

Anticipation: 35 U.S.C. §102 (R3 Documentation)

APPENDIX C

TO THE EXPERT DECLARATION OF

DR. MICHAEL SIEGEL

In the Transitional Program for Covered Business Methods Proceeding before the
USPTO Patent Trial and Appeal Board Involving U.S. Patent No. 6,553,350

Claim Chart

R/3 2.2 Online Documentation

("R3 Documentation")

and

U.S. Patent No. 6,553,350

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<p>26. A computer readable storage media comprising: computer instructions to implement the method of claim 17.</p>	<p><i>The R3 documentation discloses a computer-based pricing system that is part of an overall enterprise information system. As a result, the R3 documentation inherently discloses a software system (computer instructions) operating within the memory of a computer system, which thus satisfies claim 26 because, in my opinion, the memory of a computer system is a computer readable storage media. I note that, between invocations, this system would reside on secondary storage, such as a hard disk, which would also constitute a computer readable storage media.</i></p> <p><i>The R3 documentation's description of the enterprise information system is comprehensive, including a detailed description of the pricing component of the system. In addition to pricing, the R3 documentation describes accounting, human resources, business process technology, basis technology and logistics. The logistics description includes sales and distribution, and it is this part of the documentation that describes the pricing functionality. The R3 documentation's description of the pricing functionality is comprehensive, containing very clear disclosure for determining the price of a product offered to a purchasing organization. This very clear, comprehensive description, as shown from the documentation quotes below, demonstrates that the R3 documentation satisfies the enablement requirement. I have opined on this elsewhere in my declaration.</i></p> <p><i>The excerpt below shows the many business-related functions described by the R3 documentation:</i></p>
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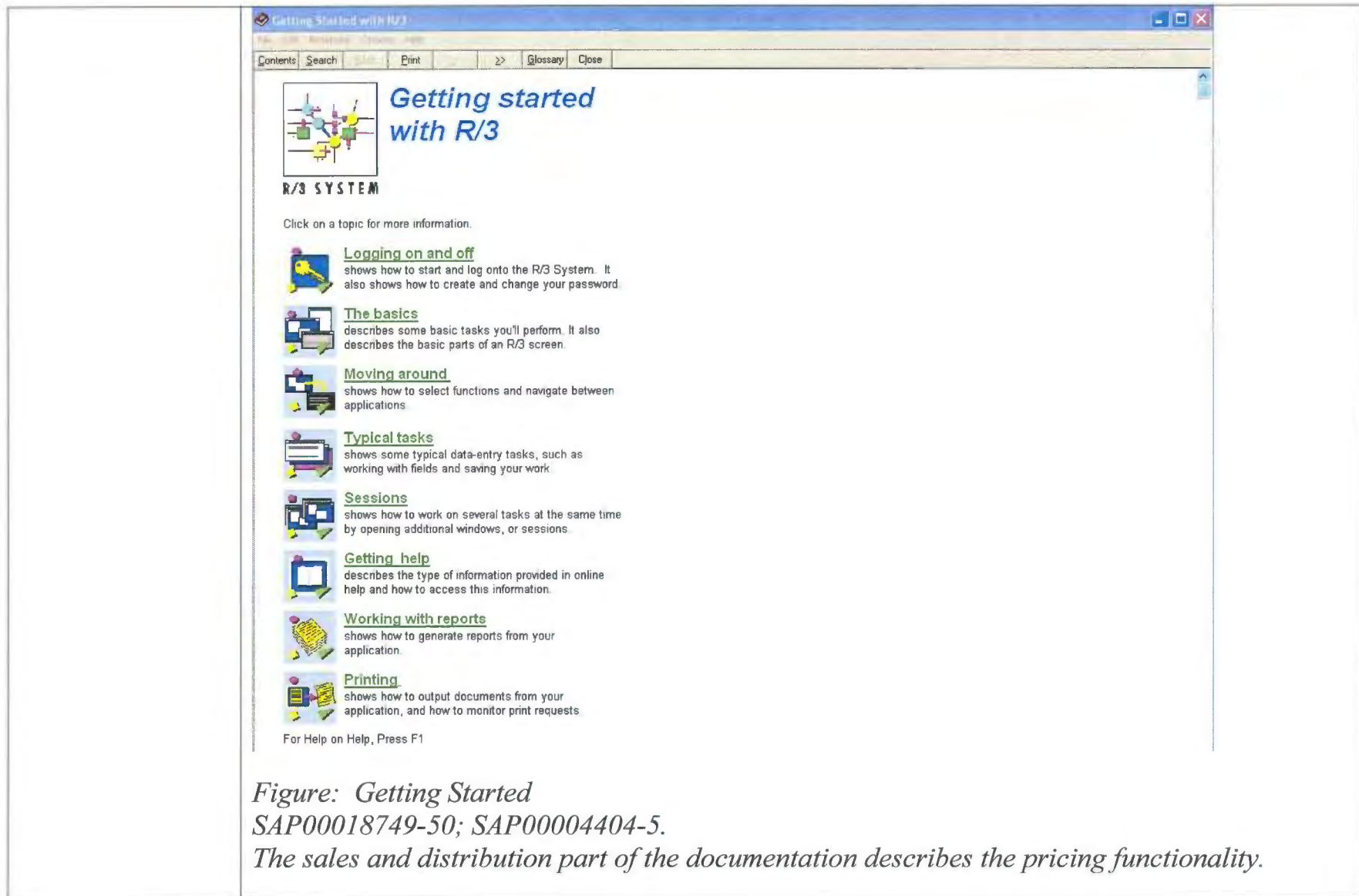
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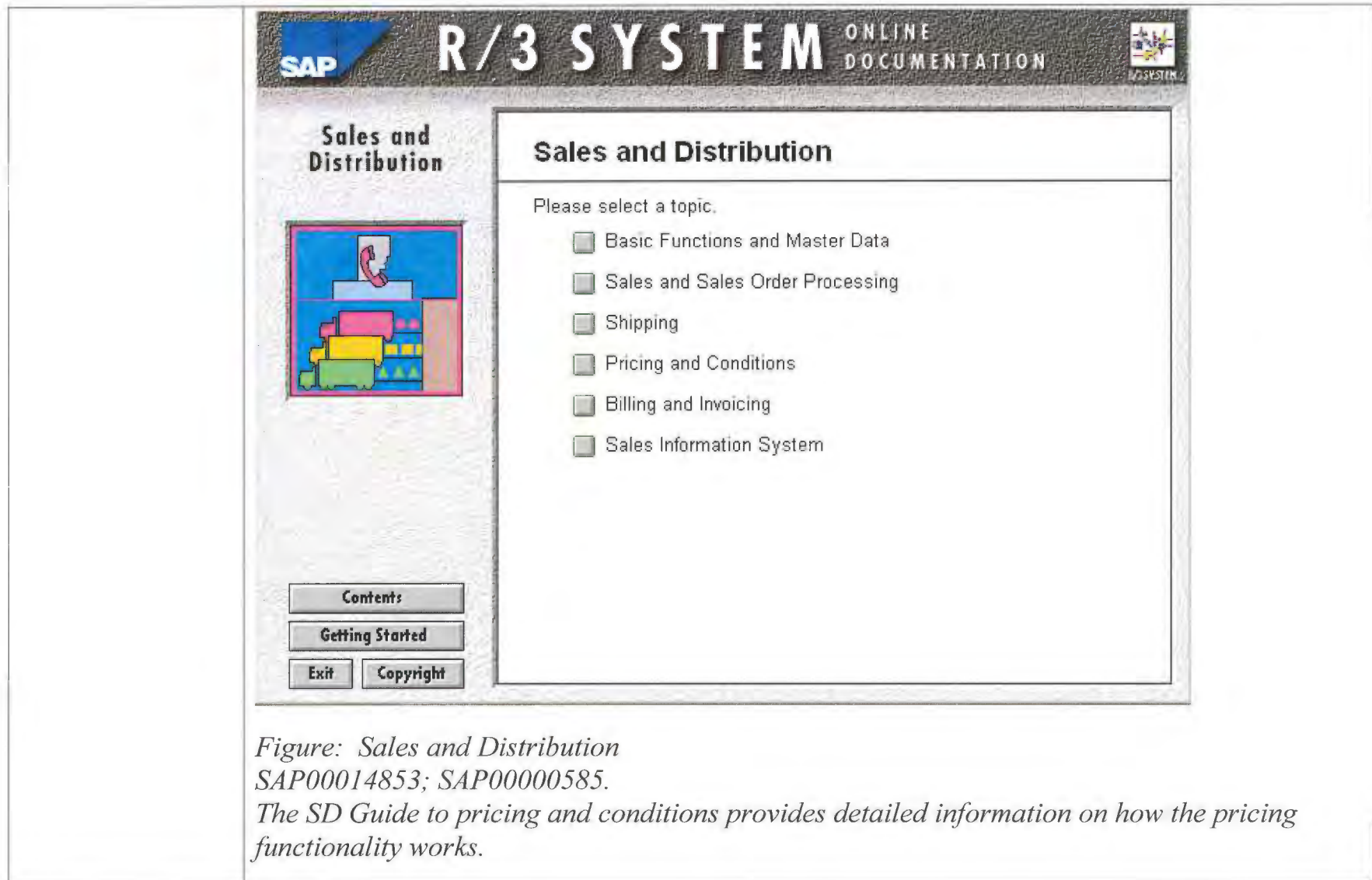


*Figure 1 R2.2 Online Documentation
SAP00014846-57; SAP00000578-89. (The convention I use in this chart is that the first bates number is for the 2.2B CD, and this number corresponds to the screen shot above. The second bates number is for the same teachings in the 2.2A CD)*

As shown above, the R3 documentation describes the functions performed by an operating enterprise information system. And, as shown below, the R3 documentation provides documentation for “getting started.”

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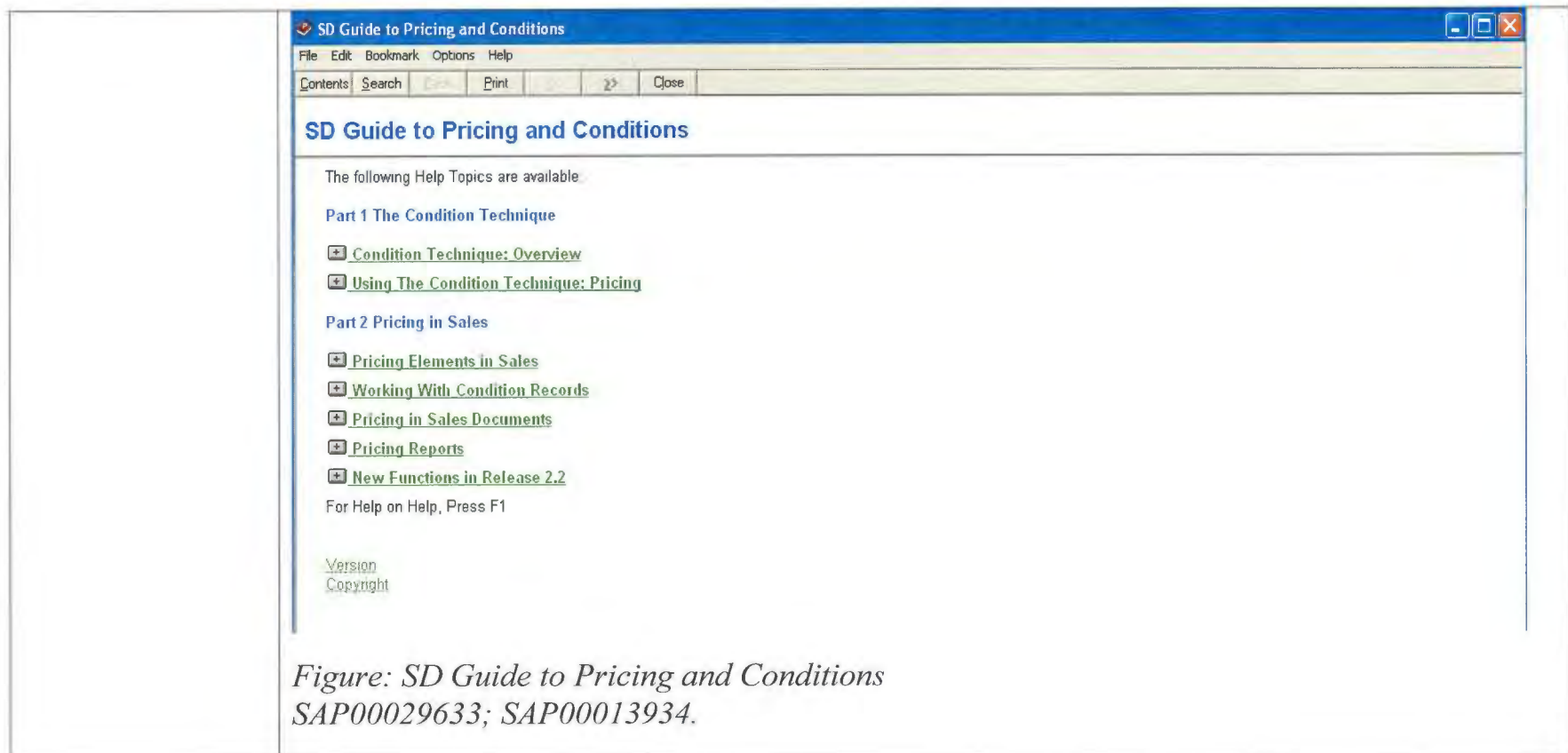




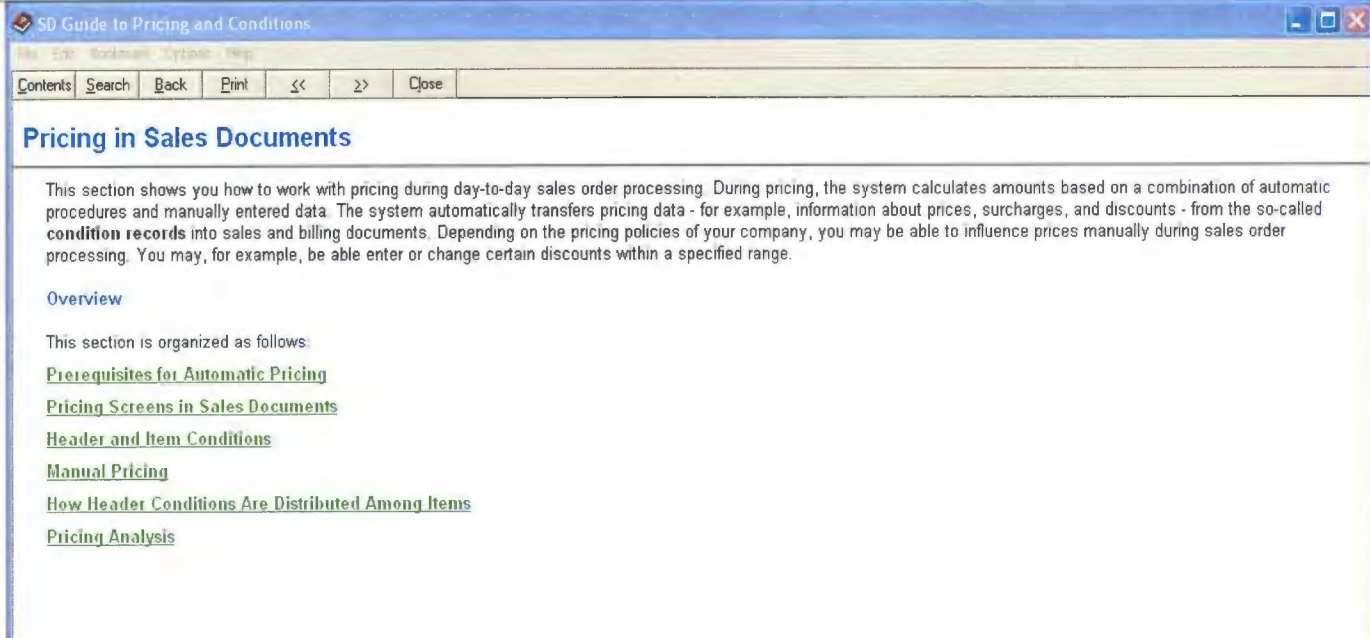
*Figure: Sales and Distribution
SAP00014853; SAP00000585.*

The SD Guide to pricing and conditions provides detailed information on how the pricing functionality works.

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Pricing in Sales Documents

This section shows you how to work with pricing during day-to-day sales order processing. During pricing, the system calculates amounts based on a combination of automatic procedures and manually entered data. The system automatically transfers pricing data - for example, information about prices, surcharges, and discounts - from the so-called **condition records** into sales and billing documents. Depending on the pricing policies of your company, you may be able to influence prices manually during sales order processing. You may, for example, be able to enter or change certain discounts within a specified range.

Overview

This section is organized as follows:

- [Prerequisites for Automatic Pricing](#)
- [Pricing Screens in Sales Documents](#)
- [Header and Item Conditions](#)
- [Manual Pricing](#)
- [How Header Conditions Are Distributed Among Items](#)
- [Pricing Analysis](#)

SAP00029697; SAP00014001.

The R3 documentation describes all of the preliminary steps that must be performed for the pricing functionality.

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SD Guide to Pricing and Conditions

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Prerequisites for Automatic Pricing

For the system to carry out automatic pricing, the following prerequisites must be met:

- Condition records must already exist in the system for each of the condition types that you want the system to apply automatically. For more information about creating and maintaining condition records, see [Working With Condition Records](#).
- Where necessary, data must be maintained in the corresponding customer and material master records. If, for example, you want to apply discounts through special groupings of either customers or materials, then the system can only carry out automatic pricing when the groups are specified within the relevant customer or material master records.

Material Master Data

The fields in the material master record that are relevant for pricing are on the *Sales 2* screen:

- **Tax classification:** Indicates to what extent the material is liable for sales taxes. If more than one tax classification exists (for example, in the US there may be tax classifications for sales taxes at state, city, and county levels), then you find this information appears on its own screen. In this case, from the *Sales 2* screen, select *Details* → *Sales details* → *Taxes*.
- **Pricing reference material:** In this field, you can specify another material as a reference for pricing information. If you specify a reference, the system, during automatic pricing, uses all the condition records that apply to the reference material.
- **Material group:** A material group defines a group of materials for which you want to apply the same condition record. For example, using a material group, you can specify a discount that applies to a particular range of products.
- **Cash discount:** In this field, you can specify whether or not the material qualifies for a cash discount.

Customer Master Data

Most fields in the customer master record that are relevant for pricing appear on the *Sales* screen:

- **Customer pricing procedure:** Here you specify the pricing procedure for a customer. Pricing procedures are created and maintained in SD Customizing. During sales order processing, the pricing procedure determines the kinds of pricing element you can use and in which sequence they are processed.
- **Price list type:** Price list types allow you to apply a material price in a particular currency to a group of customers. For example, you can specify a price list type that applies to all wholesale customers in one of your export markets.
- **Price group:** Price groups let you apply a discount to a particular group of customers.
- **Tax classification:** In this field you specify the tax liability of the customer. If there is more than one tax classification for a customer, the information appears on a separate screen. In this case, you press ENTER to select the following screen.

Note

If your business operates in the US, you must maintain some additional data so that the system can automatically determine sales taxes. In the *Control data* screen, you should maintain the *County code* and *City code* fields.

SAP00029698; SAP00014002.

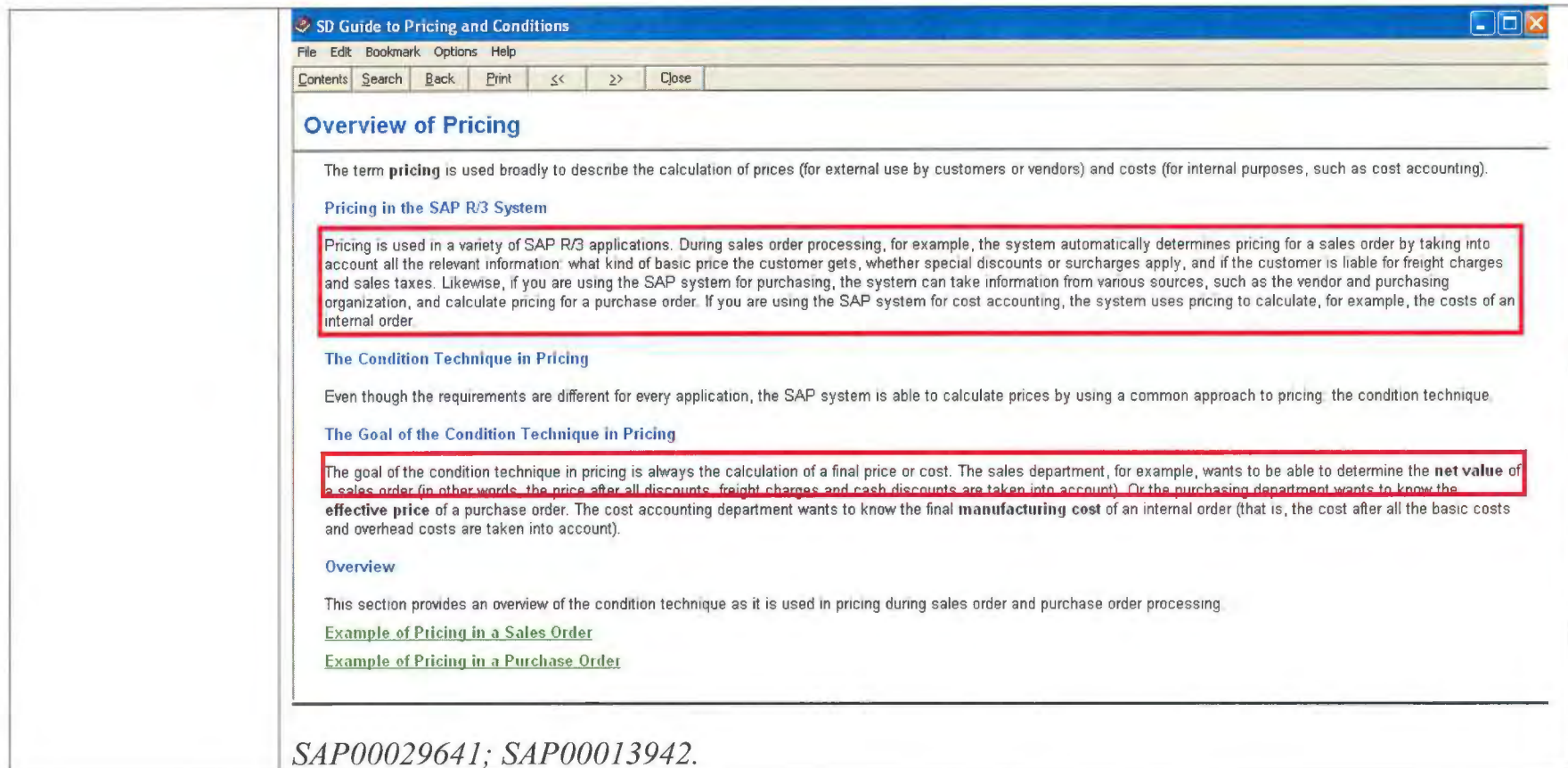
In the above diagram, I have used red boxes to emphasize the most relevant parts of the excerpt. I will continue to do so throughout this claim chart.

As shown throughout this claim chart, the R3 documentation is comprehensive, well written, instructive and contains numerous examples and figures of the various operations, applications and data structures used as part of an operating software system.

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<p>17. A method for determining a price of a product offered to a purchasing organization comprising:</p>	<p><i>The R3 documentation discloses a method for determining a price of a product offered to a purchasing organization that includes all of the elements of claim 17. The process of determining a price is called pricing. It can be used by a client (owner/operator) of the software system to determine the price at which it will offer some product to a customer.</i></p> <p><i>As noted below, during a sales order, the R3 documentation discloses automatically determining pricing by taking into account such things as the base price, discounts, surcharges, and freight and sales taxes. The condition technique is responsible for determining the final price of a product. It includes many of the processes used in determining the price of a product. Specifically, the condition technique includes pricing procedures, condition types, access sequences, condition records and condition tables, all of which are described in great detail in the documentation and are further described below.</i></p>
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The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar contains "Contents Search Back Print << >> Close". The main content area is titled "Overview of Pricing" and contains the following text:

The term **pricing** is used broadly to describe the calculation of prices (for external use by customers or vendors) and costs (for internal purposes, such as cost accounting).

Pricing in the SAP R/3 System

Pricing is used in a variety of SAP R/3 applications. During sales order processing, for example, the system automatically determines pricing for a sales order by taking into account all the relevant information: what kind of basic price the customer gets, whether special discounts or surcharges apply, and if the customer is liable for freight charges and sales taxes. Likewise, if you are using the SAP system for purchasing, the system can take information from various sources, such as the vendor and purchasing organization, and calculate pricing for a purchase order. If you are using the SAP system for cost accounting, the system uses pricing to calculate, for example, the costs of an internal order.

The Condition Technique in Pricing

Even though the requirements are different for every application, the SAP system is able to calculate prices by using a common approach to pricing: the condition technique.

The Goal of the Condition Technique in Pricing

The goal of the condition technique in pricing is always the calculation of a final price or cost. The sales department, for example, wants to be able to determine the **net value** of a sales order (in other words, the price after all discounts, freight charges and cash discounts are taken into account). On the purchasing department wants to know the **effective price** of a purchase order. The cost accounting department wants to know the final **manufacturing cost** of an internal order (that is, the cost after all the basic costs and overhead costs are taken into account).

Overview

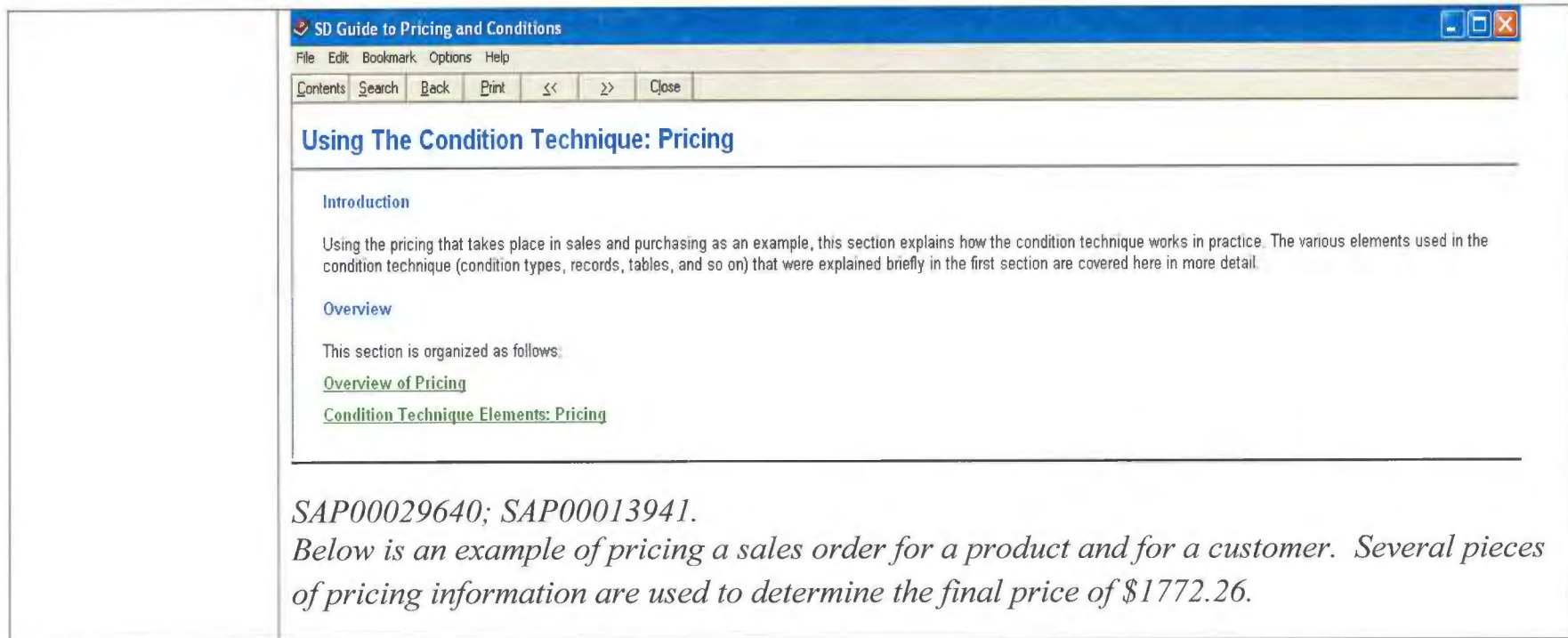
This section provides an overview of the condition technique as it is used in pricing during sales order and purchase order processing.

