Plant/ storage location
1	DPC1003	Hard disk 2149 MB	1000 / 10	1200 / 0001
2	DPC1004	Hard disk 4294 MB	1000 / 10	1200 / 0001
3	DPC1005	Hard disk 2113 MB	1000 / 10	1200 / 0001

## Optional Troubleshooting Exercise

SAP



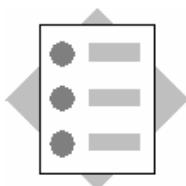
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# Exercises



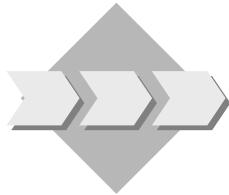
## Unit: Optional Exercises

### Topic: Pricing Troubleshooting



At the conclusion of these exercises, you will be able to:

- Analyze and correct problems in Customizing for pricing.



Occasionally, problems with pricing configuration may arise. You will practice using the analysis tools available in R/3 to detect and solve a variety of problems.

1-1 As a member of the project team, you have been asked by your project manager to troubleshoot some problems in Customizing for pricing, which have only recently appeared when a standard order was created. You have been given a set of data to use for testing and some requirements that must be taken into account for solving the problems.

1-1-1 Test by creating a standard order from the customer purchase order shown below.

TELEFAX	
Customer: <b>T-L67A##</b>	
PO number: <b>##-11</b>	
Requested delivery date: <b>In one week</b>	
<u>Material</u>	<u>Quantity</u>
<b>T-AT3##</b>	<b>100</b>

1-1-2 The test will be successful if the following requirements are met:

1-1-2-1 The order must use the proper pricing procedure, Z##PRC.

1-1-2-2 The price of the material must be determined by a PR00 condition record with a valid rate.

1-1-2-3 The ZF## discount must appear on the line item with a valid rate.

1-1-3 Repeat step 1-1-1 until the requirements in step 1-1-2 are met. Do not rely on the *New pricing* button to see the effect of changes you make in the pricing configuration tables. **Instead, begin from the Sales menu and re-enter the order each time.**

This is the only way of ensuring that all of your improvements are taken into account.

# Exercises/Solutions



## Unit: Optional Exercises

### Topic: Pricing Troubleshooting

- 1-1 As a member of the project team, you have been asked by your project manager to troubleshoot some problems in Customizing for pricing, which have only recently appeared when a standard order was created. You have been given a set of data to use for testing and some requirements that must be taken into account for solving the problems.



Only look at the solutions on the next page after you have tried to resolve the problems using the tools available to you.



**Your instructor has made changes to your group's pricing configuration tables, which result in a variety of symptoms. Below are listed each symptom you may observe and its cause.**

**Note to Instructor:** For this exercise to operate properly, you must make the necessary changes in each group's pricing configuration before they begin. Make the changes listed below in the **Cause:** section for each group that wants to participate in the exercise. This is an **optional** exercise.

**Symptom:** Pricing procedure Z##PRC is not used to price the order.

**Cause:** In the pricing procedure determination table, the procedure selected when using order type OR, sales area 1000 10 00, and customer T-L67A## has been changed to RVAA01. The correct value is pricing procedure Z##PRC.

**Symptom:** PR00 condition record does not appear on the item condition screen.

**Cause:** In pricing procedure Z##PRC, on the PR00 line, the requirement has been changed from 2 to 11. Since the line item does not meet requirement 11, the condition is ignored. The correct value for the requirement field is 2.

**Symptom:** Condition ZF## appears on the order, but with no rate. The pricing condition analysis lists a message for ZF##: "Condition has been found (without condition record)".

**Cause:** In condition type ZF##, the *Access sequence* field is blank. The correct value for the *Access sequence* field is ZA##.

**Symptom:** When the correct value (ZA##) is entered into the *Access sequence* field of condition type ZF##, the system responds with a message:

"E: An access sequence has not been assigned for the header condition."

**Cause:** Condition type ZF## is marked as a header condition. This is an error. instead of an item condition.

**Symptom:** On the pricing detail screen for the item, both PR00 and ZF## are displayed with rates, but the PR00 rate is not being used as the price. Instead, the ZF## rate is being used.

**Cause:** Condition type ZF## has a value of B (Prices) in the *Condition class* field. This causes it to be used as a price, overriding the PR00 record since ZF## occurs at a later step in the pricing procedure. The correct value for the *Condition class* field should be A (discounts/surcharges).