[Example of Pricing in a Sales Order](#)

[Example of Pricing in a Purchase Order](#)

SAP00029641; SAP00013942.

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SD Guide to Pricing and Conditions

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Using The Condition Technique: Pricing

Introduction

Using the pricing that takes place in sales and purchasing as an example, this section explains how the condition technique works in practice. The various elements used in the condition technique (condition types, records, tables, and so on) that were explained briefly in the first section are covered here in more detail.

Overview

This section is organized as follows:

- [Overview of Pricing](#)
- [Condition Technique Elements: Pricing](#)

SAP00029640; SAP00013941.

Below is an example of pricing a sales order for a product and for a customer. Several pieces of pricing information are used to determine the final price of \$1772.26.

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SD Guide to Pricing and Conditions

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Example of Pricing in a Sales Order

The following figure shows the pricing information for an item in a sales order. The pricing screen for the item shows the gross price that the customer is charged, several discounts for which the customer qualifies, and other pricing elements, such as freight and sales taxes. The condition types that apply to each of these pricing elements appear on the left side of the pricing screen. The sequence in which the various condition types appear is determined by the pricing procedure.

Standard Order Create: Item Conditions

Edit Goto System Help

Details Delete New pricing Condition record

Item: 10 Net value in USD: 1,788.20
 Quantity: 120.000 FL Tax amount: 64.06
 Material: E-4000 Pennsylvania's Finest

CnTy	Description	Rate	Curr.	per	UoM	Cond. value	USD
<input type="checkbox"/> PR00	Price	14.00	USD	1	FL	1,680.00	
<input type="checkbox"/>	Gross	14.00	USD	1	FL	1,680.00	
<input type="checkbox"/> K007	Customer discount	.000-	%			16.80-	
<input type="checkbox"/>	Discount Amount	0.14-	USD	1	FL	16.80-	
<input type="checkbox"/> KF00	Freight	0.50	USD	1	KG	45.00	
<input type="checkbox"/>	Net Value 2	14.24	USD	1	FL	1,708.20	
<input type="checkbox"/> UTX1	State sales tax	3.750	%			64.06	
<input type="checkbox"/>	Net value for ord.	14.77	USD	1	FL	1,772.26	
<input type="checkbox"/> UPRS	Cost	6.00	USD	1	L	540.00	
<input type="checkbox"/>	Profit Margin	9.74	USD	1	FL	1,168.20	

OVR:NUM:13:36

SAP00029642; SAP00013943.

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arranging a hierarchy of organizational groups comprising a plurality of branches such that an organizational group below a higher organizational group in each of the branches is a subset of the higher organizational group;

The R3 documentation discloses at least two methods for arranging a hierarchy of organizational groups comprising a plurality of branches such that an organizational group below a higher organizational group in each of the branches is a subset of the higher organizational group: customer hierarchies and customer price groups,

Customer hierarchies: The first method for arranging a hierarchy of organizational groups is to build a customer hierarchy. In a customer hierarchy, each node in the hierarchy is a subset of the organizations in its parent node, and transitively is a subset of the organizations in each of its ancestor nodes. Each node has a customer master record that defines the data for that node, and each node has an indication of its parent node. A user may use any criteria to organize the hierarchy; in the example below, the criteria is geographical location. A customer hierarchy may have any number of levels of nodes, and can be rearranged as necessary to adapt to changing requirements. Usually, customers are assigned to nodes at the lowest level of the hierarchy. However, it is also possible to assign customers to nodes at higher levels in the hierarchy.

Customer price groups: The second method for arranging a hierarchy of organization groups is to define customer price groups. A customer price group is used to apply pricing information (e.g., a discount) to a particular group of customers. Customers can be grouped by indicating the pricing group of each customer in the customer master record. The R3 documentation has extensive examples of separating customers into wholesale and retail groups and of determining the price of a product based on the group of the customer. The customer price group forms a hierarchy of two levels: the group and its members.

The following quote describes the customer master record, which is used in both customer hierarchies and customer price groups:

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SD Guide to Basic Functions and Master Data

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Different Business Partners

A company deals with different business partners such as the sold-to party or the forwarding agent when carrying out business transactions. The SAP R/3 System distinguishes between personnel, business partners who are customers, and those who are vendors and stores their details in different master records.

Customer Master Record

Data on business partners who are customers, for example, the sold-to party, is managed in a customer master record.

Structure of the Customer Master Record

Both the accounting department and the sales and distribution department have access to the customer master record. In order to avoid data redundancy, the data for both departments is stored in a common master record. General data, company code data, and sales and distribution data is stored separately in the customer master record. **Company code data** depends on the company code organization. It is defined individually for each company code. **Sales and distribution data** depends on the organization in the sales area. It is defined individually for each sales area. **General data** is independent from company code and sales area. It applies to one customer in all company codes and sales areas. The following figure displays the structure of a customer master record.

```
graph TD; A[General data] --- B[Sales and distribution data]; A --- C[Company code data]
```

SAP00029494; SAP00013791.

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Customer Hierarchies

The following excerpts from the R3 documentation describe customer hierarchies and how they are built.

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Building a Customer Hierarchy

A customer hierarchy is a flexible structure consisting of **nodes**. Each node - with the exception of the uppermost node - refers to another node at a higher level in the hierarchy (known as a **higher-level node**). Nodes that are assigned to higher-level nodes are known as **dependent nodes**. Creating a customer hierarchy consists of three steps:

1. You create master records for each node that you plan to include in the hierarchy (some of your master data - customers, for example - already exists).
2. You assign the nodes to each other, gradually building up your hierarchy.
3. You assign your customers to the appropriate nodes.

Typically, you create a hierarchy of nodes starting with the topmost, then creating each level as you go. Usually, customers are assigned to nodes at the lowest level of the hierarchy. However, it is also possible to assign customers to nodes at higher levels in the hierarchy. For example, a particularly large store in a chain of retail outlets may be assigned to a regional office rather than to a local sales office.

Example

The following figure shows the example from the introductory section, this time with more detail. Smith Central is the higher-level node for Smith South and Smith North. Smith North is the higher-level node for Smith Northwest and Smith Northeast, and so on. As a rule, each node in the hierarchy has the same organizational data. However, this data can also vary.

```
graph TD
    Root["Smith Central  
4711  
0001 | 01 | 01  
Pricing x"]
    South["Smith South  
4712  
0001 | 01 | 01  
Pricing x"]
    North["Smith North  
4713  
0001 | 01 | 01  
Pricing x"]
    Northwest["Smith Northwest  
4714  
0001 | 01 | 01  
Pricing x"]
    Northeast["Smith Northeast  
4716  
0001 | 01 | 01  
Pricing x"]
    Cust2742["Customer 2742"]
    Cust2743["Customer 2743"]
    Cust2744["Customer 2744"]

    Root --> South
    Root --> North
    South --> Cust2742
    North --> Northwest
    North --> Northeast
    Northwest --> Cust2743
    Northeast --> Cust2744
```

SAP00029617; SAP00013918-9.

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SD Guide to Basic Functions and Master Data

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Building a Customer Hierarchy

Hierarchy Types

The **hierarchy type** is used behind the scenes for the following purposes:

- To identify the purpose of a particular hierarchy
- To determine which customer account groups are allowed in a hierarchy
- To determine which organizational data is allowed in a hierarchy

The standard version of the SAP R/3 System contains one, standard hierarchy type **A**. If you wish, you can define your own types in Customizing for Sales.

Creating Master Data

Because a node may represent an element in the organizational structure of your customer - a regional buying office, for example - you must be able to store limited, customer-related data for the node. Therefore, before you can create a hierarchy, you must define each node in the planned hierarchy as a master record. In terms of creating and maintaining master data for nodes in a hierarchy, you proceed just as you would with customer master data.

Special Account Group

The kind of information you can store in the master record of a node is controlled through the **customer account group**. For the purposes of creating nodes in a hierarchy, a special account group (0012) has been created. The system automatically proposes this special account group when you create the master record for a node.

Data You Can Enter For a Node

The master record for a hierarchy node enables you to specify the following mandatory data:

- Organizational data
- Address

The following data can be entered optionally:

- Whether the node is relevant for pricing and rebate processing
- Contact person data

Procedure

To create the master record for a node, proceed as follows:

1. Select *Logistics* → *Sales/distribution* → *Master data* in the main menu screen.
You reach the *Sales & Distribution Master Data* screen.
2. Select *Business partners* → *Hierarchy nodes* → *Create*.
You reach the initial screen for creating a hierarchy node (you are creating a kind of customer master record, so the system uses the same screens you see when you create a customer). The system proposes the account group 0012.
3. Enter your data, but leave the *Customer* field blank (in the standard version, the customer number is assigned automatically by the system) and press ENTER.
You reach the screen where you enter name and address data. In addition, you can enter data in the following screens:

SAP00029617-8; SAP00013919-20.

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The screenshot shows a web browser window titled "SD Guide to Basic Functions and Master Data". The browser's address bar contains "Contents Search Back Print << >> Close". The page content is as follows:

Building a Customer Hierarchy

3. Enter your data, but leave the *Customer* field blank (in the standard version, the customer number is assigned automatically by the system) and press ENTER.

You reach the screen where you enter name and address data. In addition, you can enter data in the following screens:

- Control
- Contact person
- Billing (indicators for rebates and pricing)

4. Save your data

Assigning Nodes Within a Hierarchy

After you create the necessary master records for the nodes in your hierarchy, you can then incorporate the nodes into the hierarchy by making the actual assignments. For each node, you can enter the following assignment data:

- Number that identifies the master record of the hierarchy node
- Organizational data
- Validity period data
- Copying routine data

In addition, the system automatically copies the indicators from the node's master record that specify whether the node is relevant for pricing or statistics. (In later releases, you will be able to use customer hierarchies for creating statistical analyses)

Procedure

To create an assignment in a customer hierarchy, proceed as follows:

1. Select *Logistics* → *Sales/distribution* → *Master data* in the main menu screen.
You reach the *Sales & Distribution Master Data* screen.
2. Select *Business partners* → *Customer hierarchy* → *Change*.
You reach the selection screen for customer hierarchies.
3. Enter a customer hierarchy type (the standard version includes only one type *A*), a validity date, and select *Execute*.
The system displays a list of existing customer hierarchies that are valid for the date you entered.
4. Position your cursor at the top of the screen (where it says *Hierarchy header*) and select *Edit* → *Assignment* → *Create assignment*.
The system displays the *Create Hierarchy Assignment* dialog box. The data in the upper half of the dialog box defines the node you want to assign. The data in the lower half specifies the higher-level node.
5. Enter your data.
If you are assigning your node to a higher-level, enter data in the lower half of the dialog box. If you are assigning an existing customer master record as a node, you can only assign customers with valid account groups. Valid account groups are defined in Customizing for Sales.
If you are creating the node at the top of a customer hierarchy, you do not need to enter data in the lower half of the dialog box.
6. Select *Copy*.
The system creates the assignment and displays it in the customer hierarchy.

SAP00029618-9; SAP00013920-1.

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Building a Customer Hierarchy

If you are assigning your node to a higher-level, enter data in the lower half of the dialog box. If you are assigning an existing customer master record as a node, you can only assign customers with valid account groups. Valid account groups are defined in Customizing for Sales.

If you are creating the node at the top of a customer hierarchy, you do not need to enter data in the lower half of the dialog box.

6. Select Copy

The system creates the assignment and displays it in the customer hierarchy.

7. Repeat the procedure for as many nodes as you need to create

8. Save your data

Assigning Customers to Nodes

After you have created the master data for the nodes and assigned the nodes within the hierarchy, you can assign your customers to the appropriate nodes. You do this in exactly the same way as when you assign the nodes to each other in the hierarchy. For each assignment, you enter the same data as above.

Partners Defined as Nodes

The customer hierarchies described so far in this documentation consist exclusively of nodes that are created with the special account group 0012. However, it is also possible to define a partner as a node. For example, a node in a hierarchy represents a customer's regional buying office. It also happens that you send invoices to this office for payment. In this case, you have an existing customer master record, already maintained as a **payer** partner function. You assign this customer master record as a node in the customer hierarchy, using the appropriate account group.

Controlled Through Account Groups

If you want to define partners as nodes, you can specify in Customizing for Sales which account groups are valid for a particular hierarchy type and which of these account groups may be defined as **higher-level account groups**. For example, you can exclude the possibility of defining ship-to parties as higher-level nodes, since ship-to parties play no role in pricing.

Organizational Data

When you create or maintain a hierarchy node, you must specify organizational data. Just as with customer master records, you specify the sales area, sales organization, distribution channel, and division. As a rule, the organizational data of nodes within a customer hierarchy should be identical. However, the sales area data may vary. For example, customers maintained for different divisions may be assigned to the same node. A node is maintained, for example, in the following sales area:

Sales organization	USD1
Distribution channel	01
Division	01

You then assign two customers to the above hierarchy node. The first customer is maintained in the following sales area:

Sales organization	USD1
Distribution channel	01
Division	02

The second customer is maintained in a different sales area:

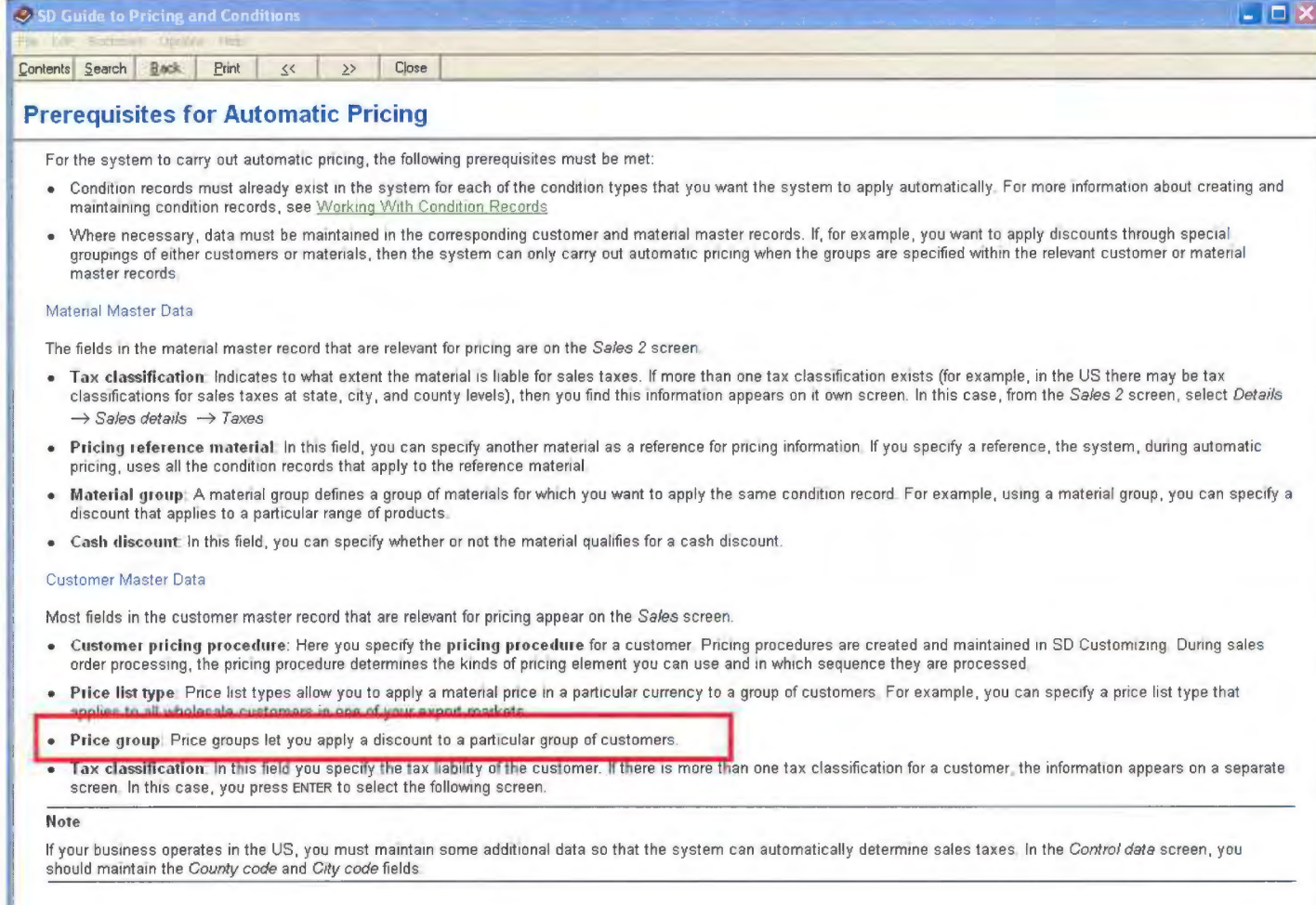
Sales organization	USD1
Distribution channel	01
Division	03

SAP00029619-20; SAP00013921-2.

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Customer price groups

The following excerpts from the R3 documentation describe how customer price groups can be defined in the customer master data, and demonstrate that price groups can be used to determine pricing.



The screenshot shows a window titled "SD Guide to Pricing and Conditions" with a menu bar (File, Edit, Search, Update, Help) and a toolbar (Contents, Search, Back, Print, navigation arrows, Close). The main content area is titled "Prerequisites for Automatic Pricing" and contains the following text:

For the system to carry out automatic pricing, the following prerequisites must be met:

- Condition records must already exist in the system for each of the condition types that you want the system to apply automatically. For more information about creating and maintaining condition records, see [Working With Condition Records](#)
- Where necessary, data must be maintained in the corresponding customer and material master records. If, for example, you want to apply discounts through special groupings of either customers or materials, then the system can only carry out automatic pricing when the groups are specified within the relevant customer or material master records.

Material Master Data

The fields in the material master record that are relevant for pricing are on the *Sales 2* screen.

- **Tax classification:** Indicates to what extent the material is liable for sales taxes. If more than one tax classification exists (for example, in the US there may be tax classifications for sales taxes at state, city, and county levels), then you find this information appears on its own screen. In this case, from the *Sales 2* screen, select *Details* → *Sales details* → *Taxes*
- **Pricing reference material:** In this field, you can specify another material as a reference for pricing information. If you specify a reference, the system, during automatic pricing, uses all the condition records that apply to the reference material.
- **Material group:** A material group defines a group of materials for which you want to apply the same condition record. For example, using a material group, you can specify a discount that applies to a particular range of products.
- **Cash discount:** In this field, you can specify whether or not the material qualifies for a cash discount.

Customer Master Data

Most fields in the customer master record that are relevant for pricing appear on the *Sales* screen.

- **Customer pricing procedure:** Here you specify the **pricing procedure** for a customer. Pricing procedures are created and maintained in SD Customizing. During sales order processing, the pricing procedure determines the kinds of pricing element you can use and in which sequence they are processed.
- **Price list type:** Price list types allow you to apply a material price in a particular currency to a group of customers. For example, you can specify a price list type that *applies to all wholesale customers in one of your export markets*.
- **Price group:** Price groups let you apply a discount to a particular group of customers.
- **Tax classification:** In this field you specify the tax liability of the customer. If there is more than one tax classification for a customer, the information appears on a separate screen. In this case, you press ENTER to select the following screen.

Note

If your business operates in the US, you must maintain some additional data so that the system can automatically determine sales taxes. In the *Control data* screen, you should maintain the *County code* and *City code* fields.

SAP00029698; SAP00014002.

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Discounts and Surcharges

The standard version of the SAP system includes a variety of commonly-used discounts. If your business requires it, special discounts and surcharges can be defined in SD Customizing during system configuration or subsequent customizing.

[Discounts in the Standard Version](#)

The standard version includes the following discounts:

Discount (Key)	Kind of discount
Customer (K007)	Percentage
Material (K004)	Absolute
Price group (K020)	Percentage
Material group (K009)	Absolute discount by weight
Customer/material (K005)	Absolute
Customer/material group (K030)	Percentage
Price group/material (K032)	Absolute
Price group/material group (K031)	Percentage

You can use any of these standard discounts to create condition records in the system. During automatic pricing, the system takes into account the discounts that apply in the circumstances and searches for valid condition records. In the case of discounts that refer to a grouping of some kind (for example, material and price groups), you must assign the group in the corresponding customer or material master record before automatic pricing takes place.

[Further Information](#)

For more detailed information about each of these discounts, you can ask your system administrator about how each discount is set up in your system. You can also, during sales order processing, branch from each pricing element in the document to screens that give you more information. You can see, for example, some of the data – the relevant **condition record** and **pricing scale** information, and so on – that the system uses to calculate a pricing element.

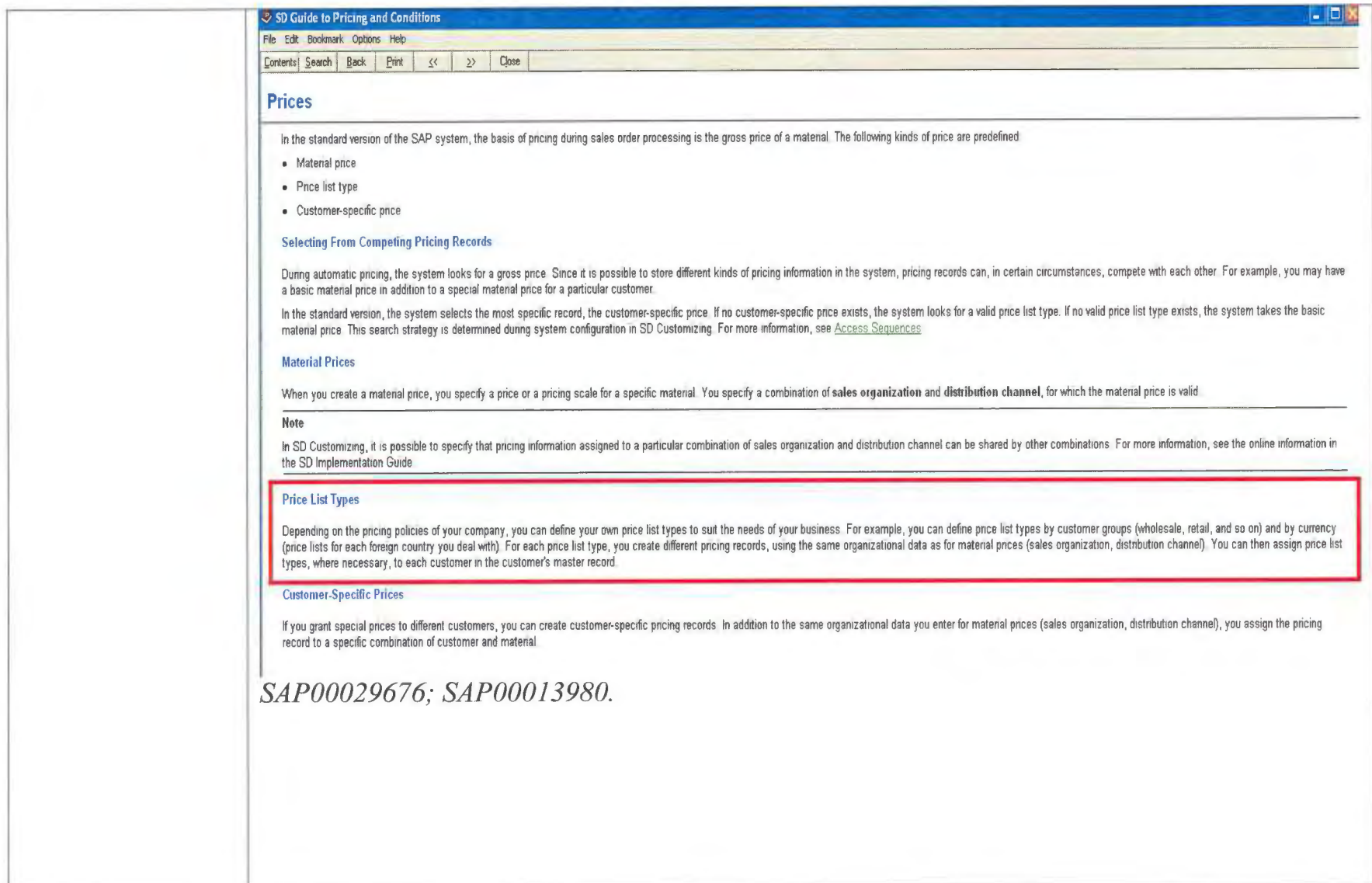
[New Discounts in Release 2.1](#)

Release 2.1 of the standard version of the SAP R/3 System includes new discounts for use in the following new billing functions:

Function	Condition type	Description
Rebate processing	B001	Group rebate (%)
	B002	Material rebate (fixed)
	B003	Customer rebate (%)
Inter-company proc.	PI01	Inter-company (fixed)
	PI02	Inter-company (%)
Invoice lists	RL00	Factoring discount
	MW15	Factoring discount tax

SAP00029677; SAP00013981.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar contains "Contents Search Back Print << >> Close". The page content is as follows:

Prices

In the standard version of the SAP system, the basis of pricing during sales order processing is the gross price of a material. The following kinds of price are predefined

- Material price
- Price list type
- Customer-specific price

Selecting From Competing Pricing Records

During automatic pricing, the system looks for a gross price. Since it is possible to store different kinds of pricing information in the system, pricing records can, in certain circumstances, compete with each other. For example, you may have a basic material price in addition to a special material price for a particular customer.

In the standard version, the system selects the most specific record, the customer-specific price. If no customer-specific price exists, the system looks for a valid price list type. If no valid price list type exists, the system takes the basic material price. This search strategy is determined during system configuration in SD Customizing. For more information, see [Access Sequences](#).

Material Prices

When you create a material price, you specify a price or a pricing scale for a specific material. You specify a combination of **sales organization** and **distribution channel**, for which the material price is valid.

Note

In SD Customizing, it is possible to specify that pricing information assigned to a particular combination of sales organization and distribution channel can be shared by other combinations. For more information, see the online information in the SD Implementation Guide.

Price List Types

Depending on the pricing policies of your company, you can define your own price list types to suit the needs of your business. For example, you can define price list types by customer groups (wholesale, retail, and so on) and by currency (price lists for each foreign country you deal with). For each price list type, you create different pricing records, using the same organizational data as for material prices (sales organization, distribution channel). You can then assign price list types, where necessary, to each customer in the customer's master record.

Customer-Specific Prices

If you grant special prices to different customers, you can create customer-specific pricing records. In addition to the same organizational data you enter for material prices (sales organization, distribution channel), you assign the pricing record to a specific combination of customer and material.

SAP00029676; SAP00013980.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

arranging a hierarchy of product groups comprising a plurality of branches such that a product group below a higher product group in each of the branches in a subset of the higher product group;

The R3 documentation discloses at least two methods for arranging a hierarchy of product groups comprising a plurality of branches such that a product group below a higher product group in each of the branches is a subset of the higher product group: product hierarchies and material pricing groups. In the R3 documentation, the term “material” is used for products and services that are offered for sale.

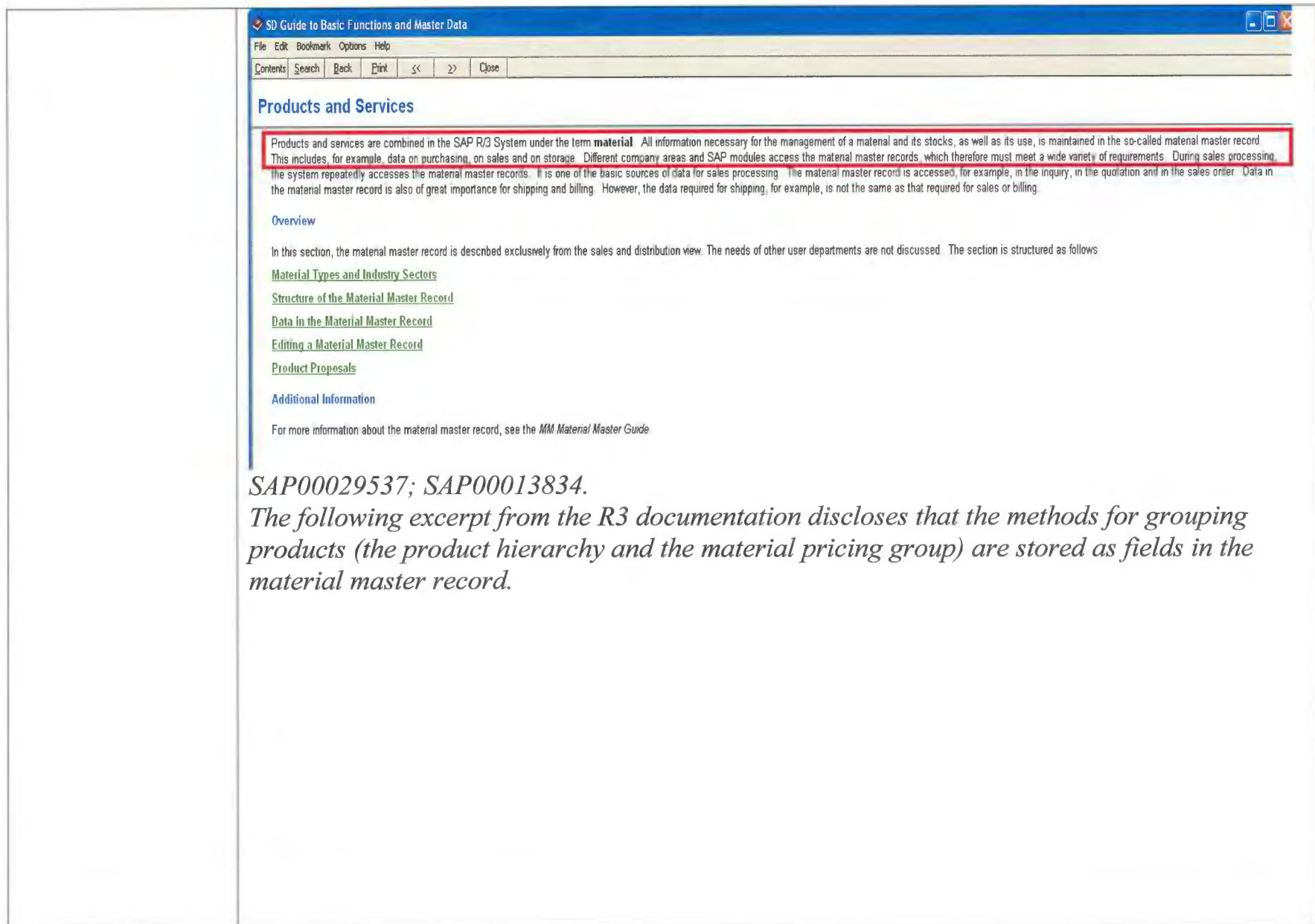
Product hierarchies: The first method for arranging a hierarchy of product groups uses product hierarchies. Product hierarchies are supported directly in the way that identifiers are selected for materials, as shown below. The user may define the criteria or characteristic used to differentiate between individual groupings. For instance, the documentation has an example hierarchy of electrical appliances, which are divided into dry and wet appliances and further divided into specific appliance types. More than one product hierarchy may be defined; the documentation describes an example arrangement in which one hierarchy contains Electrical Appliances and a second hierarchy contains Spare parts.

Material pricing groups: The second method for arranging a hierarchy of product groups uses the material pricing group field in the material master record. The material master record contains relevant information about each product, as described below. Each material may be assigned to a material pricing group, which is a two digit numeric key. A material pricing group then contains all of the materials that are assigned the same key. In this way, the material pricing group forms a two-level hierarchy: the material pricing group and its members, the materials that belong to that material pricing group.

Material: products and services

The following excerpt shows that the term “material” refers to products and services, and describes the material master record.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window with the title "SD Guide to Basic Functions and Master Data". The browser's address bar and menu bar are visible. The main content area is titled "Products and Services" and contains a paragraph of text that is highlighted with a red border. Below this paragraph is an "Overview" section with several sub-sections listed as links.

Products and services are combined in the SAP R/3 System under the term **material**. All information necessary for the management of a material and its stocks, as well as its use, is maintained in the so-called material master record. This includes, for example, data on purchasing, on sales and on storage. Different company areas and SAP modules access the material master records, which therefore must meet a wide variety of requirements. During sales processing, the system repeatedly accesses the material master records. It is one of the basic sources of data for sales processing. The material master record is accessed, for example, in the inquiry, in the quotation and in the sales order. Data in the material master record is also of great importance for shipping and billing. However, the data required for shipping, for example, is not the same as that required for sales or billing.

Overview

In this section, the material master record is described exclusively from the sales and distribution view. The needs of other user departments are not discussed. The section is structured as follows:

- [Material Types and Industry Sectors](#)
- [Structure of the Material Master Record](#)
- [Data in the Material Master Record](#)
- [Editing a Material Master Record](#)
- [Product Proposals](#)

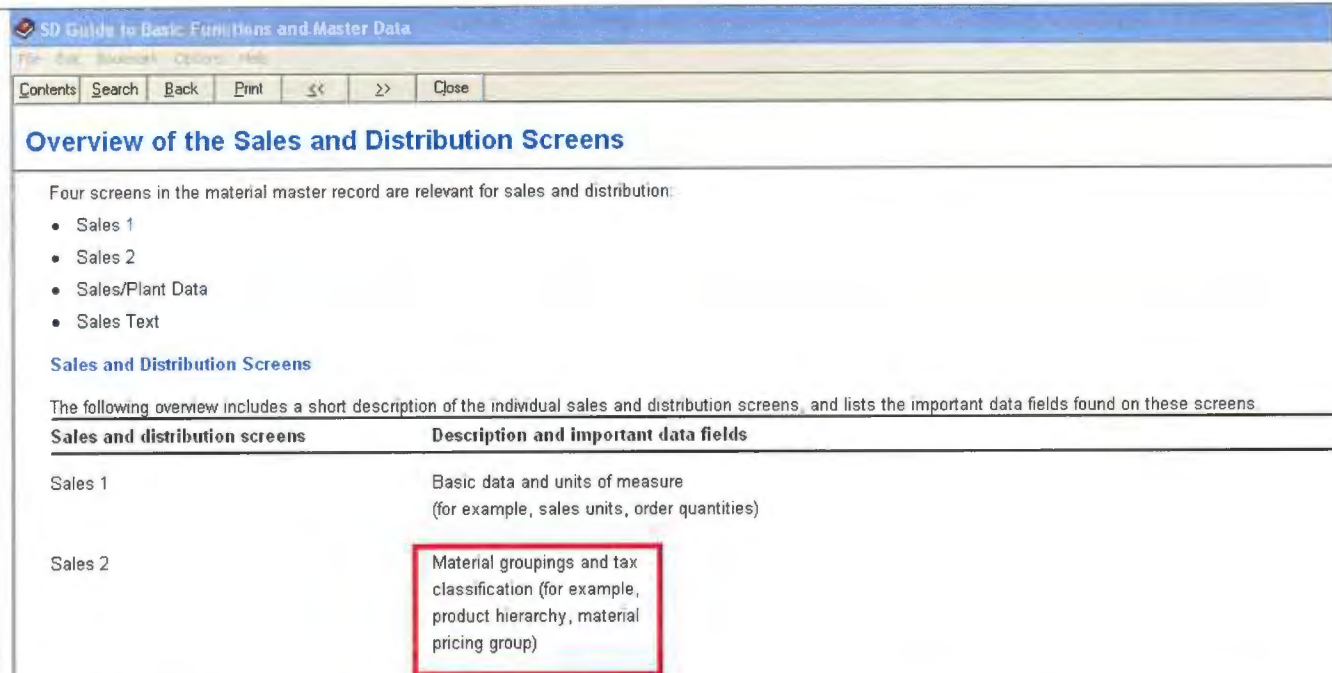
Additional Information

For more information about the material master record, see the *MM Material Master Guide*.

SAP00029537; SAP00013834.

The following excerpt from the R3 documentation discloses that the methods for grouping products (the product hierarchy and the material pricing group) are stored as fields in the material master record.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window titled "SD Guide to Basic Functions and Master Data". The browser address bar shows "http://sap.sabotek.com:8000/". Below the browser window, there is a navigation bar with buttons for "Contents", "Search", "Back", "Print", and "Close". The main content area is titled "Overview of the Sales and Distribution Screens".

Four screens in the material master record are relevant for sales and distribution:

- Sales 1
- Sales 2
- Sales/Plant Data
- Sales Text

Sales and Distribution Screens

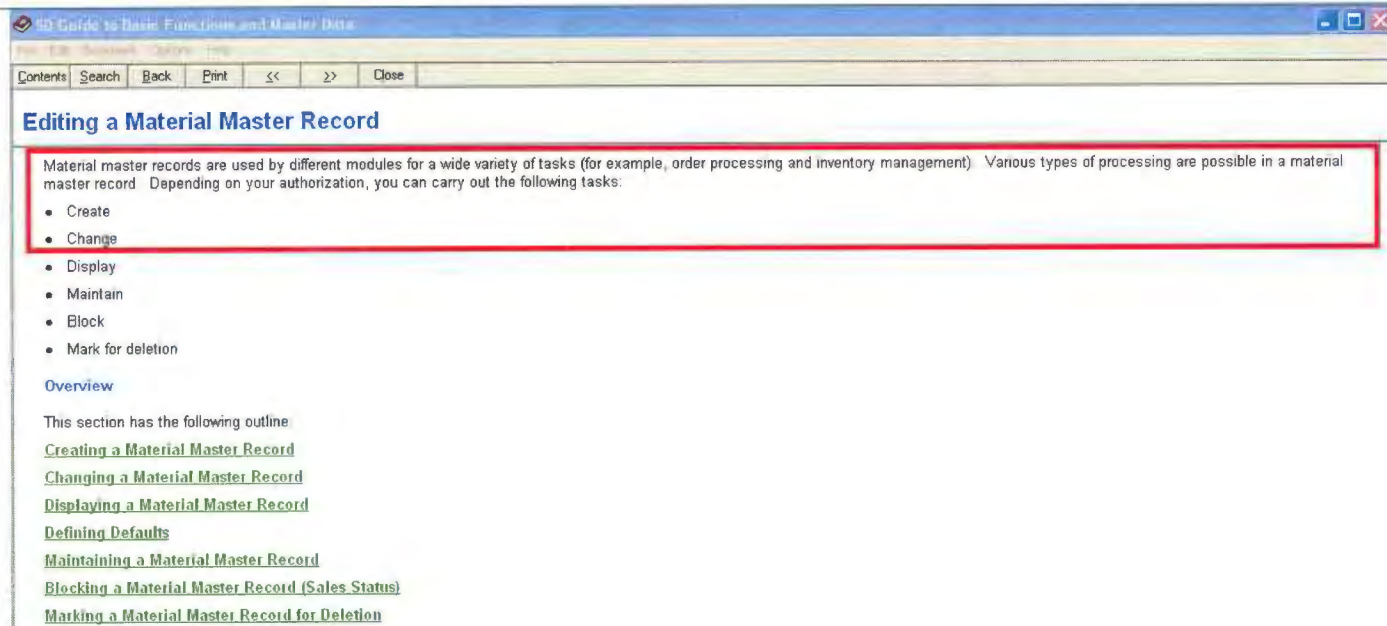
The following overview includes a short description of the individual sales and distribution screens, and lists the important data fields found on these screens.

Sales and distribution screens	Description and important data fields
Sales 1	Basic data and units of measure (for example, sales units, order quantities)
Sales 2	Material groupings and tax classification (for example, product hierarchy, material pricing group)

SAP00029547; SAP00013844.

The following three excerpts from the R3 documentation describes how material master records are managed and shows how they can be created and edited. Product hierarchies and material pricing groups are created and managed by using these facilities to edit the product hierarchy and material pricing group fields of the material master record.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window with the title "SAP Guide to Basic Functions and Master Data". The browser's address bar contains "http://sap.com". Below the address bar is a navigation menu with buttons for "Contents", "Search", "Back", "Print", "<<", ">>", and "Close". The main content area is titled "Editing a Material Master Record" in blue. A red rectangular box highlights the introductory paragraph and the first two items of a bulleted list: "Material master records are used by different modules for a wide variety of tasks (for example, order processing and inventory management). Various types of processing are possible in a material master record. Depending on your authorization, you can carry out the following tasks:" followed by "• Create" and "• Change". Below this, the remaining items of the list are: "• Display", "• Maintain", "• Block", and "• Mark for deletion". Further down, there is an "Overview" section with a sub-heading "This section has the following outline" and a list of links: "Creating a Material Master Record", "Changing a Material Master Record", "Displaying a Material Master Record", "Defining Defaults", "Maintaining a Material Master Record", "Blocking a Material Master Record (Sales Status)", and "Marking a Material Master Record for Deletion".

Editing a Material Master Record

Material master records are used by different modules for a wide variety of tasks (for example, order processing and inventory management). Various types of processing are possible in a material master record. Depending on your authorization, you can carry out the following tasks:

- Create
- Change
- Display
- Maintain
- Block
- Mark for deletion

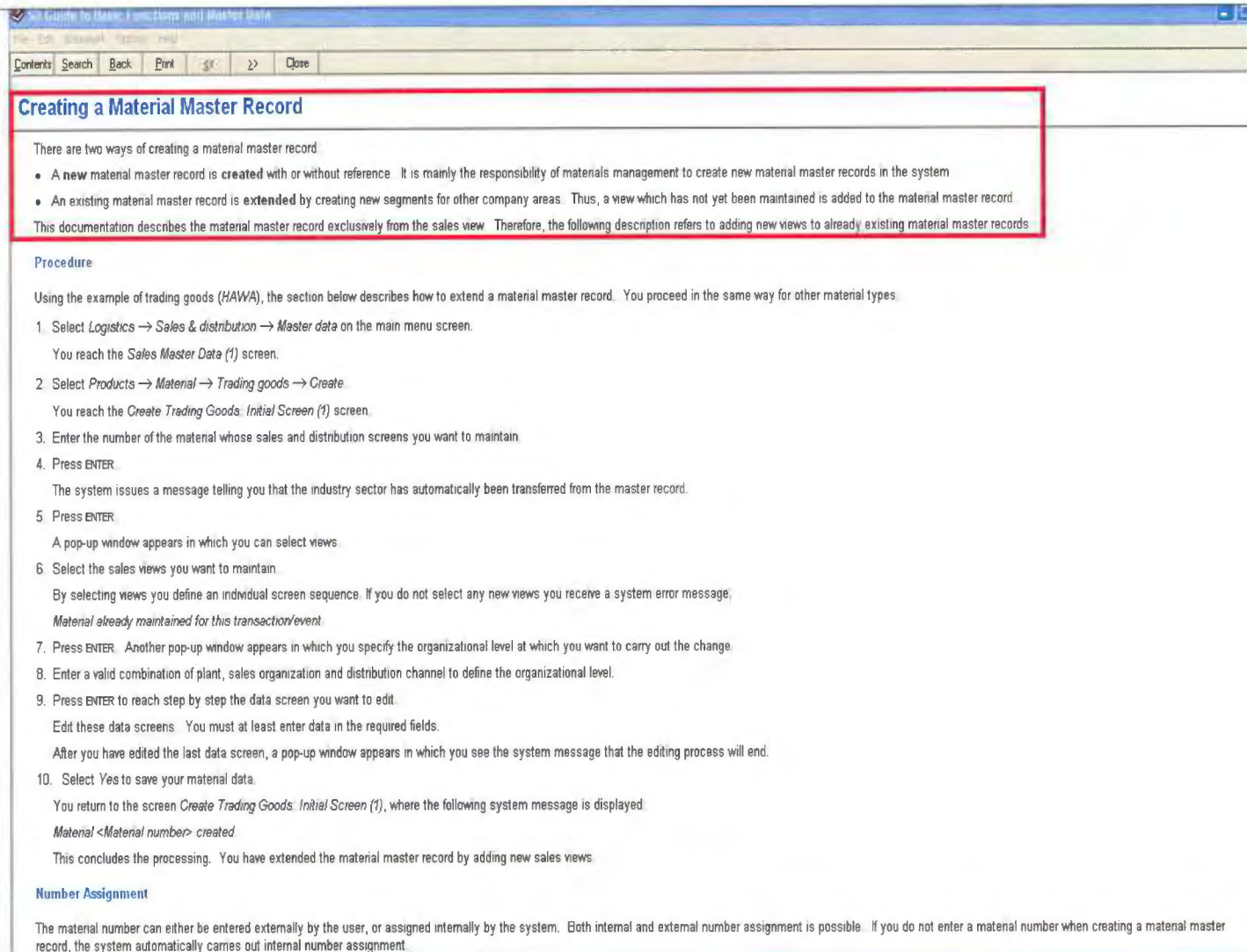
Overview

This section has the following outline:

- [Creating a Material Master Record](#)
- [Changing a Material Master Record](#)
- [Displaying a Material Master Record](#)
- [Defining Defaults](#)
- [Maintaining a Material Master Record](#)
- [Blocking a Material Master Record \(Sales Status\)](#)
- [Marking a Material Master Record for Deletion](#)

SAP00029553; SAP00013850.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window with the title "SAP00029554-5; SAP00013851-2". The browser's address bar contains "http://www.sap.com". The page content is titled "Creating a Material Master Record" and is enclosed in a red border. The text describes two ways to create a material master record: a new one or an existing one extended. It then provides a detailed procedure for extending a record, including steps for navigating through the SAP menu, selecting views, and saving the data. The procedure concludes with a system message indicating the record has been created.

Creating a Material Master Record

There are two ways of creating a material master record.

- A **new** material master record is **created** with or without reference. It is mainly the responsibility of materials management to create new material master records in the system.
- An existing material master record is **extended** by creating new segments for other company areas. Thus, a view which has not yet been maintained is added to the material master record.

This documentation describes the material master record exclusively from the sales view. Therefore, the following description refers to adding new views to already existing material master records.

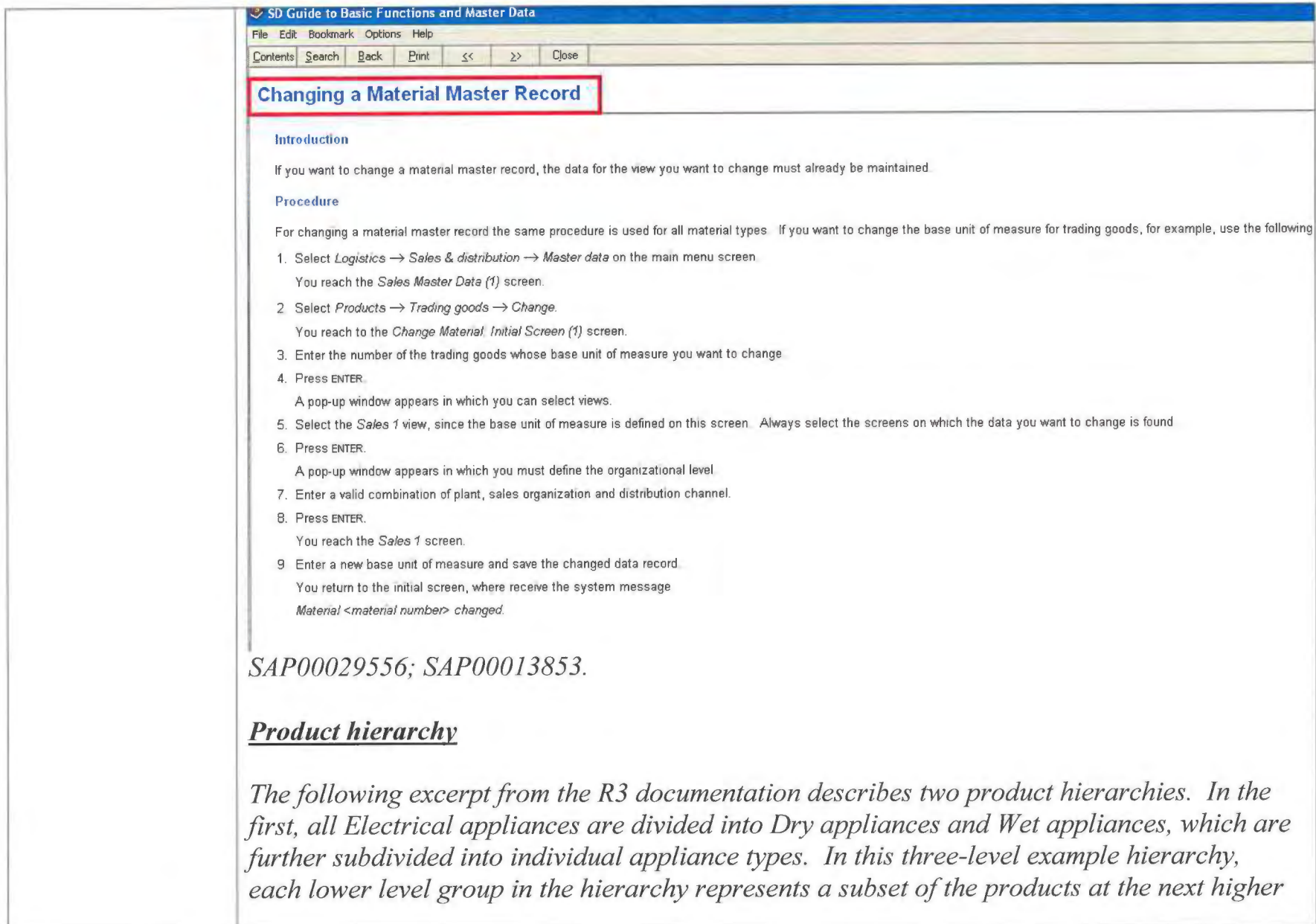
Procedure

Using the example of trading goods (*HAWA*), the section below describes how to extend a material master record. You proceed in the same way for other material types.

1. Select *Logistics* → *Sales & distribution* → *Master data* on the main menu screen.
You reach the *Sales Master Data (1)* screen.
2. Select *Products* → *Material* → *Trading goods* → *Create*.
You reach the *Create Trading Goods: Initial Screen (1)* screen.
3. Enter the number of the material whose sales and distribution screens you want to maintain.
4. Press **ENTER**.
The system issues a message telling you that the industry sector has automatically been transferred from the master record.
5. Press **ENTER**.
A pop-up window appears in which you can select views.
6. Select the sales views you want to maintain.
By selecting views you define an individual screen sequence. If you do not select any new views you receive a system error message:
Material already maintained for this transaction/event
7. Press **ENTER**. Another pop-up window appears in which you specify the organizational level at which you want to carry out the change.
8. Enter a valid combination of plant, sales organization and distribution channel to define the organizational level.
9. Press **ENTER** to reach step by step the data screen you want to edit.
Edit these data screens. You must at least enter data in the required fields.
After you have edited the last data screen, a pop-up window appears in which you see the system message that the editing process will end.
10. Select **Yes** to save your material data.
You return to the screen *Create Trading Goods: Initial Screen (1)*, where the following system message is displayed:
Material <Material number> created
This concludes the processing. You have extended the material master record by adding new sales views.

SAP00029554-5; SAP00013851-2.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window titled "SD Guide to Basic Functions and Master Data". The browser's address bar and menu bar are visible. The main content area is titled "Changing a Material Master Record" and contains the following text:

Introduction

If you want to change a material master record, the data for the view you want to change must already be maintained.

Procedure

For changing a material master record the same procedure is used for all material types. If you want to change the base unit of measure for trading goods, for example, use the following

1. Select *Logistics* → *Sales & distribution* → *Master data* on the main menu screen.
You reach the *Sales Master Data (1)* screen.
2. Select *Products* → *Trading goods* → *Change*.
You reach to the *Change Material: Initial Screen (1)* screen.
3. Enter the number of the trading goods whose base unit of measure you want to change.
4. Press ENTER.
A pop-up window appears in which you can select views.
5. Select the *Sales 1* view, since the base unit of measure is defined on this screen. Always select the screens on which the data you want to change is found.
6. Press ENTER.
A pop-up window appears in which you must define the organizational level.
7. Enter a valid combination of plant, sales organization and distribution channel.
8. Press ENTER.
You reach the *Sales 1* screen.
9. Enter a new base unit of measure and save the changed data record.
You return to the initial screen, where receive the system message
Material <material number> changed.

SAP00029556; SAP00013853.

Product hierarchy

The following excerpt from the R3 documentation describes two product hierarchies. In the first, all Electrical appliances are divided into Dry appliances and Wet appliances, which are further subdivided into individual appliance types. In this three-level example hierarchy, each lower level group in the hierarchy represents a subset of the products at the next higher

Anticipation: 35 U.S.C. §102 (R3 Documentation)

level.

GUIDE TO BASIC FUNCTIONS AND MASTER DATA

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Grouping Materials

Materials can be grouped according to different criteria. This allows for easier management and better evaluation of materials with similar features. The standard version of the SAP R/3 System does not provide exact criteria to differentiate between individual groupings. These criteria can be defined by the company to meet their specific demands. The groupings are determined and defined by the system administrator. Contact him, if you have questions concerning the existing groupings. In the standard version of the SAP R/3 System the following groupings are possible, for example

- Material group
- Material pricing group
- Product hierarchy

Material Group

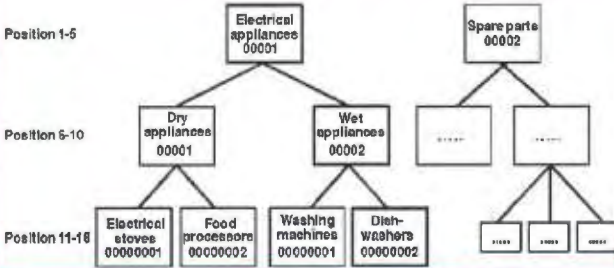
Goods with the same features (for example, nails) can be grouped using the field *Material group*. Unlike the product hierarchy, the material group does not contain different levels or possible combinations of goods. You can, however, use the material group to carry out different analysis functions. The material group is defined by a nine-digit, alphanumeric key. It is not primarily of importance for sales and distribution, but is used mainly in materials management.

Material Pricing Group

The material pricing group can also be used to group materials, especially for pricing and for analyses. The material pricing group is defined by a two-digit, numeric key.

Product Hierarchy

The product hierarchy is used to group materials by combining different features. It is used for analyses and pricing. A product hierarchy can consist of up to eighteen characters. Its features can be combined in various ways. The following figure gives an example of how materials can be grouped using product hierarchies.



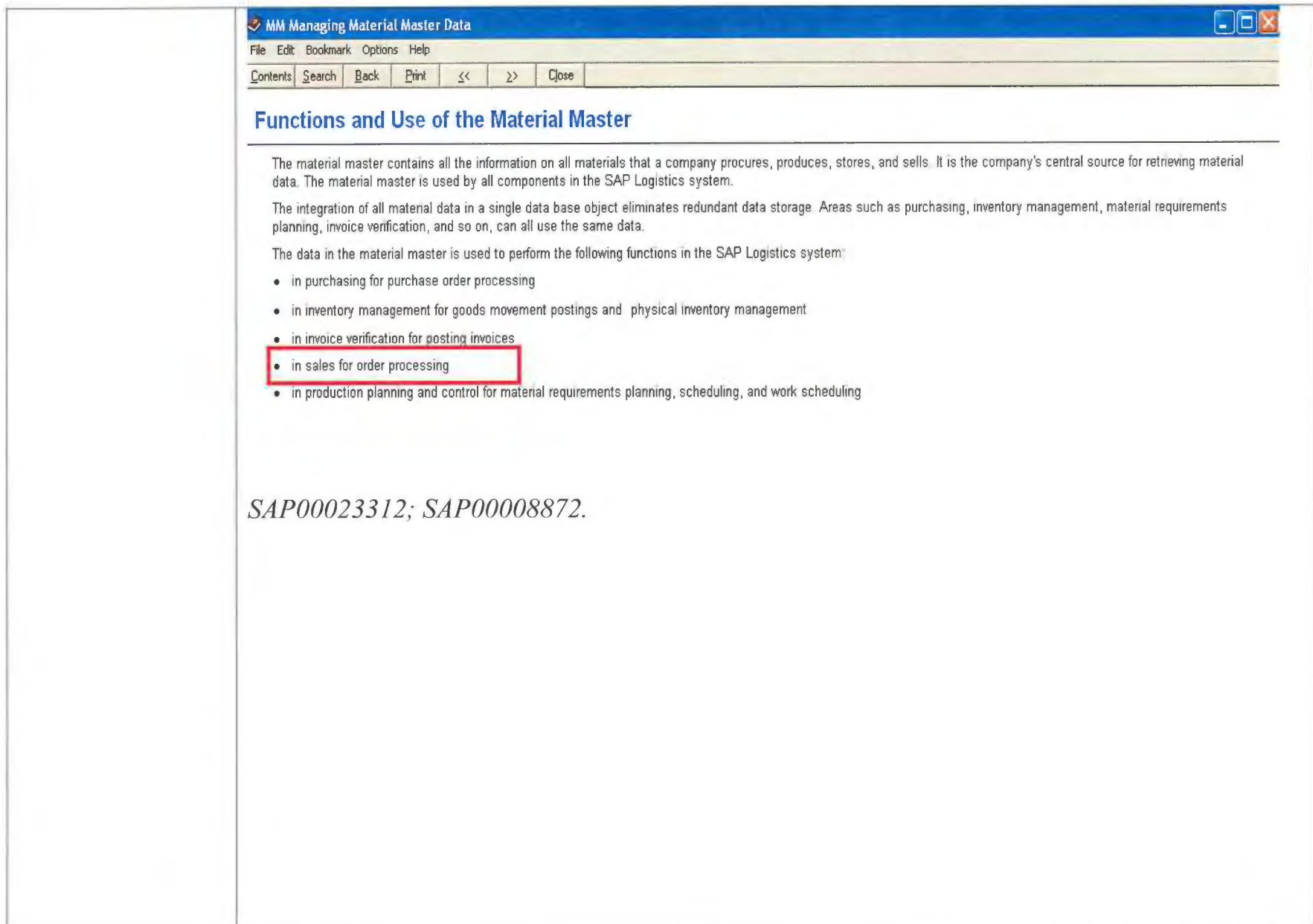
In this case, a dishwasher can be described by product hierarchy 000100002000000002. This series of characters states that dishwashers belong to the category electrical appliances (series of characters 00001, position 1-5), and also to wet appliances (series of characters 00002, position 6-10) and, finally, to dishwashers (series of characters 00000002, position 11-18).

SAP00029548-9; SAP00013845-6.

Material pricing groups

Material pricing groups are defined using a material pricing group field in the material master record. The following excerpts describe the material pricing group in great detail, and they show that materials in the same pricing group may be treated uniformly when it comes to pricing.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a window titled "MM Managing Material Master Data" with a menu bar (File, Edit, Bookmark, Options, Help) and a toolbar (Contents, Search, Back, Print, <<, >>, Close). The main content area is titled "Functions and Use of the Material Master" and contains the following text:

The material master contains all the information on all materials that a company procures, produces, stores, and sells. It is the company's central source for retrieving material data. The material master is used by all components in the SAP Logistics system.

The integration of all material data in a single data base object eliminates redundant data storage. Areas such as purchasing, inventory management, material requirements planning, invoice verification, and so on, can all use the same data.

The data in the material master is used to perform the following functions in the SAP Logistics system:

- in purchasing for purchase order processing
- in inventory management for goods movement postings and physical inventory management
- in invoice verification for posting invoices
- in sales for order processing
- in production planning and control for material requirements planning, scheduling, and work scheduling

SAP00023312; SAP00008872.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

Grouping Materials

Materials can be grouped according to different criteria. This allows for easier management and better evaluation of materials with similar features. The standard version of the SAP R/3 System does not provide exact criteria to differentiate between individual groupings. These criteria can be defined by the company to meet their specific demands. The groupings are determined and defined by the system administrator. Contact him, if you have questions concerning the existing groupings. In the standard version of the SAP R/3 System the following groupings are possible, for example:

- Material group
- Material pricing group
- Product hierarchy

Material Group

Goods with the same features (for example, nails) can be grouped using the field *Material group*. Unlike the product hierarchy, the material group does not contain different levels or possible combinations of goods. You can, however, use the material group to carry out different analysis functions. The material group is defined by a nine-digit, alphanumeric key. It is not primarily of importance for sales and distribution, but is used mainly in materials management.

Material Pricing Group

The material pricing group can also be used to group materials, especially for pricing and for analyses. The material pricing group is defined by a two-digit, numeric key.

SAP00029548; SAP00013845.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

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Discounts and Surcharges

The standard version of the SAP system includes a variety of commonly-used discounts. If your business requires it, special discounts and surcharges can be defined in SD Customizing during system configuration or subsequent customizing.

Discounts in the Standard Version

The standard version includes the following discounts:

Discount (Key)	Kind of discount
Customer (K007)	Percentage
Material (K004)	Absolute
Price group (K003)	Percentage
Material group (K029)	Absolute discount by weight
Customer/material (K005)	Absolute
Customer/material group (K030)	Percentage
Price group/material (K032)	Absolute
Price group/material group (K031)	Percentage

You can use any of these standard discounts to create condition records in the system. During automatic pricing, the system takes into account the discounts that apply in the circumstances and searches for valid condition records. In the case of discounts that refer to a grouping of some kind (for example, material and price groups), you must assign the group in the corresponding customer or material master record before automatic pricing takes place.

Further Information

For more detailed information about each of these discounts, you can ask your system administrator about how each discount is set up in your system. You can also, during sales order processing, branch from each pricing element in the document to screens that give you more information. You can see, for example, some of the data - the relevant **condition record** and **pricing scale** information, and so on - that the system uses to calculate a pricing element.

New Discounts in Release 2.1

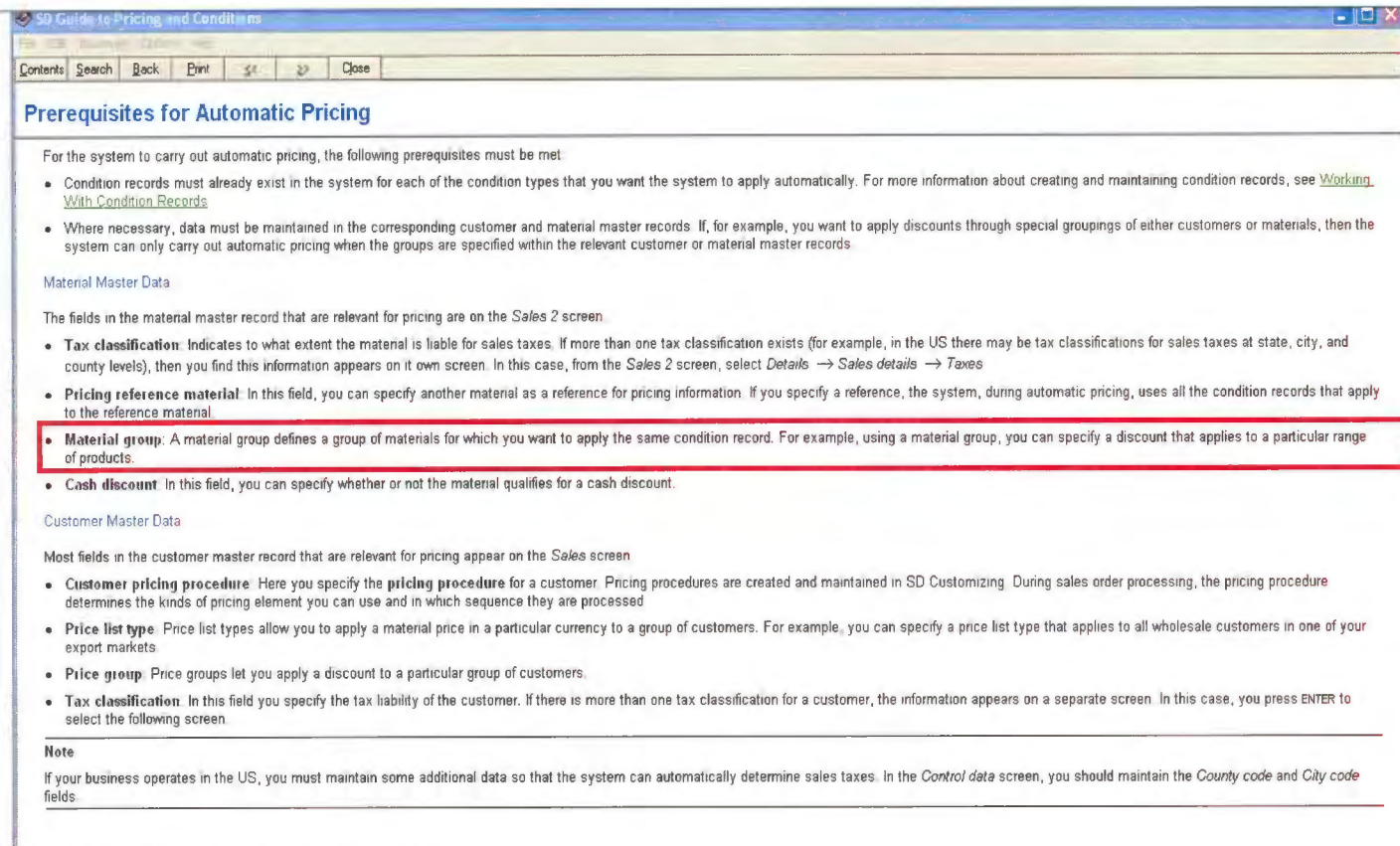
Release 2.1 of the standard version of the SAP R/3 System includes new discounts for use in the following new billing functions:

Function	Condition type	Description
Rebate processing	BO01	Group rebate (%)
	BO02	Material rebate (fixed)
	BO03	Customer rebate (%)
Inter-company proc.	PI01	Inter-company (fixed)
	PI02	Inter-company (%)
Invoice lists	RL00	Factoring discount
	MW15	Factoring discount tax

For more information about these new billing functions, see the *SD Billing Guide*.

SAP00029677; SAP00013981.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window with the title "SD Guide to Pricing and Conditions". The browser's address bar and navigation buttons (Contents, Search, Back, Print, Close) are visible. The main content area is titled "Prerequisites for Automatic Pricing" and contains the following text:

For the system to carry out automatic pricing, the following prerequisites must be met:

- Condition records must already exist in the system for each of the condition types that you want the system to apply automatically. For more information about creating and maintaining condition records, see [Working With Condition Records](#).
- Where necessary, data must be maintained in the corresponding customer and material master records. If, for example, you want to apply discounts through special groupings of either customers or materials, then the system can only carry out automatic pricing when the groups are specified within the relevant customer or material master records.

Material Master Data

The fields in the material master record that are relevant for pricing are on the *Sales 2* screen.

- **Tax classification:** Indicates to what extent the material is liable for sales taxes. If more than one tax classification exists (for example, in the US there may be tax classifications for sales taxes at state, city, and county levels), then you find this information appears on its own screen. In this case, from the *Sales 2* screen, select *Details* → *Sales details* → *Taxes*.
- **Pricing reference material:** In this field, you can specify another material as a reference for pricing information. If you specify a reference, the system, during automatic pricing, uses all the condition records that apply to the reference material.
- **Material group:** A material group defines a group of materials for which you want to apply the same condition record. For example, using a material group, you can specify a discount that applies to a particular range of products.
- **Cash discount:** In this field, you can specify whether or not the material qualifies for a cash discount.

Customer Master Data

Most fields in the customer master record that are relevant for pricing appear on the *Sales* screen.

- **Customer pricing procedure:** Here you specify the **pricing procedure** for a customer. Pricing procedures are created and maintained in SD Customizing. During sales order processing, the pricing procedure determines the kinds of pricing element you can use and in which sequence they are processed.
- **Price list type:** Price list types allow you to apply a material price in a particular currency to a group of customers. For example, you can specify a price list type that applies to all wholesale customers in one of your export markets.
- **Price group:** Price groups let you apply a discount to a particular group of customers.
- **Tax classification:** In this field you specify the tax liability of the customer. If there is more than one tax classification for a customer, the information appears on a separate screen. In this case, you press ENTER to select the following screen.

Note

If your business operates in the US, you must maintain some additional data so that the system can automatically determine sales taxes. In the *Control data* screen, you should maintain the *County code* and *City code* fields.

SAP00029698; SAP00014002.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

Material Data: the Sales View

Smallest quantity that the customer is allowed to order. It is measured in a base unit of measure.

Minimum delivery quantity
Lowest quantity that may be delivered to a customer.

Delivery unit
Only exact multiples may be supplied. The delivery unit is made up of a number **and** a unit of measure. In the case of a delivery unit of **30 pieces**, only 30, 60, 90, and so on pieces can be delivered, but not, however, 100 pieces.

Note
Enter the sales prices of a material with *Details* → *Sales price*.

The most important data on the second sales screen is:

Material description
This information is mandatory and identical for all departments. Talk to the other users to decide what you are going to enter here.

Division
The use of divisions lets you organize your sales structure around groups of similar products or product lines. This allows the people in a division who process orders and service customers to specialize in a manageable area of expertise.

Cash discount
This indicator determines whether a material qualifies for a cash discount.

The second box on the screen contains the following grouping terms:

Rebate group
The rebate group determines whether a volume-based rebate can be granted for a material.

Commission group
You can allocate two materials to the same commission group if each representative who sells these materials receives the same commission percentages for both materials. It is quite possible that different representatives within the group receive different commission percentages.

Pricing reference material
The key allows you to group together products for which the same pricing procedure is used.

Material pricing group
Group of materials to which the same pricing conditions apply.

Product hierarchy
Group of materials used by the system for pricing purposes and sales analyses.

Account determination group
The system refers to this group of materials when it creates an accounting document from a billing document to determine the revenue and sales deduction accounts.

Item category group
The system uses this value in sales documents to determine the item category.

The contents of the lower box depend on the settings that have been made in Customizing using the Sales and Distribution Configuration menu. Tax by country. These determine which taxes are relevant for different countries.

SAP00023355-6; SAP00008915-6.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

storing pricing information in a data source, wherein the pricing information is associated, with (i) a pricing type, (ii) the organizational groups, and (iii) the product groups;

The R3 documentation discloses using the condition technique, which consists of condition types, condition tables, condition records, pricing procedures, and access sequences for storing pricing information in a data source. Using the condition technique, the pricing information is associated, with (i) a pricing type, (ii) the organizational groups, and (iii) the product groups.

The condition technique provides a very flexible mechanism for storing pricing information, including:

1. Condition Types: *The user can specify a number of condition types, one for each kind of price, discount, or surcharge that applies to a sales company's pricing calculations. A condition type defines each kind of price, discount, or surcharge that is used. A number of condition types are pre-defined, including PR00 (Price), K004 (Material discount), K005 (Customer-specific material discount), K007 (Customer discount), K020 (Price group discount), KF00 (Freight surcharge by item), UTX1 (State tax USA), UTX2 (County tax USA), and UTX3 (City tax USA), as well as many others. In addition, a user may define additional condition types specific to their pricing requirements.*

2. Condition Tables: *Condition tables store individual condition records (pricing rules) and are keyed by a combination of values that may include either or both of the customer and the material (product). The term "material" is the term used in the R3 documentation for both a product and a service. Condition tables define the combination of fields (the key) that identifies an individual condition record. Each different combination of fields that is used to search for condition records requires a different condition table. The R3 documentation specifies a number of condition tables, including table 005 which defines a four-part key (sales organization, distribution channel, customer, material) and table 004 which defines a three part key (sales organization, distribution channel, material) as well as many others.*

Anticipation: 35 U.S.C. §102 (R3 Documentation)

3. Condition Records: In the R3 documentation, pricing rules are called condition records. Condition records specify either a price (e.g., retail price) or a calculation to a price (e.g., 10% discount or 5% tax). Condition records are also referred to in the R3 documentation as pricing elements. A condition record stores an individual item of pricing information. Condition records are stored in condition tables.

4. Pricing Procedures: Pricing procedures (or just “procedures”) determine the order in which the system processes condition types to determine a final price. The R3 documentation describes how a pricing procedure includes prices, discounts, and surcharges used in a sales order or invoice. In the example provided below, the first condition type in the procedure determines the gross price. Condition types then follow that determine the various discounts. Finally, there are condition types that determine freight costs and sales taxes. The documentation also describes how different pricing procedures may be used for customers in different countries or regions. These specialized procedures may take into account local requirements such as sales taxes.

5. Access Sequences: Every condition type has an access sequence associated with it. The access sequence specifies the order in which condition tables are used to search for and retrieve condition records corresponding to the associated condition type. The documentation includes an example where a sales department creates different kinds of price data including a basic price for a product, a special customer-specific price for the same product, and a price list for large customers. In some situations, a customer may qualify for all three different prices. The access sequence indicates the order in which pricing data should be retrieved in order to find a valid price. In this example, shown below, the sales department may want the customer to get the most advantageous price, and defines an access sequence in which the special customer-specific price is the first place to search.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The R3 documentation describes these concepts in detail. The R3 documentation describes how to use these five elements of the condition technique to store pricing information that is associated with pricing types, the organization groups, and the product groups. The pricing information is held in condition records which are stored in condition tables. The pricing information is associated with pricing types (which are condition types in the R3 documentation) using pricing procedures and access sequences. The pricing information is associated with organizational groups and product groups using access sequences and condition tables.

The Condition Technique

The following excerpts provide an overview of the condition technique and its use in pricing.

The screenshot shows the SAP R/3 SYSTEM ONLINE DOCUMENTATION interface. At the top, the SAP logo is on the left, followed by the text "R/3 SYSTEM" in large letters and "ONLINE DOCUMENTATION" in smaller letters. A small icon with the text "R/3 SYSTEM" is on the right. Below the header, the page is divided into two main sections. On the left, under the heading "Sales and Distribution", there is a colorful icon depicting a telephone handset, a factory building, and a truck. Below this icon are three buttons: "Contents", "Getting Started", and "Exit" (with "Copyright" next to it). On the right, under the heading "Sales and Distribution", there is a list of topics with checkboxes, preceded by the text "Please select a topic.".

SAP R/3 SYSTEM ONLINE DOCUMENTATION

Sales and Distribution

Sales and Distribution

Please select a topic.

- Basic Functions and Master Data
- Sales and Sales Order Processing
- Shipping
- Pricing and Conditions
- Billing and Invoicing
- Sales Information System

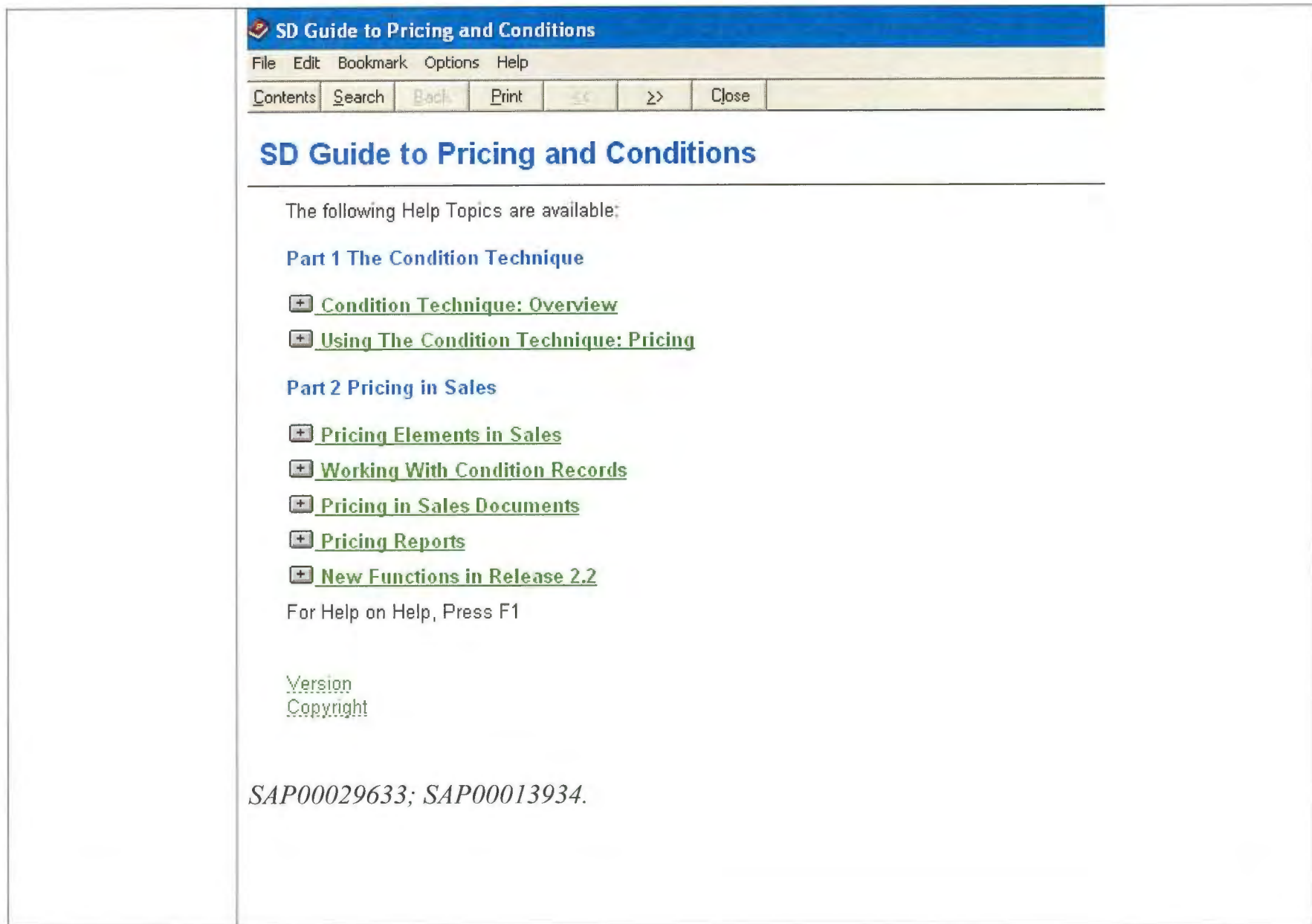
Contents

Getting Started

Exit **Copyright**

SAP00014853; SAP00000585.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



SD Guide to Pricing and Conditions

File Edit Bookmark Options Help

Contents Search Back Print << >> Close

SD Guide to Pricing and Conditions

The following Help Topics are available:

Part 1 The Condition Technique

- + [Condition Technique: Overview](#)
- + [Using The Condition Technique: Pricing](#)

Part 2 Pricing in Sales

- + [Pricing Elements in Sales](#)
- + [Working With Condition Records](#)
- + [Pricing in Sales Documents](#)
- + [Pricing Reports](#)
- + [New Functions in Release 2.2](#)

For Help on Help, Press F1

Version
Copyright

SAP00029633; SAP00013934.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

Contents Search Back Print << >> Close

Overview of Pricing

The term **pricing** is used broadly to describe the calculation of prices (for external use by customers or vendors) and costs (for internal purposes, such as cost accounting).

Pricing in the SAP R/3 System

Pricing is used in a variety of SAP R/3 applications. During sales order processing, for example, the system automatically determines pricing for a sales order by taking into account all the relevant information: what kind of basic price the customer gets, whether special discounts or surcharges apply, and if the customer is liable for freight charges and sales taxes. Likewise, if you are using the SAP system for purchasing, the system can take information from various sources, such as the vendor and purchasing organization, and calculate pricing for a purchase order. If you are using the SAP system for cost accounting, the system uses pricing to calculate, for example, the costs of an internal order.

The Condition Technique in Pricing

Even though the requirements are different for every application, the SAP system is able to calculate prices by using a common approach to pricing: the condition technique.

The Goal of the Condition Technique in Pricing

The goal of the condition technique in pricing is always the calculation of a final price or cost. The sales department, for example, wants to be able to determine the **net value** of a sales order (in other words, the price after all discounts, freight charges and cash discounts are taken into account). Or the purchasing department wants to know the **effective price** of a purchase order. The cost accounting department wants to know the final **manufacturing cost of an internal order** (that is, the cost after all the basic costs and overhead costs are taken into account).

Overview

This section provides an overview of the condition technique as it is used in pricing during sales order and purchase order processing.

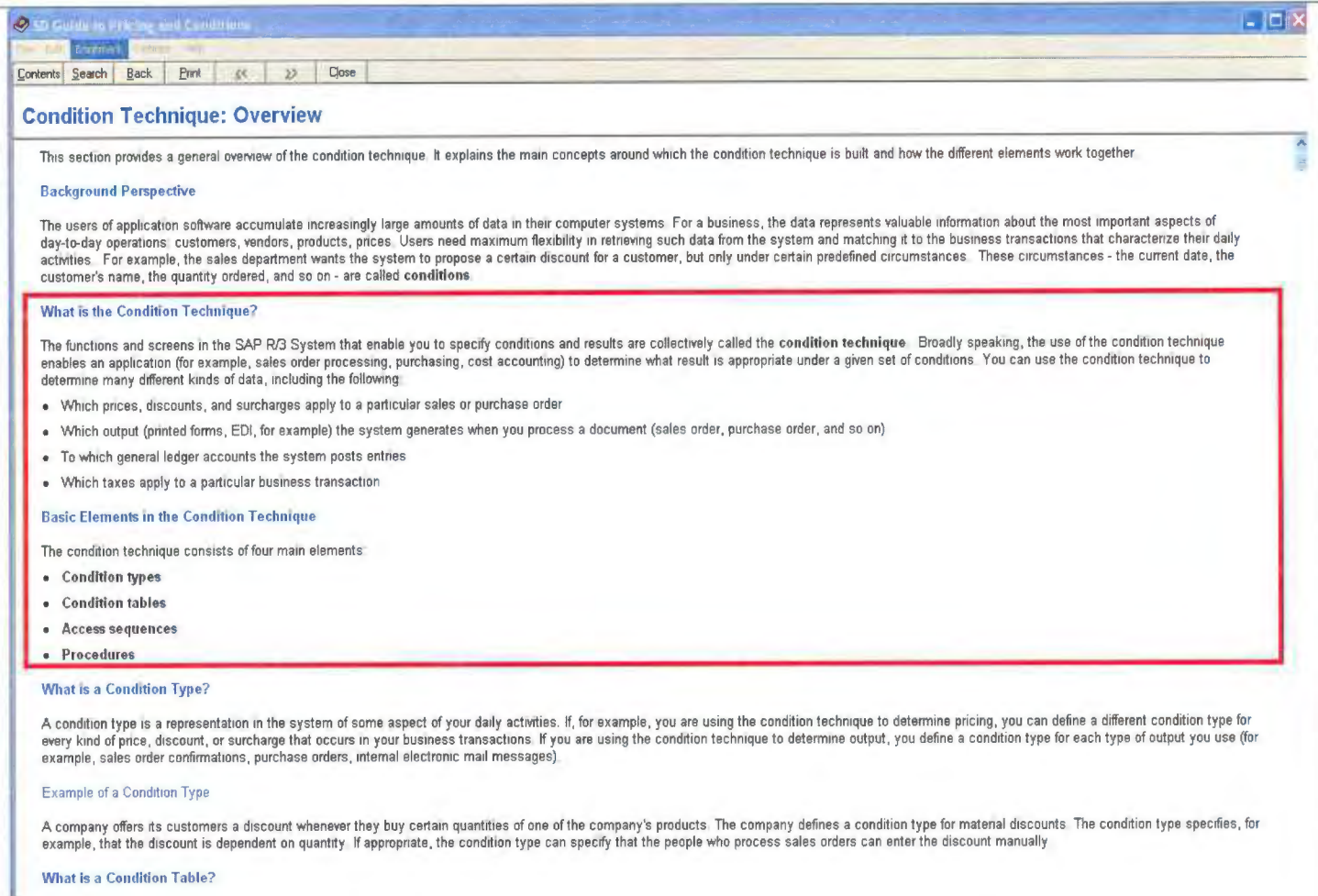
[Example of Pricing in a Sales Order](#)

[Example of Pricing in a Purchase Order](#)

SAP00029641; SAP00013942.

The following excerpt describes the main components of the condition technique: condition types, condition tables, access sequences, and (pricing) procedures. Condition records are not explicitly listed as a component of the condition technique; they are described as a subcomponent of the condition table.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window with the title "SAP R/3 Guide to Pricing and Conditions". The browser address bar shows "http://www.sap.com". The page content is titled "Condition Technique: Overview" and includes a navigation menu with "Contents", "Search", "Back", "Print", "Home", and "Close".

Condition Technique: Overview

This section provides a general overview of the condition technique. It explains the main concepts around which the condition technique is built and how the different elements work together.

Background Perspective

The users of application software accumulate increasingly large amounts of data in their computer systems. For a business, the data represents valuable information about the most important aspects of day-to-day operations: customers, vendors, products, prices. Users need maximum flexibility in retrieving such data from the system and matching it to the business transactions that characterize their daily activities. For example, the sales department wants the system to propose a certain discount for a customer, but only under certain predefined circumstances. These circumstances - the current date, the customer's name, the quantity ordered, and so on - are called **conditions**.

What is the Condition Technique?

The functions and screens in the SAP R/3 System that enable you to specify conditions and results are collectively called the **condition technique**. Broadly speaking, the use of the condition technique enables an application (for example, sales order processing, purchasing, cost accounting) to determine what result is appropriate under a given set of conditions. You can use the condition technique to determine many different kinds of data, including the following:

- Which prices, discounts, and surcharges apply to a particular sales or purchase order
- Which output (printed forms, EDI, for example) the system generates when you process a document (sales order, purchase order, and so on)
- To which general ledger accounts the system posts entries
- Which taxes apply to a particular business transaction

Basic Elements in the Condition Technique

The condition technique consists of four main elements:

- **Condition types**
- **Condition tables**
- **Access sequences**
- **Procedures**

What is a Condition Type?

A **condition type** is a representation in the system of some aspect of your daily activities. If, for example, you are using the condition technique to determine pricing, you can define a different condition type for every kind of price, discount, or surcharge that occurs in your business transactions. If you are using the condition technique to determine output, you define a condition type for each type of output you use (for example, sales order confirmations, purchase orders, internal electronic mail messages).

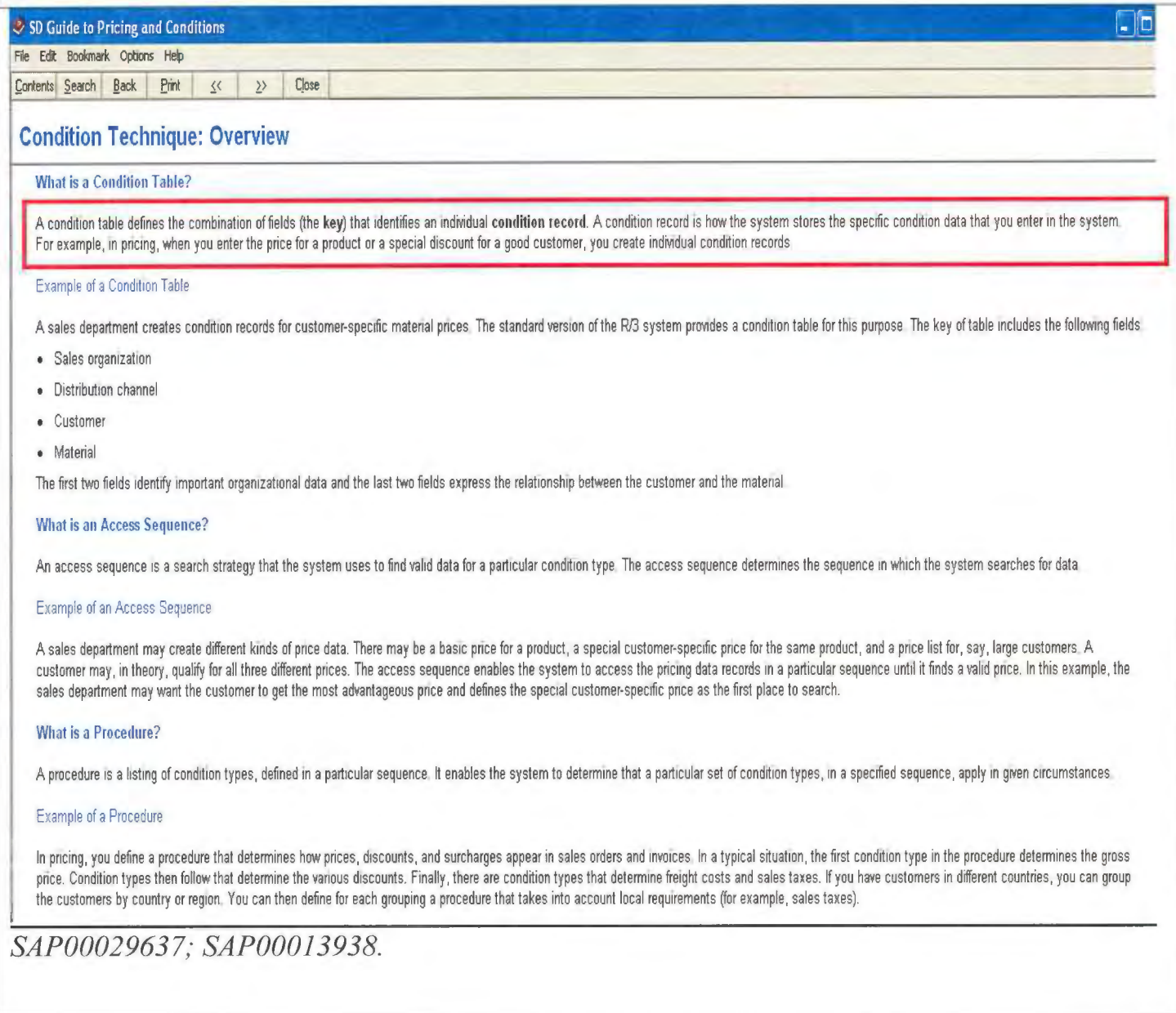
Example of a Condition Type

A company offers its customers a discount whenever they buy certain quantities of one of the company's products. The company defines a condition type for material discounts. The condition type specifies, for example, that the discount is dependent on quantity. If appropriate, the condition type can specify that the people who process sales orders can enter the discount manually.

What is a Condition Table?

SAP00029636; SAP00013937.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar contains "Contents Search Back Print << >> Close". The main content area is titled "Condition Technique: Overview" and contains several sections of text explaining SAP pricing concepts. A red rectangular box highlights the definition of a condition table. The text includes definitions for condition tables, access sequences, and procedures, along with examples of their use in a sales department.

What is a Condition Table?

A condition table defines the combination of fields (the **key**) that identifies an individual **condition record**. A condition record is how the system stores the specific condition data that you enter in the system. For example, in pricing, when you enter the price for a product or a special discount for a good customer, you create individual condition records

Example of a Condition Table

A sales department creates condition records for customer-specific material prices. The standard version of the R/3 system provides a condition table for this purpose. The key of table includes the following fields:

- Sales organization
- Distribution channel
- Customer
- Material

The first two fields identify important organizational data and the last two fields express the relationship between the customer and the material.

What is an Access Sequence?

An access sequence is a search strategy that the system uses to find valid data for a particular condition type. The access sequence determines the sequence in which the system searches for data

Example of an Access Sequence

A sales department may create different kinds of price data. There may be a basic price for a product, a special customer-specific price for the same product, and a price list for, say, large customers. A customer may, in theory, qualify for all three different prices. The access sequence enables the system to access the pricing data records in a particular sequence until it finds a valid price. In this example, the sales department may want the customer to get the most advantageous price and defines the special customer-specific price as the first place to search.

What is a Procedure?

A procedure is a listing of condition types, defined in a particular sequence. It enables the system to determine that a particular set of condition types, in a specified sequence, apply in given circumstances.

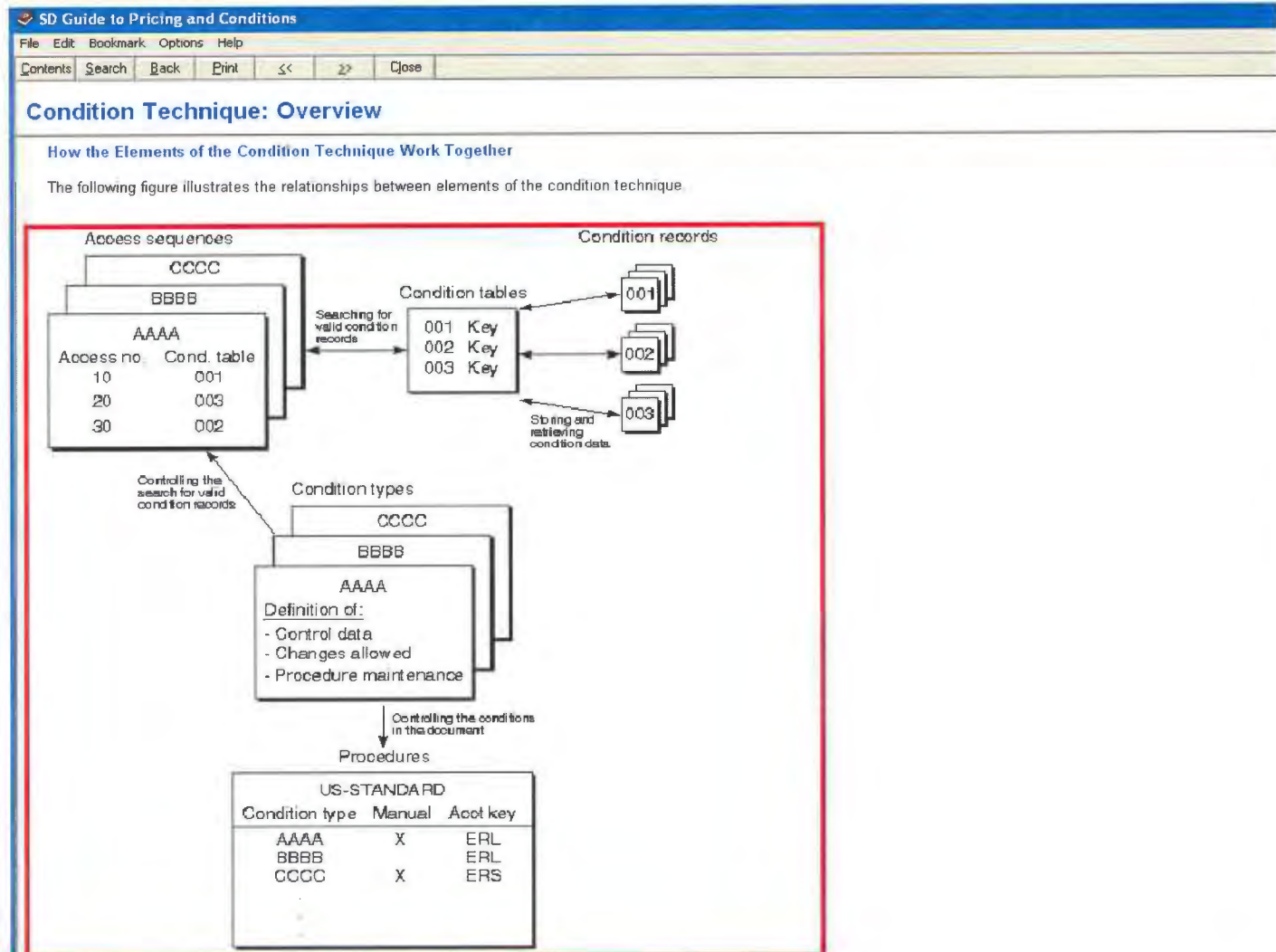
Example of a Procedure

In pricing, you define a procedure that determines how prices, discounts, and surcharges appear in sales orders and invoices. In a typical situation, the first condition type in the procedure determines the gross price. Condition types then follow that determine the various discounts. Finally, there are condition types that determine freight costs and sales taxes. If you have customers in different countries, you can group the customers by country or region. You can then define for each grouping a procedure that takes into account local requirements (for example, sales taxes).

SAP00029637; SAP00013938.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The relationship between the components of the condition technique is shown in the following excerpt from the R3 documentation.



SAP00029638; SAP00013939.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

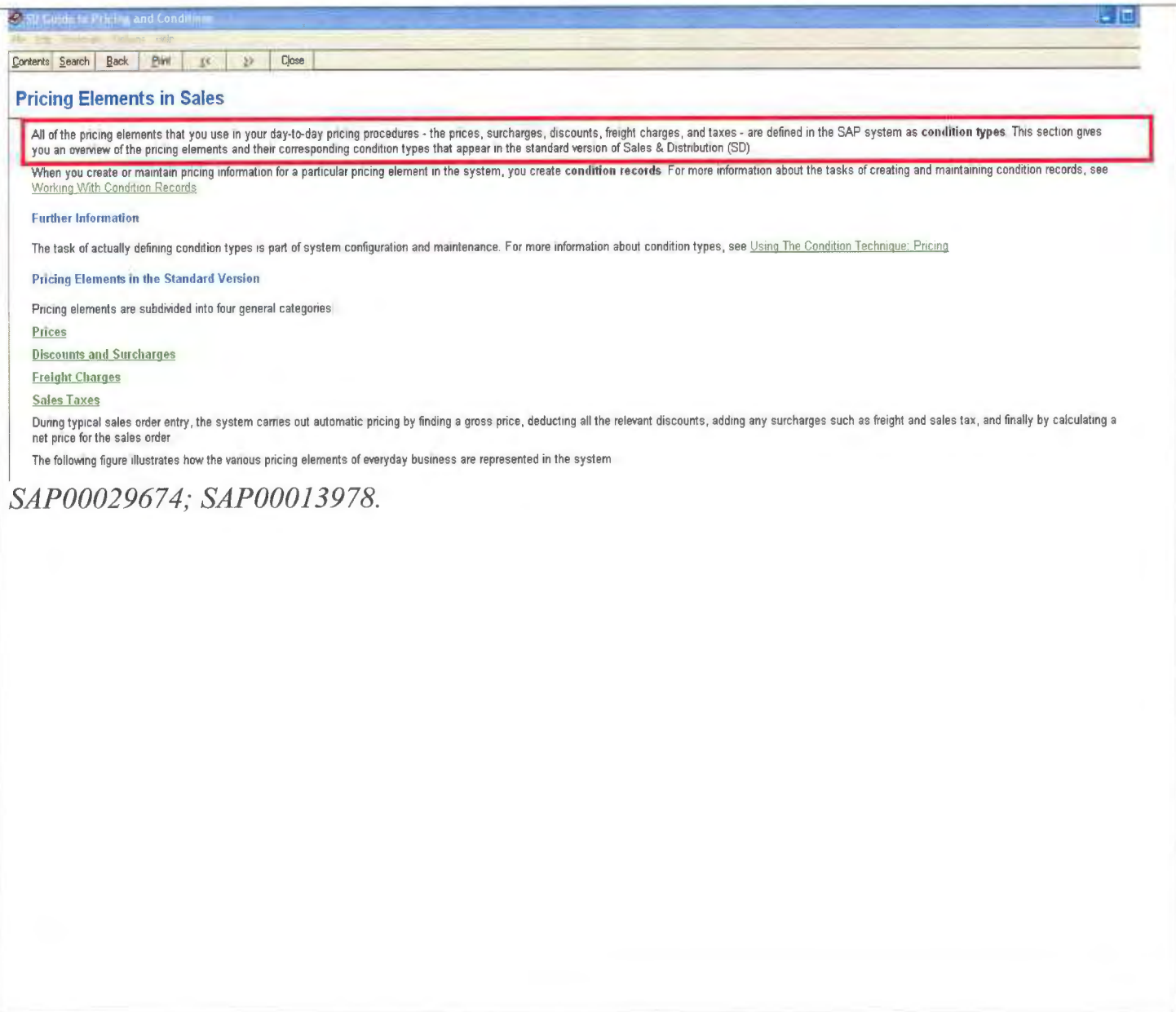
The above figure shows the interaction among the components of a condition technique. When configuring a condition technique, the user first specifies that a particular pricing procedure is to be used to compute a price. The pricing procedure indicates the high-level components that are to be taken into consideration when determining a price, and this is accomplished through the condition types. The procedure identified in the above figure is labeled “US-Standard” and refers to standard pricing for a customer in the United States. The procedure identifies a sequence of condition types. In the figure, these are identified as AAAA, BBBB, and CCCC, but in more realistic examples from the documentation, these might be gross price, various discounts (such as quantity discounts or preferred customer discounts), freight costs, and taxes. Different procedures would be defined, for example, for customers in different countries that are subject to different taxes.

Each condition type identifies an access sequence that specifies the order in which the system should search condition tables to find pricing rules (called condition records in the R3 documentation). An example of a pricing rule (condition record) would be to add a 5% sales tax. There may be pricing rules that depend on the specific product, on the specific customer, on some more general classification of products, on some more general classification of customers, or on a combination of product hierarchy and customer hierarchy.

Condition types

The following excerpts from the R3 documentation provide an overview of condition types. They disclose that all of the pricing elements that are used in a sales company’s pricing procedures, including prices, surcharges, discounts, freight charges, and taxes, are defined as condition types.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window with the title "SAP Guide to Pricing and Conditions". The browser's address bar and navigation buttons (Contents, Search, Back, Print, Home, Close) are visible. The main content area is titled "Pricing Elements in Sales". A red rectangular box highlights the following text: "All of the pricing elements that you use in your day-to-day pricing procedures - the prices, surcharges, discounts, freight charges, and taxes - are defined in the SAP system as **condition types**. This section gives you an overview of the pricing elements and their corresponding condition types that appear in the standard version of Sales & Distribution (SD)". Below this, the text explains that creating pricing information involves creating **condition records** and provides a link to "Working With Condition Records". A section titled "Further Information" states that defining condition types is part of system configuration and maintenance, with a link to "Using The Condition Technique: Pricing". The section "Pricing Elements in the Standard Version" lists four categories: Prices, Discounts and Surcharges, Freight Charges, and Sales Taxes. It then describes the automatic pricing process during sales order entry and mentions that a figure illustrates these elements.

Pricing Elements in Sales

All of the pricing elements that you use in your day-to-day pricing procedures - the prices, surcharges, discounts, freight charges, and taxes - are defined in the SAP system as **condition types**. This section gives you an overview of the pricing elements and their corresponding condition types that appear in the standard version of Sales & Distribution (SD)

When you create or maintain pricing information for a particular pricing element in the system, you create **condition records**. For more information about the tasks of creating and maintaining condition records, see [Working With Condition Records](#).

Further Information

The task of actually defining condition types is part of system configuration and maintenance. For more information about condition types, see [Using The Condition Technique: Pricing](#).

Pricing Elements in the Standard Version

Pricing elements are subdivided into four general categories:

- [Prices](#)
- [Discounts and Surcharges](#)
- [Freight Charges](#)
- [Sales Taxes](#)

During typical sales order entry, the system carries out automatic pricing by finding a gross price, deducting all the relevant discounts, adding any surcharges such as freight and sales tax, and finally by calculating a net price for the sales order.

The following figure illustrates how the various pricing elements of everyday business are represented in the system.

SAP00029674; SAP00013978.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

Pricing Elements in Sales

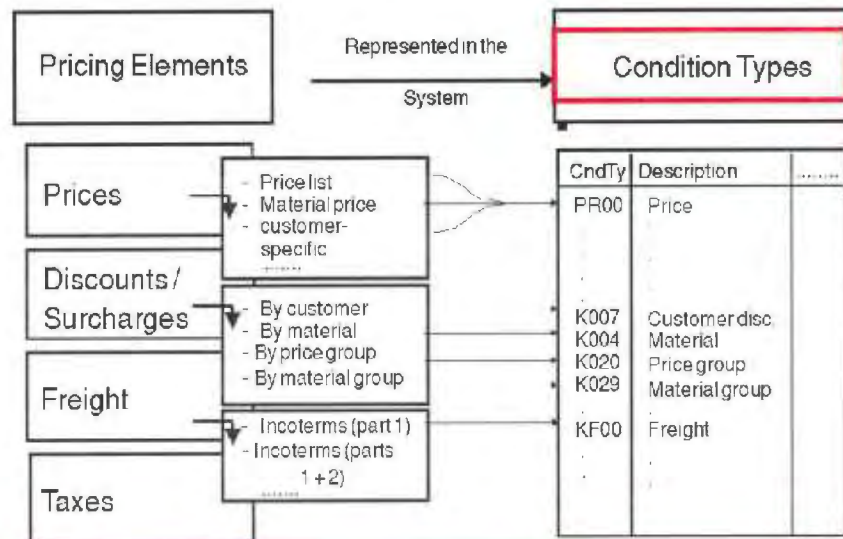
Discounts and Surcharges

Freight Charges

Sales Taxes

During typical sales order entry, the system carries out automatic pricing by finding a gross price, deducting all the relevant discounts, adding any surcharges such as freight and sales tax, and finally by calculating a net price for the sales order.

The following figure illustrates how the various pricing elements of everyday business are represented in the system.



In the preceding figure, you can see that the price of a material is represented by one condition type (PR00) in the system. However, the price of a material can be based on different kinds of pricing records in the system. The price can come from a price list, can be specific to a particular customer, or may be a simple material price. On the other hand, each discount, surcharge, freight charge, and tax is defined by its own condition type.

SAP00029674-5; SAP00013978-9.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SAP Guide to Pricing and Conditions

Condition Types

Each pricing element that you use in your daily business - whether it is a price, discount, or surcharge - is defined in your system as a condition type.

Purpose of the Condition Type

The condition type specifies important information about how the system processes and calculates pricing. For example, when you define the condition type for a special material discount, you can specify that the system calculates the discount as an amount (for example, a discount of \$1 per sales unit). Alternatively, you can specify that the system calculates the discount as a percentage (example: a 2% discount for orders over 1,000 sales units). If you wanted to have both possibilities, you must define two separate condition types. The following figure illustrates how condition types can be used during pricing in a purchasing or sales document.

Key	Description	Control
PR01	Price	
K007	Cust. discount %	Calculation type: As a percentage Scale basis: Quantity
K029	Mat. group disc. %	Calculation type: % based on weight Scale basis: Grossweight

Examples

Scale basis	Calculation type	Scale basis	Calculation type
from 100 pc	1.0 %	from 100 KG	USD 0.20 - per 1 KG
1000 pc	1.5 %	1000 KG	USD 0.50 -
10000 pc	2.0 %	10000 KG	USD 1.00 -

In the example in the preceding figure, two discounts apply to the item in the sales order. The first discount is a percentage discount based on the quantity ordered. The second discount is a fixed discount based on the total weight of the item.

SAP00029647; SAP00013950.

The following excerpt lists some of the many condition types disclosed by the R3 documentation.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar and menu bar are visible. The main content area is titled "Condition Types" and contains two sections: "Condition Types in the SAP R/3 Standard Version" and "Purchasing".

Condition Types in the SAP R/3 Standard Version

The standard version includes, among many others, the following predefined condition types.

Sales

Condition Type	Description
PR00	Price
K004	Material discount
K005	Customer-specific material discount
K007	Customer discount
K020	Price group discount
KF00	Freight surcharge (by item)
UTX1	State tax (USA)
UTX2	County tax (USA)
UTX3	City tax (USA)

Purchasing

Condition Type	Description
PB00	Gross Price
RA00	Percent discount from net price
RA01	Percent discount from gross price
RB00	Rebate/absolute
RC00	Rebate/quantity
NAVS	Sales tax
FRA1	Freight in percentage
FRB1	Freight as amount
RUE1	Accruals
SKTO	Cash discounts
ZDB1	Customs duty

SAP00029647-8; SAP00013950-1.
The following excerpts show how condition types can be created and edited.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar contains "Contents Search Back Print << >> Close". The main content area is titled "Condition Types" and features a red-bordered box containing the following text:

Creating or Maintaining Condition Types

You can change and maintain condition types in the standard version or you can create new condition types to suit the needs of your own organization. You create and maintain condition types in Customizing.

Accessing from Sales

From the initial screen of SD Customizing, you reach the condition type screen by selecting

1. *Functions* → *Pricing* → *Control data*
2. *Condition type* → *Condition types*

Accessing from Purchasing

From the initial screen of Customizing for Purchasing, you reach the condition type screen by selecting

1. *Functions* → *Conditions* → *Pricing*
2. *Condition type* → *Condition types*

Condition Type Screen

When you select an existing condition type (or enter the name of a new one and select it), you reach the following screen.

SAP00029648-9; SAP00013951-2.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

Contents Search Back Print << >> Close

Condition Types

2. Condition type → Condition types

Condition Type Screen

When you select an existing condition type (or enter the name of a new one and select it), you reach the following screen.

Sales & Distribution Maintain Pricing: Condition Type

Condition Edit Goto Environment System Help

Records by cond.type

Condition type	PR00 Price
----------------	------------

Control data

Condit. category		Accruals	
Calculat. type	C Quantity dependent	Cond. exclusion	
Condition class	B Prices	Group condition	
Manual entry	C Manual entry has priority	GrpCond. routine	
Scale basis	C Quantity scale	Inv. list cond.	
Scale formula		<input type="checkbox"/> Header condit.	
Rounding rule		<input checked="" type="checkbox"/> Item condition	
		<input type="checkbox"/> Currency conv.	

Changes which can be made

<input checked="" type="checkbox"/> Rate	<input type="checkbox"/> Calculat.type	<input type="checkbox"/> Delete
<input type="checkbox"/> Value	<input type="checkbox"/> Qty conversion	

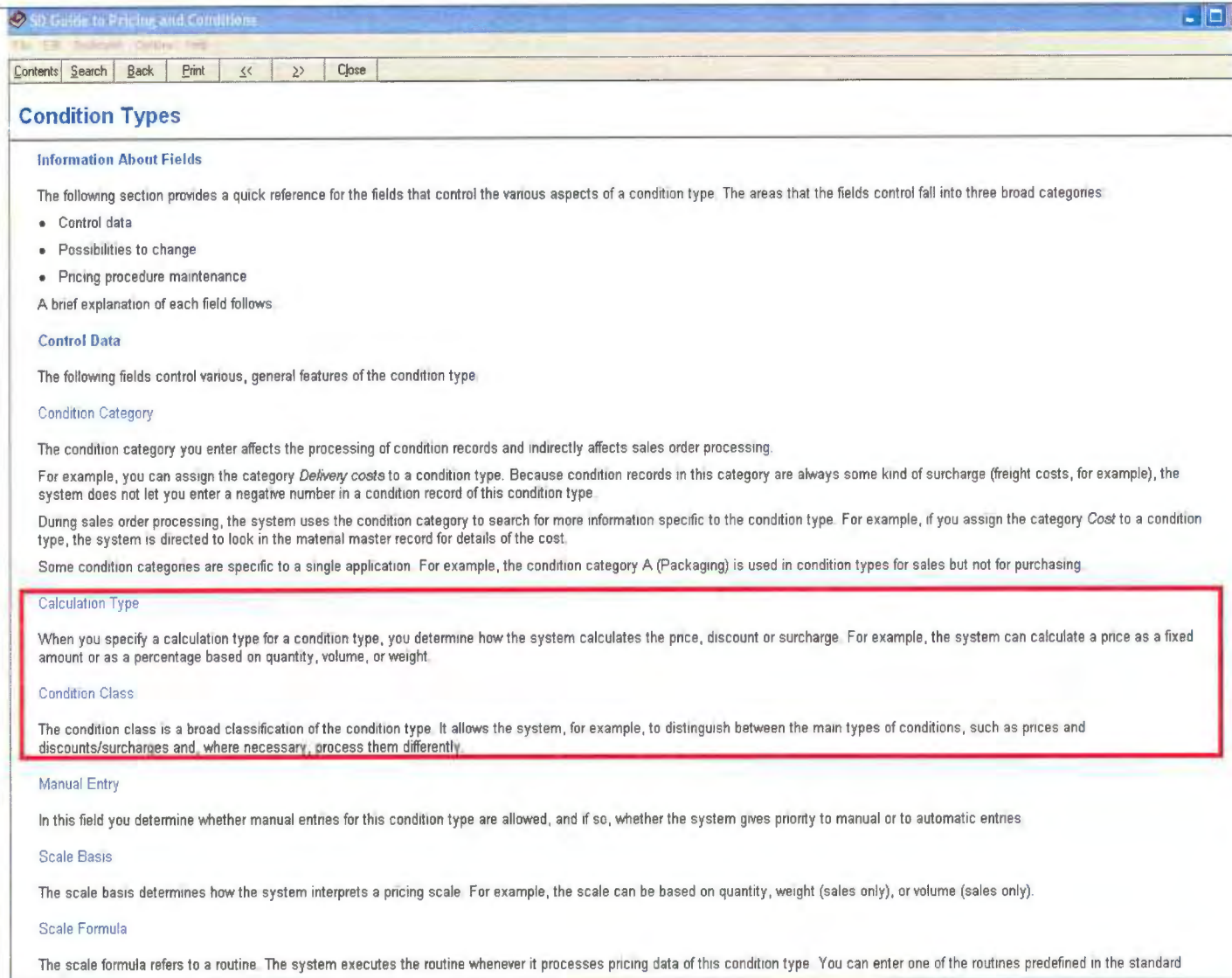
Condition record maintenance

Pricing proced	PR0000 Condition Supplements for PR00	Plus/minus	
Scale validity	A Scale values must be descending		

Information About Fields

SAP00029649; SAP00013951-2.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar shows "http://www.sap.com". The page has a navigation menu with "Contents", "Search", "Back", "Print", "Home", "Close", and "Close". The main content area is titled "Condition Types" and contains several sections: "Information About Fields", "Control Data", "Calculation Type", "Condition Class", "Manual Entry", "Scale Basis", and "Scale Formula". The "Calculation Type" section is highlighted with a red border.

Information About Fields

The following section provides a quick reference for the fields that control the various aspects of a condition type. The areas that the fields control fall into three broad categories:

- Control data
- Possibilities to change
- Pricing procedure maintenance

A brief explanation of each field follows.

Control Data

The following fields control various, general features of the condition type.

Condition Category

The condition category you enter affects the processing of condition records and indirectly affects sales order processing.

For example, you can assign the category *Delivery costs* to a condition type. Because condition records in this category are always some kind of surcharge (freight costs, for example), the system does not let you enter a negative number in a condition record of this condition type.

During sales order processing, the system uses the condition category to search for more information specific to the condition type. For example, if you assign the category *Cost* to a condition type, the system is directed to look in the material master record for details of the cost.

Some condition categories are specific to a single application. For example, the condition category A (Packaging) is used in condition types for sales but not for purchasing.

Calculation Type

When you specify a calculation type for a condition type, you determine how the system calculates the price, discount or surcharge. For example, the system can calculate a price as a fixed amount or as a percentage based on quantity, volume, or weight.

Condition Class

The condition class is a broad classification of the condition type. It allows the system, for example, to distinguish between the main types of conditions, such as prices and discounts/surcharges and, where necessary, process them differently.

Manual Entry

In this field you determine whether manual entries for this condition type are allowed, and if so, whether the system gives priority to manual or to automatic entries.

Scale Basis

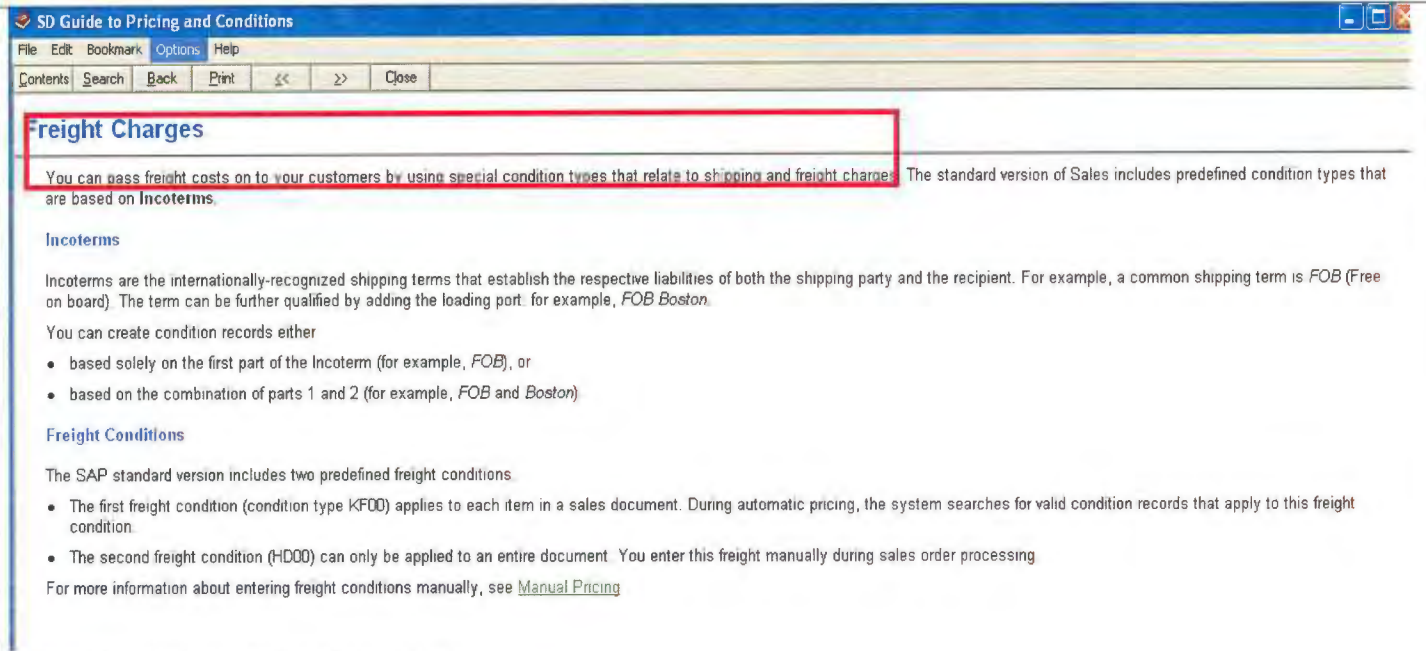
The scale basis determines how the system interprets a pricing scale. For example, the scale can be based on quantity, weight (sales only), or volume (sales only).

Scale Formula

The scale formula refers to a routine. The system executes the routine whenever it processes pricing data of this condition type. You can enter one of the routines predefined in the standard

SAP00029649-50; SAP00013952-3.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar contains "Contents Search Back Print << >> Close". The main content area has a red rectangular box around the heading "Freight Charges" and the first paragraph. The text in the red box reads: "You can pass freight costs on to your customers by using special condition types that relate to shipping and freight charges. The standard version of Sales includes predefined condition types that are based on Incoterms." Below this, the page discusses Incoterms, Freight Conditions, and provides a link to "Manual Pricing".

Freight Charges

You can pass freight costs on to your customers by using special condition types that relate to shipping and freight charges. The standard version of Sales includes predefined condition types that are based on **Incoterms**.

Incoterms

Incoterms are the internationally-recognized shipping terms that establish the respective liabilities of both the shipping party and the recipient. For example, a common shipping term is *FOB* (Free on board). The term can be further qualified by adding the loading port, for example, *FOB Boston*.

You can create condition records either

- based solely on the first part of the Incoterm (for example, *FOB*), or
- based on the combination of parts 1 and 2 (for example, *FOB* and *Boston*)

Freight Conditions

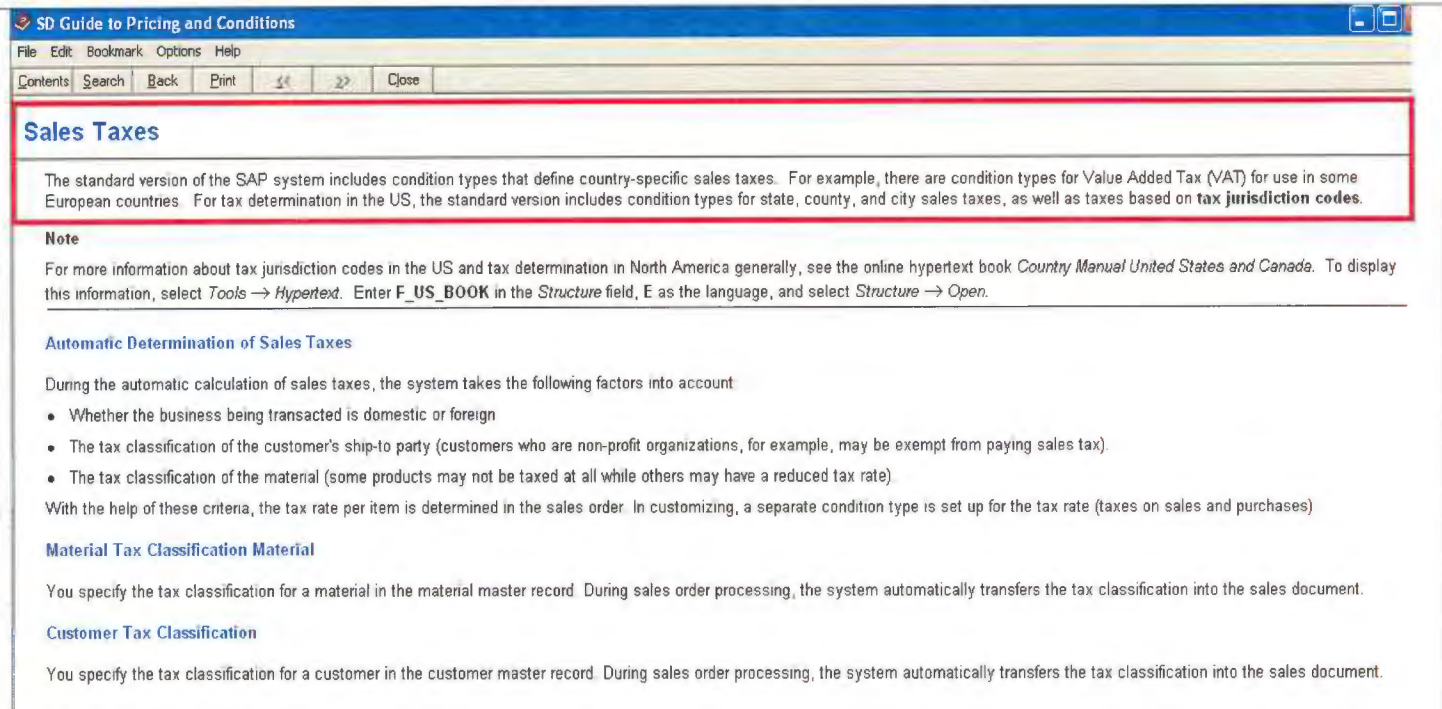
The SAP standard version includes two predefined freight conditions.

- The first freight condition (condition type *KF00*) applies to each item in a sales document. During automatic pricing, the system searches for valid condition records that apply to this freight condition.
- The second freight condition (*HD00*) can only be applied to an entire document. You enter this freight manually during sales order processing.

For more information about entering freight conditions manually, see [Manual Pricing](#)

SAP00029678; SAP00013982.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar contains "Contents Search Back Print << >> Close". The main content area is titled "Sales Taxes" and contains the following text:

The standard version of the SAP system includes condition types that define country-specific sales taxes. For example, there are condition types for Value Added Tax (VAT) for use in some European countries. For tax determination in the US, the standard version includes condition types for state, county, and city sales taxes, as well as taxes based on **tax jurisdiction codes**.

Note

For more information about tax jurisdiction codes in the US and tax determination in North America generally, see the online hypertext book *Country Manual United States and Canada*. To display this information, select *Tools* → *Hypertext*. Enter **F_US_BOOK** in the *Structure* field, E as the language, and select *Structure* → *Open*.

Automatic Determination of Sales Taxes

During the automatic calculation of sales taxes, the system takes the following factors into account

- Whether the business being transacted is domestic or foreign
- The tax classification of the customer's ship-to party (customers who are non-profit organizations, for example, may be exempt from paying sales tax).
- The tax classification of the material (some products may not be taxed at all while others may have a reduced tax rate).

With the help of these criteria, the tax rate per item is determined in the sales order. In customizing, a separate condition type is set up for the tax rate (taxes on sales and purchases)

Material Tax Classification Material

You specify the tax classification for a material in the material master record. During sales order processing, the system automatically transfers the tax classification into the sales document.

Customer Tax Classification

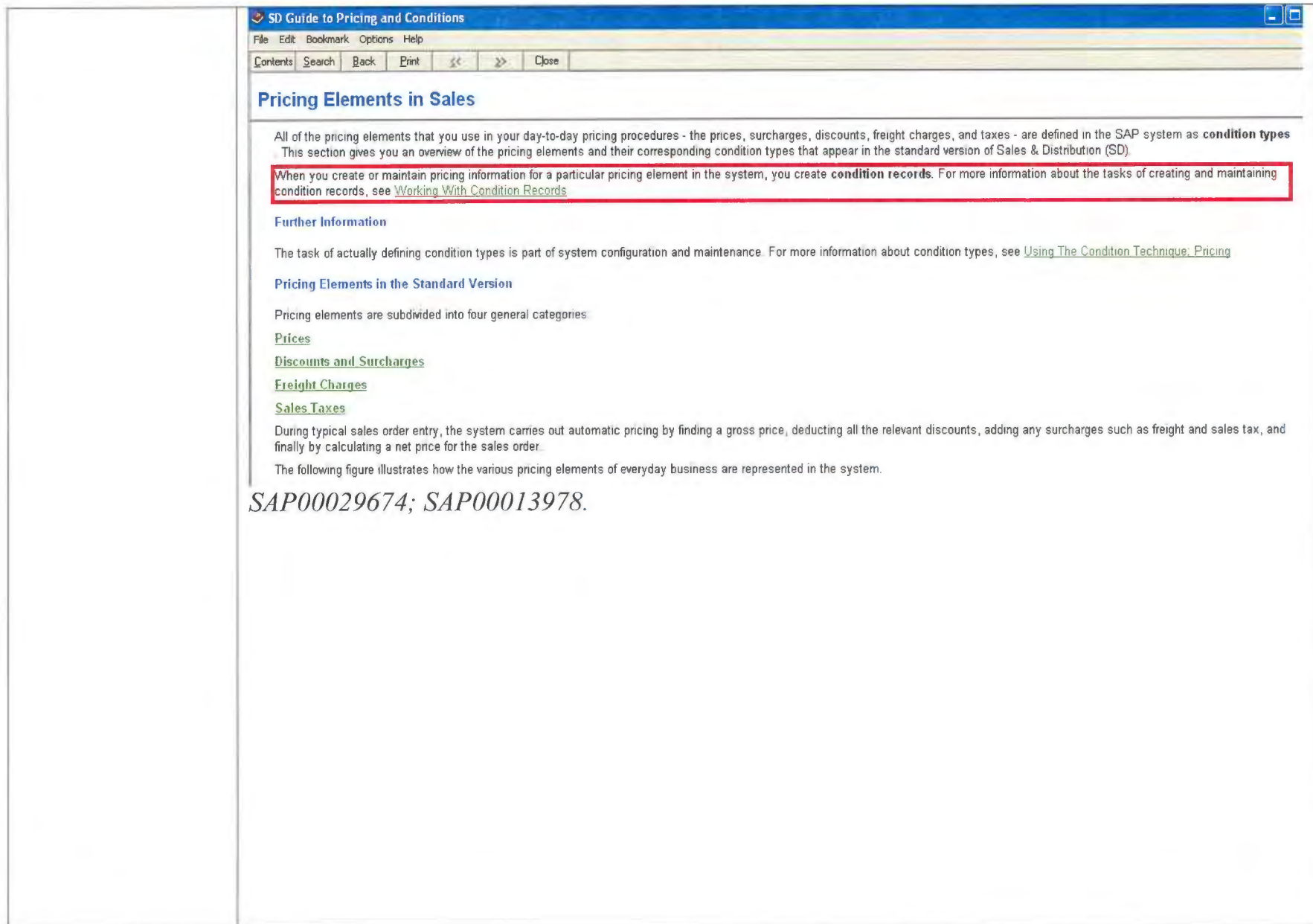
You specify the tax classification for a customer in the customer master record. During sales order processing, the system automatically transfers the tax classification into the sales document.

SAP00029679; SAP00013983.

Condition records

The following excerpts describe condition records, how they are created, and what they represent.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar and menu bar are visible. The main content area is titled "Pricing Elements in Sales". The text explains that pricing elements like prices, surcharges, discounts, freight charges, and taxes are defined in SAP as "condition types". A red-bordered box highlights a sentence: "When you create or maintain pricing information for a particular pricing element in the system, you create **condition records**. For more information about the tasks of creating and maintaining condition records, see [Working With Condition Records](#)". Below this, there are sections for "Further Information" and "Pricing Elements in the Standard Version", which lists categories like Prices, Discounts and Surcharges, Freight Charges, and Sales Taxes. The document concludes by stating that the system performs automatic pricing during sales order entry and that a figure (not shown) illustrates how pricing elements are represented in the system.

SD Guide to Pricing and Conditions

File Edit Bookmark Options Help

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Pricing Elements in Sales

All of the pricing elements that you use in your day-to-day pricing procedures - the prices, surcharges, discounts, freight charges, and taxes - are defined in the SAP system as **condition types**. This section gives you an overview of the pricing elements and their corresponding condition types that appear in the standard version of Sales & Distribution (SD).

When you create or maintain pricing information for a particular pricing element in the system, you create **condition records**. For more information about the tasks of creating and maintaining condition records, see [Working With Condition Records](#).

Further Information

The task of actually defining condition types is part of system configuration and maintenance. For more information about condition types, see [Using The Condition Technique: Pricing](#).

Pricing Elements in the Standard Version

Pricing elements are subdivided into four general categories:

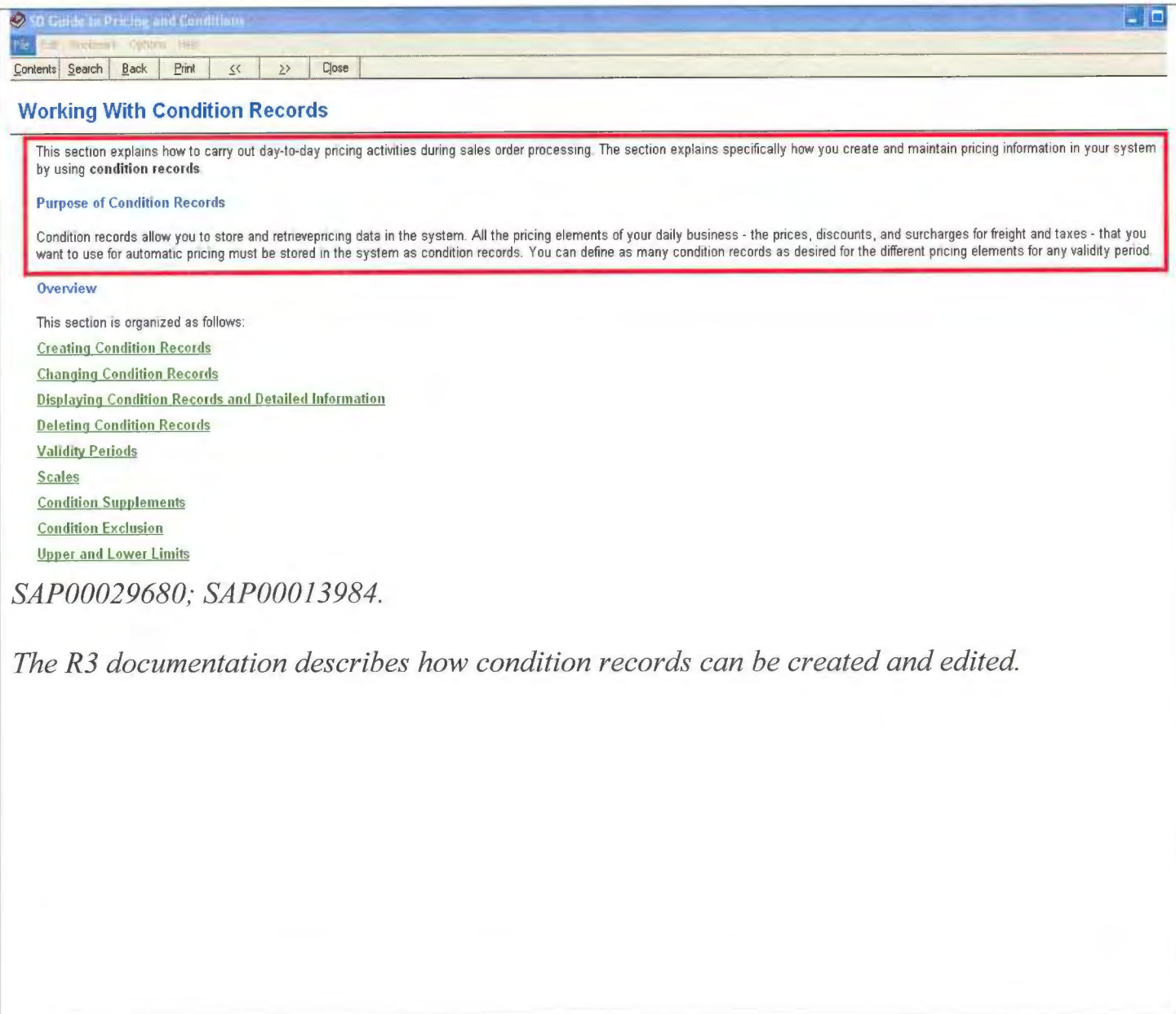
- [Prices](#)
- [Discounts and Surcharges](#)
- [Freight Charges](#)
- [Sales Taxes](#)

During typical sales order entry, the system carries out automatic pricing by finding a gross price, deducting all the relevant discounts, adding any surcharges such as freight and sales tax, and finally by calculating a net price for the sales order.

The following figure illustrates how the various pricing elements of everyday business are represented in the system.

SAP00029674; SAP00013978.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window titled "SAP Guide to Pricing and Conditions". The browser's address bar contains "http://www.sap.com". The page has a navigation menu with links for "Contents", "Search", "Back", "Print", "<<", ">>", and "Close". The main heading is "Working With Condition Records". A red rectangular box highlights the following text:

This section explains how to carry out day-to-day pricing activities during sales order processing. The section explains specifically how you create and maintain pricing information in your system by using **condition records**.

Purpose of Condition Records

Condition records allow you to store and retrieve pricing data in the system. All the pricing elements of your daily business - the prices, discounts, and surcharges for freight and taxes - that you want to use for automatic pricing must be stored in the system as condition records. You can define as many condition records as desired for the different pricing elements for any validity period.

Overview

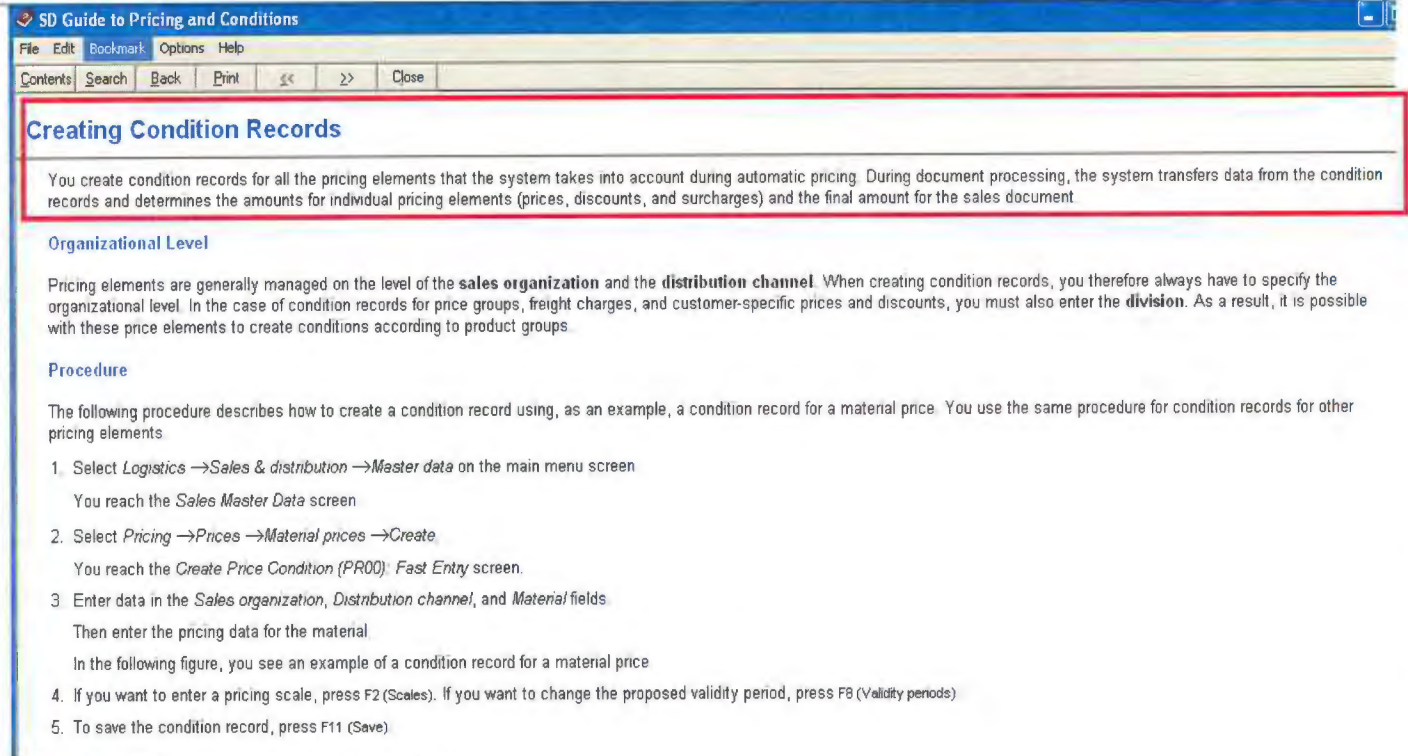
This section is organized as follows:

- [Creating Condition Records](#)
- [Changing Condition Records](#)
- [Displaying Condition Records and Detailed Information](#)
- [Deleting Condition Records](#)
- [Validity Periods](#)
- [Scales](#)
- [Condition Supplements](#)
- [Condition Exclusion](#)
- [Upper and Lower Limits](#)

SAP00029680; SAP00013984.

The R3 documentation describes how condition records can be created and edited.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a help window titled "SD Guide to Pricing and Conditions". The window has a menu bar with "File", "Edit", "Bookmark", "Options", and "Help". Below the menu bar is a toolbar with "Contents", "Search", "Back", "Print", navigation arrows, and "Close". The main content area is titled "Creating Condition Records" and contains the following text:

You create condition records for all the pricing elements that the system takes into account during automatic pricing. During document processing, the system transfers data from the condition records and determines the amounts for individual pricing elements (prices, discounts, and surcharges) and the final amount for the sales document.

Organizational Level

Pricing elements are generally managed on the level of the **sales organization** and the **distribution channel**. When creating condition records, you therefore always have to specify the organizational level. In the case of condition records for price groups, freight charges, and customer-specific prices and discounts, you must also enter the **division**. As a result, it is possible with these price elements to create conditions according to product groups.

Procedure

The following procedure describes how to create a condition record using, as an example, a condition record for a material price. You use the same procedure for condition records for other pricing elements.

1. Select *Logistics* → *Sales & distribution* → *Master data* on the main menu screen.
You reach the *Sales Master Data* screen.
2. Select *Pricing* → *Prices* → *Material prices* → *Create*.
You reach the *Create Price Condition (PRO0): Fast Entry* screen.
3. Enter data in the *Sales organization*, *Distribution channel*, and *Material* fields.
Then enter the pricing data for the material.
In the following figure, you see an example of a condition record for a material price.
4. If you want to enter a pricing scale, press F2 (*Scales*). If you want to change the proposed validity period, press F8 (*Validity periods*).
5. To save the condition record, press F11 (*Save*).

SAP00029681; SAP00013985.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

Creating Condition Records

SD Guide to Pricing and Conditions

File Edit Bookmark Options Help
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Create Price Condition (PR00): Overview

Conditions Edit Goto Details Environment Pricing System Help

Scales Details Delete Validity periods

Sales organization US01

Distribution channel 01

Valid from 12/02/1993; Valid to 12/31/1999

Material	Rate	Unit	per	UoM	D
<input type="checkbox"/> E-4000	Pennsylvania's Best	12.00	USD	1	FL <input type="checkbox"/>

OVR 15.23

Creating Condition Records With Reference

If you want to create condition records based on similar records that are already created in the system, you can create condition records *with reference*. Creating condition records with reference reduces the entry effort considerably.

For example, if you want to use the condition record of a material price as a reference, select *Material price* → *Create w/reference*. On the following data screen, you select either a certain material or a range of materials. The system presents one or more selected condition records, including default values for scale values and validity periods.

You can overwrite any of the specifications of a condition record, thus using it as a reference. When you save an overtyped condition record, the system creates a separate condition record.

SAP00029682; SAP00013986.

56

Anticipation: 35 U.S.C. §102 (R3 Documentation)

Creating Condition Records

For example, if you want to use the condition record of a material price as a reference, select *Material price* → *Create w/reference*. On the following data screen, you select either a certain material or a range of materials. The system presents one or more selected condition records, including default values for scale values and validity periods.

You can overwrite any of the specifications of a condition record, thus using it as a reference. When you save an overtyped condition record, the system creates a separate condition record.

Fast Entry

The creation and the maintenance of pricing elements can be done on a single screen - one of the **fast entry** screens. On the overview screen on which you create a material price, for example, you can create further prices for other materials at the same time - provided these have the same sales data. The system creates a separate condition record for each of the entered material prices.

If you want to enter additional data for individual materials such as pricing scales or upper and lower limits, you can branch to the necessary detail screens.

Fast entry of material price:

↓

Representation in the system:

Create price condition (PR00): Fast entry

Sales Organization: 0001
 Distribution Channel: 01
 Conditions:

Material	Rate	Unit	per	UoM
Material 1	10.00	USD	1	PC
Material 2	20.00	USD	1	KG
Material 3	30.00	USD	1	KG
Material 4				

Create Price condition: Fast entry

Conditions

Material	Rate	Unit	per	UoM
Material 1	10.00	USD	1	PC

Create Price Condition: Fast entry

Conditions

Material	Rate	Unit	per	UoM
Material 3	30.00	USD	1	KG

Create Price Condition: Fast entry

Conditions

Material	Rate	Unit	per	UoM
Material 2	20.00	USD	1	KG

SAP00029682-3; SAP00013986-7.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar and menu bar are visible. The main content area is titled "Creating Condition Records" and contains the following text:

Notes About Creating Condition Records

When you create condition records for certain kinds of pricing elements, you should bear the following information in mind:

Creating Material Prices

You can create material prices in two ways:

- Through Sales **master data** maintenance as described in the previous section.
- Through the **material master record** by selecting *Details* → *Sales details* → *Sales price* on the Sales 1, Sales 2, or Sales Text screens.

Maintaining Related Master Data

During sales order processing the system can process some condition records only if corresponding data is maintained in the material or customer master records. If, for example, you want to apply discounts to certain customers by creating condition records for different **price list types**, you must maintain data in each of the relevant customer master records. For more information about which material and customer master data must be maintained, see [Pricing in Sales Documents](#).

Creating Tax Records

Creating tax condition records differs from creating other condition records. If you want to create a tax condition record, proceed as follows:

1. Select *Logistics* → *Sales & distribution* → *Master data*.
You reach the *Sales Master Data* screen.
2. Select *Pricing* → *Taxes* → *Create*.
You reach the data *Select Countries for Maintaining Tax Conditions* screen.
3. Position the cursor on the country for which you want to maintain a tax condition record and press F2 (Tax records).
You reach the fast entry screen for creating a tax condition record.
5. Enter data in the *Region*, *Customer tax classification*, *Material tax classification*, and *Rate* fields.
6. To save the tax record, press PF11 (Save).

SAP00029683-4; SAP00013987-8.

Condition records can be displayed.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The screenshot shows the SAP Guide to Pricing and Conditions interface. At the top, there is a blue header bar with the text "SAP Guide to Pricing and Conditions". Below this is a navigation bar with buttons for "Contents", "Search", "Back", "Print", "<<", ">>", and "Close". The main content area is titled "Displaying Condition Records and Detailed Information". Under this title, there are two sub-sections: "Displaying Condition Records" and "Displaying Detailed Information". The "Displaying Condition Records" section is highlighted with a red border and contains the following text and list:

Displaying Condition Records

You can display condition records in master data maintenance or directly from the pricing screens in a sales or billing document.

- In master data maintenance, you display a condition record by selecting *Pricing* → *Prices* → *Material price* → *Display*. You can then select the condition records you want to display.
- In the pricing screen of a sales or billing document, you display a condition record by selecting the pricing screen, marking the specific condition record, and then pressing **F5** (Condition record).

Displaying Detailed Information

In the overview screen of a condition record, you can also find information about details, such as:

- Header data (for example, person who created the condition record and when)
- Item details (for example, different amounts such as the condition amount, the upper and lower limit)
- Status information (whether, for example, the condition is active or is marked for deletion).
- Conversion factors (which units of measure the material is available in)
- Condition information (to list all condition records for a particular condition type).
- Display key (shows organizational data)

SAP00029687; SAP00013991.

Condition records are also called pricing elements.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Basic Functions and Master Data

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Pricing Elements

Material Price

The net price of a material can include several pricing elements. Based on the gross price for a material the net price is calculated including the discounts and surcharges. Sales tax is also taken into account.

Subdividing Pricing Elements

In the master data this leads to a subdividing of the pricing elements into three areas:

- Prices
- Surcharges and discounts
- Sales tax

Origin of Pricing Elements

The origin of the three pricing elements can vary:

- A price can come from a price list, it can be based on an agreement with a customer or be dependent on the material.
- Surcharges and discounts can be customer-specific or depend on the material group.

Validity Period

Pricing elements are generally only valid for a certain period

- Price lists change on a yearly basis
- Discounts are only granted for the duration of a sales promotion

Managing Pricing Elements

Pricing elements are managed according to three criteria:

- The usage which defines the type of the pricing element is stored for each pricing element. This includes sales price, special offer discount and freight surcharge.
- The origin of the pricing elements can vary. You can, for example, define whether a price is dependent on the material alone or on the relationship between customer and material.
- A price agreement can be limited to a period by specifying a validity period.

Standard Price Agreements

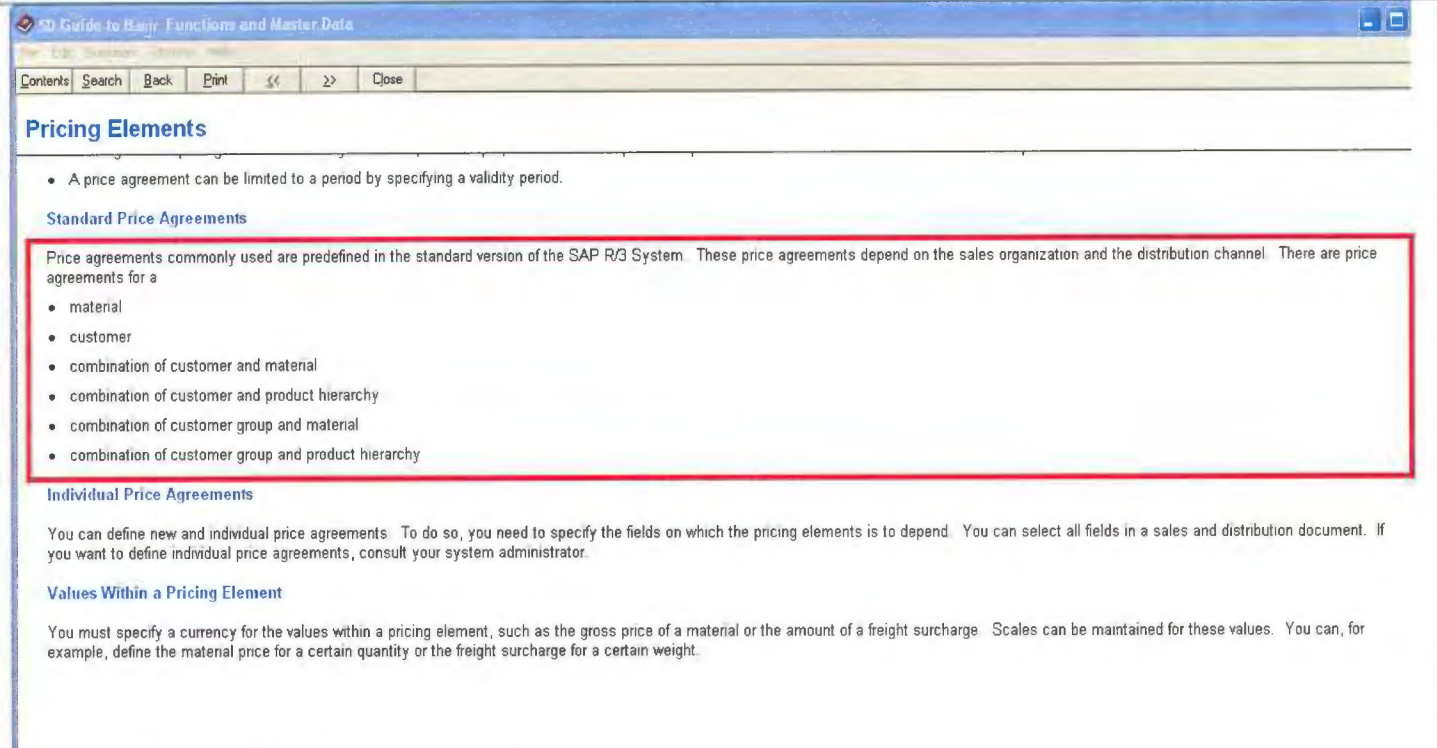
Price agreements commonly used are predefined in the standard version of the SAP R/3 System. These price agreements depend on the sales organization and the distribution channel. There are price agreements for a

- material
- customer
- combination of customer and material

SAP00029499; SAP00013796.

Condition records (pricing elements) can be associated with a product (material), a customer, a combination of a customer and a product, a combination of a customer and a product group (product hierarchy), a combination of a customer group and a product, or a combination of a customer group and a product group.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window with the title "SAP Guide to Basic Functions and Master Data". The browser's address bar contains "Contents Search Back Print << >> Close". The main content area is titled "Pricing Elements" and contains the following text:

- A price agreement can be limited to a period by specifying a validity period.

Standard Price Agreements

Price agreements commonly used are predefined in the standard version of the SAP R/3 System. These price agreements depend on the sales organization and the distribution channel. There are price agreements for a

- material
- customer
- combination of customer and material
- combination of customer and product hierarchy
- combination of customer group and material
- combination of customer group and product hierarchy

Individual Price Agreements

You can define new and individual price agreements. To do so, you need to specify the fields on which the pricing elements is to depend. You can select all fields in a sales and distribution document. If you want to define individual price agreements, consult your system administrator.

Values Within a Pricing Element

You must specify a currency for the values within a pricing element, such as the gross price of a material or the amount of a freight surcharge. Scales can be maintained for these values. You can, for example, define the material price for a certain quantity or the freight surcharge for a certain weight.

SAP00029499-500; SAP00013796-7.

The following example shows the various pricing elements (represented as condition records) that apply when determining the price for an item in a sales order.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions
 File Edit Bookmark Options Help
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Example of Pricing in a Sales Order

The following figure shows the pricing information for an item in a sales order. The pricing screen for the item shows the gross price that the customer is charged, several discounts for which the customer qualifies, and other pricing elements, such as freight and sales taxes. The condition types that apply to each of these pricing elements appear on the left side of the pricing screen. The sequence in which the various condition types appear is determined by the pricing procedure.

Standard Order Create: Item Conditions

Edit Goto System Help

Details Delete New pricing Condition record

Item 10 Net value in USD 1,788.20
 Quantity 120.000 FL Tax amount 64.06
 Material E-4000 Pennsylvania's Finest

CoTy	Description	Rate	Curr	per	Uoh	Cond.	value	USD
<input type="checkbox"/>	PR00: Price	14.00	USD	1	FL		1,680.00	
<input type="checkbox"/>	Gross	14.00	USD	1	FL		1,680.00	
<input type="checkbox"/>	K007: Customer discount	1.000-	%				16.80-	
<input type="checkbox"/>	Discount Amount	0.14-	USD	1	FL		16.80-	
<input type="checkbox"/>	KF00: Freight	0.50	USD	1	KG		45.00	
<input type="checkbox"/>	Net Value 2	14.24	USD	1	FL		1,708.20	
<input type="checkbox"/>	UTX1: State sales tax	3.750	%				64.06	
<input type="checkbox"/>	Net value for ord.	14.77	USD	1	FL		1,772.26	
<input type="checkbox"/>	UPRS: Cost	6.00	USD	1	L		540.00	
<input type="checkbox"/>	Profit Margin	9.74	USD	1	FL		1,168.20	

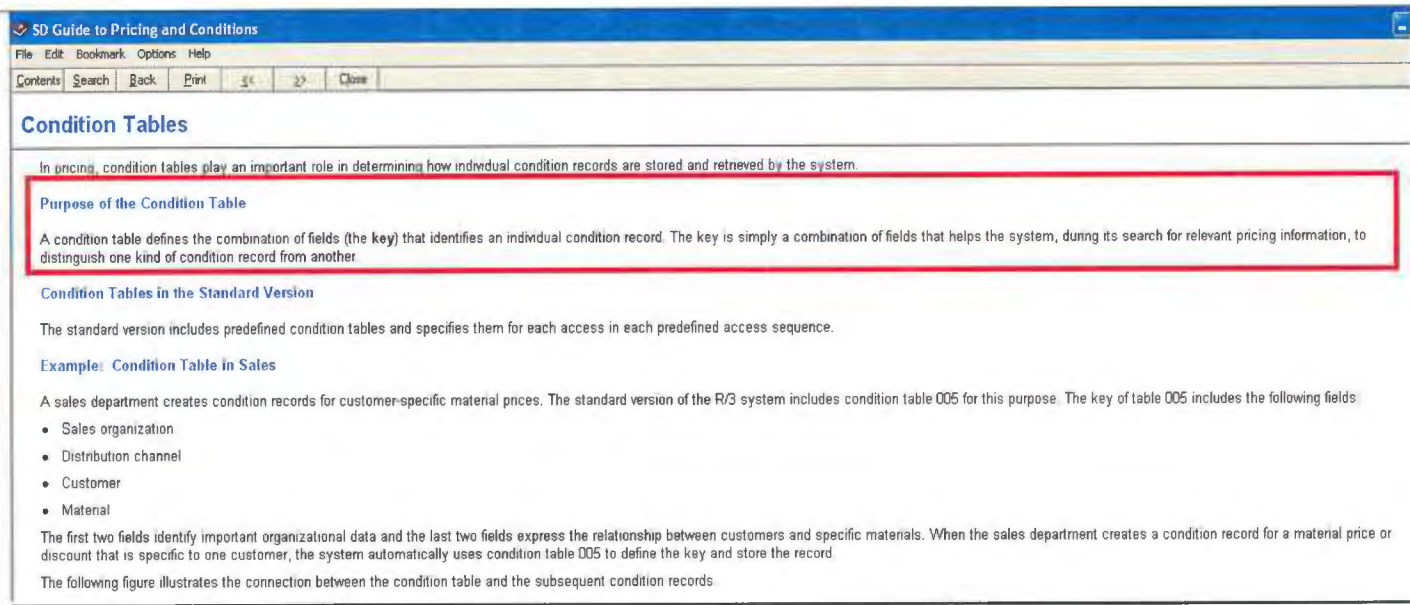
OVR NUM 13:35

SAP00029642; SAP00013943.

Condition Tables

Condition tables store the individual condition records that contain pricing information.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



SD Guide to Pricing and Conditions

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Condition Tables

In pricing, condition tables play an important role in determining how individual condition records are stored and retrieved by the system.

Purpose of the Condition Table

A condition table defines the combination of fields (the key) that identifies an individual condition record. The key is simply a combination of fields that helps the system, during its search for relevant pricing information, to distinguish one kind of condition record from another.

Condition Tables in the Standard Version

The standard version includes predefined condition tables and specifies them for each access in each predefined access sequence.

Example: Condition Table in Sales

A sales department creates condition records for customer-specific material prices. The standard version of the R/3 system includes condition table 005 for this purpose. The key of table 005 includes the following fields:

- Sales organization
- Distribution channel
- Customer
- Material

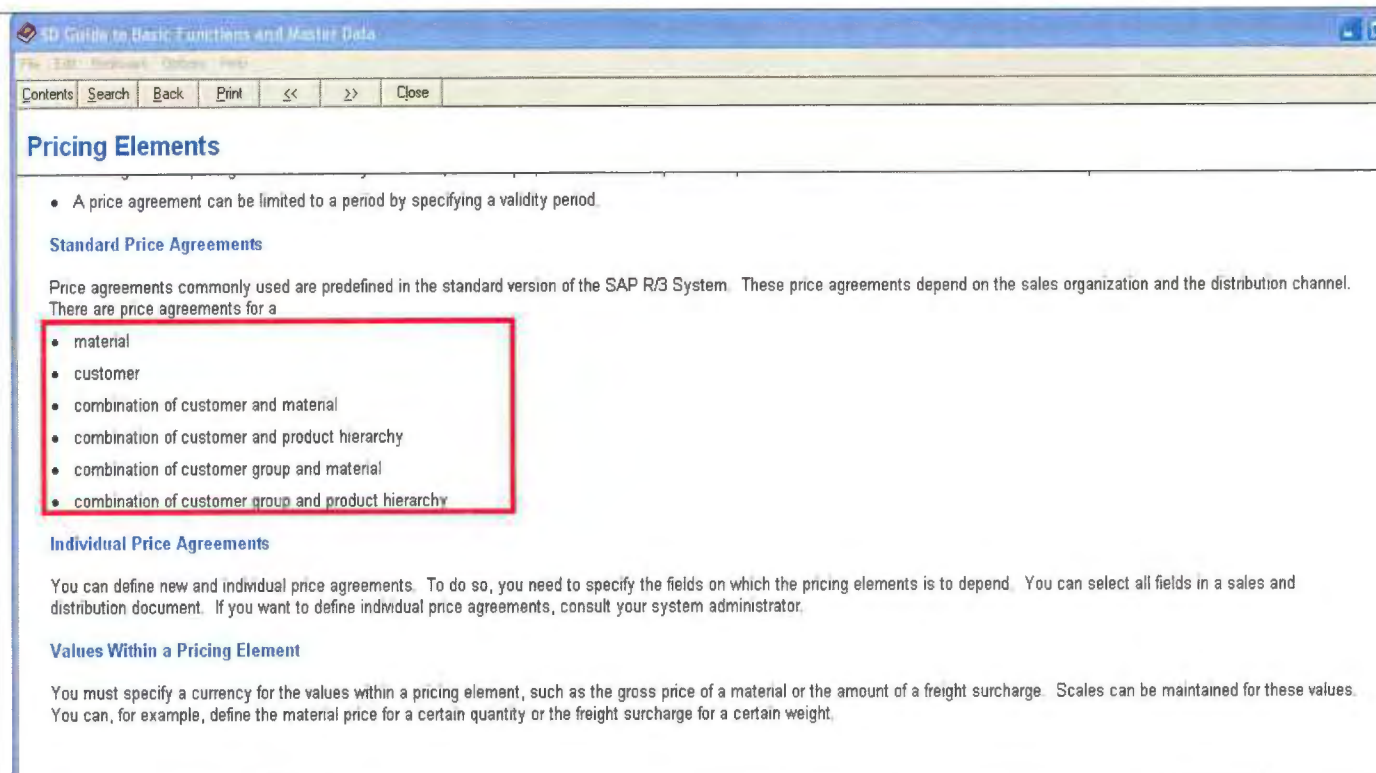
The first two fields identify important organizational data and the last two fields express the relationship between customers and specific materials. When the sales department creates a condition record for a material price or discount that is specific to one customer, the system automatically uses condition table 005 to define the key and store the record.

The following figure illustrates the connection between the condition table and the subsequent condition records

SAP00029653; SAP00013956.

The following excerpt from the R3 documentation shows how pricing information can be associated with a product (material), a customer, a combination of the customer and the product, a combination of the customer and the product hierarchy, a combination of the customer group and the product, or a combination of the customer group and the product hierarchy. Each of the combinations of fields forms a key for a condition table.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window with the title 'SAP R/3 Guide to Basic Functions and Master Data'. The browser address bar shows 'http://www.sap.com'. The page content is titled 'Pricing Elements' and includes the following sections:

- A price agreement can be limited to a period by specifying a validity period.
- Standard Price Agreements**

Price agreements commonly used are predefined in the standard version of the SAP R/3 System. These price agreements depend on the sales organization and the distribution channel. There are price agreements for a

 - material
 - customer
 - combination of customer and material
 - combination of customer and product hierarchy
 - combination of customer group and material
 - combination of customer group and product hierarchy
- Individual Price Agreements**

You can define new and individual price agreements. To do so, you need to specify the fields on which the pricing elements is to depend. You can select all fields in a sales and distribution document. If you want to define individual price agreements, consult your system administrator.
- Values Within a Pricing Element**

You must specify a currency for the values within a pricing element, such as the gross price of a material or the amount of a freight surcharge. Scales can be maintained for these values. You can, for example, define the material price for a certain quantity or the freight surcharge for a certain weight.

SAP00029499-500; SAP00013796-7.

The following example shows a number of condition tables. The standard condition tables in the R3 documentation associate prices with a sales organization and a distribution channel along with information associated with the customer and the product, thus these two elements are always included in the key for every condition table. Table 005 stores condition records associated with a particular customer and a material (in addition to the always present sales organization and distribution channel). Table 004 stores condition records that are not associated with a particular customer; the key for this condition table is just the material. Table 007 stores condition records that are associated with a division (a group of customers) and a material.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

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Condition Tables

The following figure illustrates the connection between the condition table and the subsequent condition records.

Conditiontable

Fields selected from condition table 005

004 Material

005 Customer/Material

006 Pricelist type/Currency/Material

007 Division/Material

Sales organization
Distribution channel
Customer
Material

Create condition

Sales organization : 0001
Distribution channel : 01
Customer : C1

Material :
M1 10.-
M2 15.-

SAP00029653-4; SAP00013956-7.
The following excerpts from the R3 documentation describe how condition tables can be created and edited.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The screenshot shows the SAP SD Guide to Pricing and Conditions interface. At the top, there is a blue header bar with the title "SD Guide to Pricing and Conditions". Below the header is a navigation bar with buttons for "Contents", "Search", "Back", "Print", and navigation arrows. The main content area is titled "Condition Tables" and contains a section "Creating or Maintaining Condition Tables" which is highlighted with a red border. The text in this section explains that users can change and maintain condition tables in the standard version or create new ones for their organization. Below this, there is a sub-section "Sales" which provides instructions on how to reach the condition table screens from the initial screen of SD Customizing.

Condition Tables

Creating or Maintaining Condition Tables

You can change and maintain the condition tables in the standard version. You can also create new condition tables to meet the needs of your own organization. You create and maintain condition tables in Customizing.

Sales

From the initial screen of SD Customizing, you reach the condition table screens by selecting: *Functions* → *Pricing* → *Condition tables*. Then select *Cond tables* and the mode (create, change, or display) you want to work with. When you select an existing condition table (or enter the name of a new one and select it), you reach the following screen.

SAP00029654; SAP00013957.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

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Contents Search Back Print <> Close

Condition Tables

Change Condition Table for Sales & Distribution: Field Overview

Condition Edit Goto Environment System Help

Generate Technical view Field attributes

Cond. table 005 Customer/Material

Field selection

Selected fields

- Sales organization
- Distribution channel
- Customer
- Material

Allowed fields

- Batch
- City code
- City of deliv.plant
- Commission group
- County code
- County of div.plant
- Customer
- Customer group
- Delivering country
- Destination country
- Distribution channel
- Division
- Document currency
- Incoterms
- Incoterms (part 2)

You use this screen to change the key of an existing condition table or to create the key for a new one.

Purchasing

From the initial screen of Customizing for Purchasing, select *Functions* → *Conditions* → *Pricing*. Then select *Cond tables* and the mode (create, change, or display) you want to work with.

SAP00029655; SAP00013958.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

File Edit Bookmark Options Help

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Condition Tables

You can make limited changes to an existing condition table. For example, you can change the name of the table. You can also change the format of the corresponding fast entry screens (the screens where you can quickly, on a single screen, create and maintain the condition records that refer to the condition table).

Format of a Fast Entry Screen

The following figure shows, as an example, the fast entry screen for creating and maintaining customer-specific material prices and discounts. (This screen is not relevant for purchasing.)

Change Price Condition (PR00) Overview

Conditions Edit Goto Details Environment Pricing System Help

Sales organization
 Distribution channel
 Valid from

Material	Rate	Unit	per	UoM	D
<input type="checkbox"/> E-3000	Pennsylvanian Burgundy	12.00	USD	1	FL
<input type="checkbox"/> E-4000	Pennsylvania's Best	14.00	USD	1	FL
<input type="checkbox"/> E-4000A	Pennsylvania's Best	10.00	USD	1	FL
<input type="checkbox"/> E-4000B	Pennsylvania's Best	16.00	USD	1	FL
<input type="checkbox"/> E-5000	Lancaster County Chablis	12.00	USD	1	FL
<input type="checkbox"/> E-5000A	Pennsylvania's Premium	12.00	USD	1	FL
<input type="checkbox"/> E-6000	Philadelphia Riesling	10.00	USD	1	FL
<input type="checkbox"/> E-6000A	Pennsylvanian Gold	10.00	USD	1	FL
<input type="checkbox"/> E-7000	Philadelphia Burgundy	7.00	USD	1	FL

OVR NUM 1334

SAP00029656; SAP00013959.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

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Condition Tables

The screen consists of header lines and item lines. Each item line represents a separate condition record. The header lines include the fields that are general to all item lines. In this example, the header fields include *Sales organization*, *Distribution channel*, *Customer*, and *Validity*. There is only one item line field: *Material*. When deciding on the format of the fast entry screen, you can determine whether each field in the key appears as a line in the header or as an item line.

Changing the Format of a Fast Entry Screen

To change the format of the fast entry screen, press F6 (Technical view) on the screen where you create or maintain a condition table. The following screen appears.

Change Condition Table for Sales & Distribution : Technical View

Condition Edit Goto Environment System Help

Generate Dictionary elements Field attributes

Cond. table 5 Customer/Material

Condition table fields							
Selected fields	Line	Text	Field name	Data elem.	Domain	Lgth	DType
Sales organization	<input type="checkbox"/>	<input type="radio"/>	UKORG	UKORG	UKORG	4	C
Distribution channel	<input type="checkbox"/>	<input type="radio"/>	UTNEG	UTNEG	UTNEG	2	C
Customer	<input type="checkbox"/>	<input type="radio"/>	KUNNR	KUNNR_U	KUNNR	10	C
Material	<input checked="" type="checkbox"/>	<input checked="" type="radio"/>	MATNR	MATNR	MATNR	18	C

OVR NUM 1456

SAP00029656-7; SAP00013959-60.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar contains "Bookmark" and "Contents". The page has a navigation menu with "Contents", "Search", "Back", "Print", and "Close". The main content area is titled "Condition Tables" and contains the following text:

Field to appear as an item Mark the *Line* line
Text for an item line to appear Mark the *Text* field

After you make changes to a condition table, press F16 (Generate) to regenerate the table.

Creating a New Condition Table

You can create new condition tables to meet the pricing needs of your organization. When you create a new condition table, you select a combination of fields from the list of allowed fields. The selected fields define the key for the subsequent condition records. Before you select the fields for the key, there are two things to consider:

- The order (or hierarchy) of the fields
- Which fields you want to appear in the header and item areas of the corresponding fast entry screens

Fields to Consider

In the area of sales, fields for special consideration are *Sales organization* and *Distribution channel*. The sales organization is nearly always used as a criteria in pricing, since different sales organizations often want to have their own prices, discounts, and surcharges. If you use the sales organization as a criteria in pricing, you should also use the distribution channel. If you do not want to establish different prices, discounts, and surcharges for each distribution channel, use the field anyway. In SD Customizing, you can use one distribution channel as a reference for all others (thereby sharing the same pricing data).

In Purchasing, the *Purchasing organization*, *Material*, and *Plant* are of special importance in pricing.

Deciding the Order of Fields

The order of the fields in a condition table affects the performance of the system during pricing. There are two general guidelines that will help you create an efficient condition table

1. When you select fields to do with the structure of your organization (such as *Sales organization* and *Distribution channel* or, in Purchasing, *Purchasing organization* and *Plant*), place the fields in an order that reflects degrees of generality, working from general to specific. Place the most general field (*Sales organization*, for example) at the top.
2. After organizational fields, place fields from the document header before those that come from the item level (for example, *Customer* or *Vendor* comes before *Material*).

After you have selected the fields for the key on the screen where you maintain and define condition tables, press F16 (Generate) to generate the table in the system. Generation prepares the condition table for storing condition data.

SAP00029657-8; SAP00013960-1.

Pricing procedures

The top level of the condition technique is the pricing procedure. A pricing procedure defines a sequence of condition types. The following excerpts from the R3 documentation describe the pricing procedure, its use and its definition.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

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Pricing Procedures

You can group the condition types that you use in your daily business activities into procedures. In the case of pricing, these are called **pricing procedures**. Pricing procedures allow you to broadly apply different kinds of pricing, depending on the circumstances.

Purpose of the Pricing Procedure

The primary job of a pricing procedure is to define a group of condition types in a particular sequence. The pricing procedure also determines

- which sub-totals appear during pricing
- to what extent pricing can be influenced manually
- which basis the system uses to calculate percentage discounts and surcharges
- which requirements for a particular condition type must be fulfilled before the system takes the condition into account.

Pricing procedure

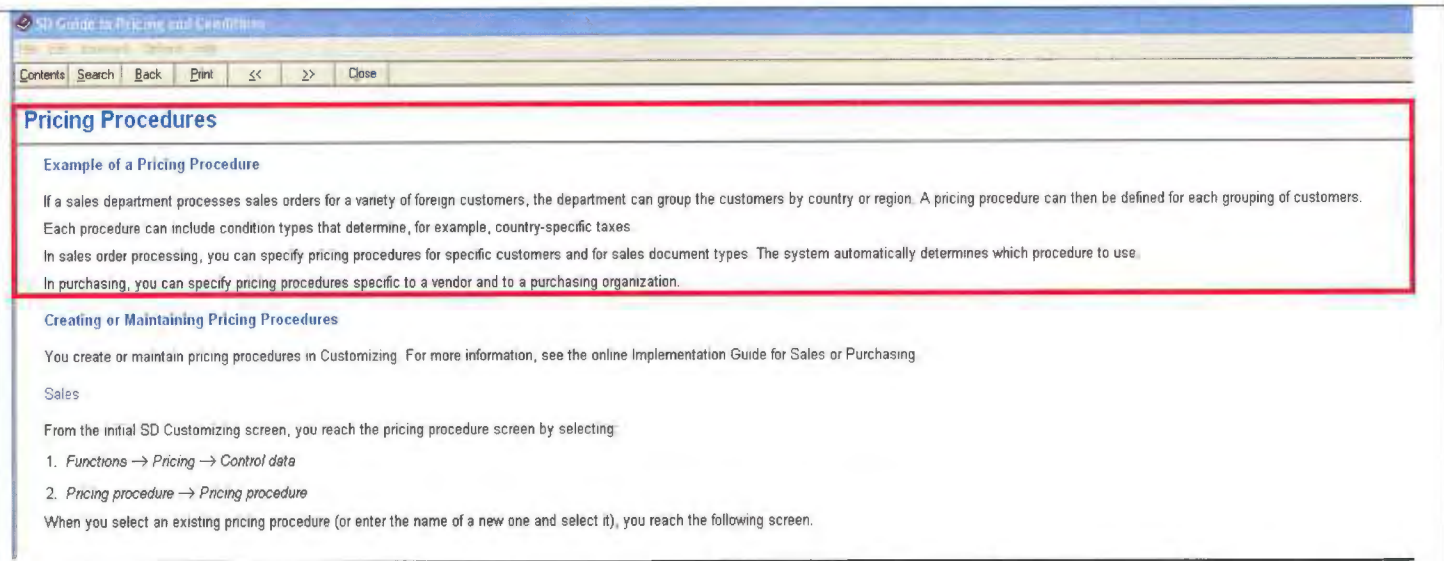
Step	Cond. type	Description	Reference step	Manual	Req.
1	XXX1	Price			2
2		Gross value			
3	XXX2	Spec. offer disc.			2
4	XXX3	Discount %	2		2
5	XXX4	Discount %		X	2
6		Discount value	3-5		
7		Net value 1			
8	XXX5	Header disc. %		X	
9	XXX6	Freight			
10		Net value 2			
11	XXX7	Sales tax			
12		Cash disc. basis			
13	XXX8	Cash discount			

Pricing Procedures in the SAP R/3 Standard Version

The standard version includes predefined pricing procedures, containing commonly used condition types in the most likely sequences. You can, of course, modify these standard pricing procedures or create your own from scratch.

SAP00029667-8; SAP00013971-2.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar and navigation buttons (Contents, Search, Back, Print, <<, >>, Close) are visible. The main content area is titled "Pricing Procedures" and contains the following text:

Example of a Pricing Procedure

If a sales department processes sales orders for a variety of foreign customers, the department can group the customers by country or region. A pricing procedure can then be defined for each grouping of customers. Each procedure can include condition types that determine, for example, country-specific taxes.

In sales order processing, you can specify pricing procedures for specific customers and for sales document types. The system automatically determines which procedure to use.

In purchasing, you can specify pricing procedures specific to a vendor and to a purchasing organization.

Creating or Maintaining Pricing Procedures

You create or maintain pricing procedures in Customizing. For more information, see the online Implementation Guide for Sales or Purchasing.

Sales

From the initial SD Customizing screen, you reach the pricing procedure screen by selecting:

1. *Functions* → *Pricing* → *Control data*
2. *Pricing procedure* → *Pricing procedure*

When you select an existing pricing procedure (or enter the name of a new one and select it), you reach the following screen.

SAP00029668; SAP00013972-3.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

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Pricing Procedures

Sales & Distribution Maintain Pricing: Pricing Procedure

Condition Edit Goto Environment System Help

Change view Delete line Condition type Records by cond.type

Procedure RVA0US Standard - USA

Steps

Step	Cntr	CondTy	Description	From	To	Man.	ActKy	Stat	Reqd
11		PR00	Price			<input type="checkbox"/>	ERL	<input type="checkbox"/>	
12		PB00	Price (gross)			<input checked="" type="checkbox"/>	ERL	<input type="checkbox"/>	
100			Gross			<input type="checkbox"/>		<input type="checkbox"/>	
101		KA00	Special offer			<input type="checkbox"/>	ERS	<input type="checkbox"/>	
102		K032	Price group/material			<input type="checkbox"/>	ERS	<input type="checkbox"/>	
103		K005	Customer/material			<input type="checkbox"/>	ERS	<input type="checkbox"/>	
104		K007	Customer discount			<input type="checkbox"/>	ERS	<input type="checkbox"/>	
105		K004	Material			<input type="checkbox"/>	ERS	<input type="checkbox"/>	2
106		K020	Price group			<input type="checkbox"/>	ERS	<input type="checkbox"/>	2
107		K029	Mat.pricing group			<input type="checkbox"/>	ERS	<input type="checkbox"/>	2
108		K030	Customer/mat.pr.grp			<input type="checkbox"/>	ERS	<input type="checkbox"/>	2
109		K031	Price grp/mat.pr.grp			<input type="checkbox"/>	ERS	<input type="checkbox"/>	2
110	1	RA01	% Disc.from gross	100		<input checked="" type="checkbox"/>	ERS	<input type="checkbox"/>	
110	2	RA00	% Discount from net			<input checked="" type="checkbox"/>	ERS	<input type="checkbox"/>	

The preceding figure shows an example of the standard pricing procedure that has been designed for the US. The pricing procedure includes condition types that determine sales taxes specific to the US.

Purchasing

From the initial screen of Customizing for Purchasing, you reach the screen for defining pricing procedures by selecting

1. *Functions* → *Conditions* → *Pricing*
2. *Pricing procedure* → *Pricing procedures*.

You then enter or select a pricing procedure (standard: RMO000). The pricing procedure appears

SAP00029669; SAP00013973-4.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

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Pricing Procedures

SAP R/3

Condition Edit Goto Environment System Help

Change view Delete line Condition type Records by cond.type

Procedure RM0000 Purchasing Document

Steps

Step	Cntr	ChdTy	Description	From	To	Man.	ActKy	Stat	Reqt
1	1	PB00	Gross price			<input type="checkbox"/>		<input type="checkbox"/>	
1	2	PBXX	Gross price			<input type="checkbox"/>		<input type="checkbox"/>	5
10	1	RB00	Discount (value)			<input type="checkbox"/>		<input type="checkbox"/>	
10	2	RC00	Discount/quantity			<input type="checkbox"/>		<input type="checkbox"/>	
10	3	RA00	Discount % from net			<input type="checkbox"/>		<input type="checkbox"/>	
10	4	RA01	Disc.% from gross	1		<input type="checkbox"/>		<input type="checkbox"/>	
10	5	HB00	Head.surch.(value)			<input type="checkbox"/>		<input type="checkbox"/>	
10	6	ZB00	Surcharge (value)			<input type="checkbox"/>		<input type="checkbox"/>	

OVR NUM 15.07

Information About Fields

The following topic provides a quick reference for the fields that control various aspects of the pricing procedure. A brief description of each field follows.

Step

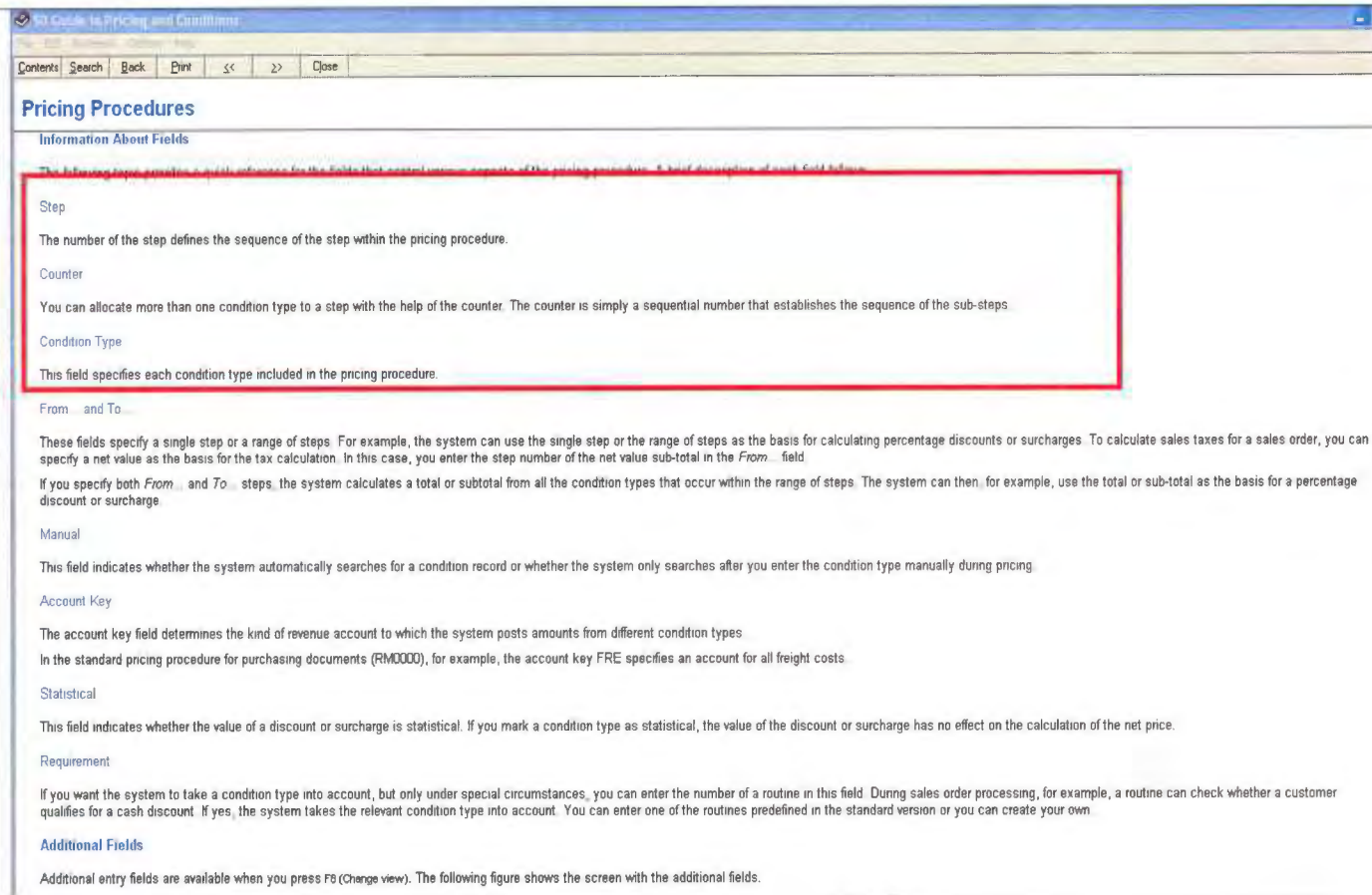
The number of the step defines the sequence of the step within the pricing procedure.

Counter

You can allocate more than one condition type to a step with the help of the counter. The counter is simply a sequential number that establishes the sequence of the sub-steps.

SAP00029670; SAP00013974.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window titled "SAP Pricing Procedures" with a navigation bar containing "Contents", "Search", "Back", "Print", and "Close". The main content area is titled "Pricing Procedures" and "Information About Fields". A red rectangular box highlights the following text:

The following table provides a quick reference for the fields that are relevant to the pricing procedure. A brief description of each field follows.

Step	The number of the step defines the sequence of the step within the pricing procedure.
Counter	You can allocate more than one condition type to a step with the help of the counter. The counter is simply a sequential number that establishes the sequence of the sub-steps.
Condition Type	This field specifies each condition type included in the pricing procedure.

From and To

These fields specify a single step or a range of steps. For example, the system can use the single step or the range of steps as the basis for calculating percentage discounts or surcharges. To calculate sales taxes for a sales order, you can specify a net value as the basis for the tax calculation. In this case, you enter the step number of the net value sub-total in the *From* field.

If you specify both *From* and *To* steps, the system calculates a total or subtotal from all the condition types that occur within the range of steps. The system can then, for example, use the total or sub-total as the basis for a percentage discount or surcharge.

Manual

This field indicates whether the system automatically searches for a condition record or whether the system only searches after you enter the condition type manually during pricing.

Account Key

The account key field determines the kind of revenue account to which the system posts amounts from different condition types.

In the standard pricing procedure for purchasing documents (RM0000), for example, the account key FRE specifies an account for all freight costs.

Statistical

This field indicates whether the value of a discount or surcharge is statistical. If you mark a condition type as statistical, the value of the discount or surcharge has no effect on the calculation of the net price.

Requirement

If you want the system to take a condition type into account, but only under special circumstances, you can enter the number of a routine in this field. During sales order processing, for example, a routine can check whether a customer qualifies for a cash discount. If yes, the system takes the relevant condition type into account. You can enter one of the routines predefined in the standard version or you can create your own.

Additional Fields

Additional entry fields are available when you press F8 (Change view). The following figure shows the screen with the additional fields.

SAP00029670-1; SAP00013974-5.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

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Pricing Procedures

Additional Fields

Additional entry fields are available when you press F8 (Change view). The following figure shows the screen with the additional fields.

Sales & Distribution Maintain Pricing: Pricing Procedure

Condition Edit Goto Environment System Help

Change view Delete line Condition type Records by cond.type

Procedure: **RURAU: Standard - USA**

Step	Cntr	ConTy	Description	AltCTy	AltCBV	SubTs	AccKy2	Print	Mdt
\$10		UTX1	State sales tax				MMS	<input type="checkbox"/>	<input type="checkbox"/>
\$12		UTX2	County sales tax				MMS	<input type="checkbox"/>	<input type="checkbox"/>
\$14		UTX3	City sales tax				MMS	<input type="checkbox"/>	<input type="checkbox"/>
\$20			Net value for ord.			A		<input type="checkbox"/>	<input type="checkbox"/>
\$30		SKT0	Cash discount					<input type="checkbox"/>	<input type="checkbox"/>
\$40		UPRS	Cost			B		<input type="checkbox"/>	<input type="checkbox"/>
\$50			Profit Margin	11				<input type="checkbox"/>	<input type="checkbox"/>

Alternative Formula for Condition Type Value

If you want the system to calculate the value of a condition type or sub-total by using a formula other than the calculation types available in the standard version, you can enter the number of a routine here. You can enter one of the routines predefined in the standard version or you can create your own.

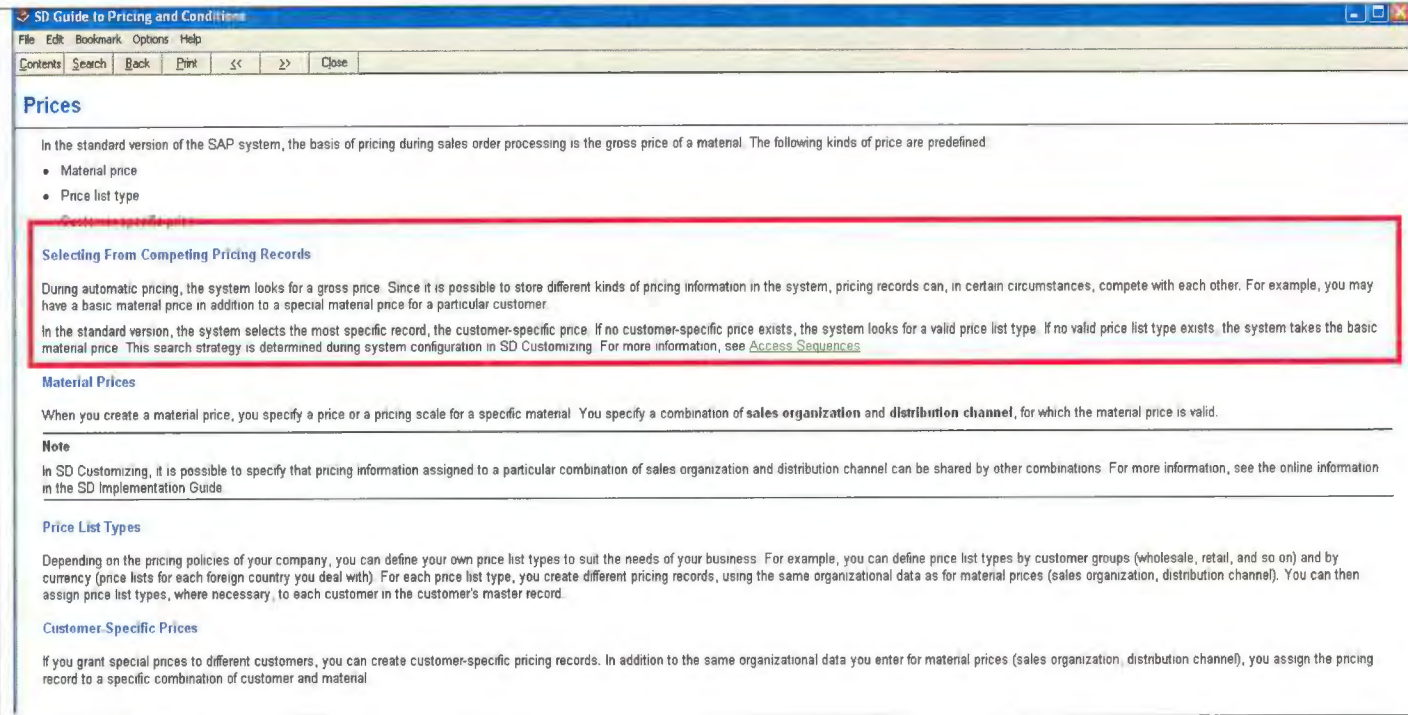
SAP00029671-2; SAP00013975-6.

Access sequences

The access sequence is used for sorting pricing information. The access sequence is described in the following excerpts from the R3 documentation.

In the following excerpt, a sales company has multiple prices for a product (material) that apply to a particular customer: a basic product price and a special product price for that particular customer. The excerpt discloses using an access sequence to select the most specific record: first searching for a customer-specific price, then a price list type (a price list is a group of customers), and finally the basic price.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar contains "Contents Search Back Print << >> Close". The main content area is titled "Prices" and contains the following text:

In the standard version of the SAP system, the basis of pricing during sales order processing is the gross price of a material. The following kinds of price are predefined

- Material price
- Price list type

Selecting From Competing Pricing Records

During automatic pricing, the system looks for a gross price. Since it is possible to store different kinds of pricing information in the system, pricing records can, in certain circumstances, compete with each other. For example, you may have a basic material price in addition to a special material price for a particular customer.

In the standard version, the system selects the most specific record, the customer-specific price. If no customer-specific price exists, the system looks for a valid price list type. If no valid price list type exists, the system takes the basic material price. This search strategy is determined during system configuration in SD Customizing. For more information, see [Access Sequences](#).

Material Prices

When you create a material price, you specify a price or a pricing scale for a specific material. You specify a combination of **sales organization** and **distribution channel**, for which the material price is valid.

Note

In SD Customizing, it is possible to specify that pricing information assigned to a particular combination of sales organization and distribution channel can be shared by other combinations. For more information, see the online information in the SD Implementation Guide.

Price List Types

Depending on the pricing policies of your company, you can define your own price list types to suit the needs of your business. For example, you can define price list types by customer groups (wholesale, retail, and so on) and by currency (price lists for each foreign country you deal with). For each price list type, you create different pricing records, using the same organizational data as for material prices (sales organization, distribution channel). You can then assign price list types, where necessary, to each customer in the customer's master record.

Customer-Specific Prices

If you grant special prices to different customers, you can create customer-specific pricing records. In addition to the same organizational data you enter for material prices (sales organization, distribution channel), you assign the pricing record to a specific combination of customer and material.

SAP00029676; SAP00013980.

The following excerpts provide more detailed descriptions of access sequences as well as additional examples.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar and menu bar are visible. The page content includes a navigation bar with "Contents", "Search", "Back", "Print", and "Home" buttons. The main heading is "Condition Technique: Overview". Below this, there are several sections: "Example of a Condition Table" with a list of fields (Sales organization, Distribution channel, Customer, Material) and a note that the first two identify organizational data and the last two express the relationship between customer and material; "What is an Access Sequence?" with a definition and an example of an access sequence; "What is a Procedure?" with a definition and an example of a procedure; "Condition Technique in Different Applications" with a note that screens are generally the same; and "How the Elements of the Condition Technique Work Together" with a reference to a figure. A red rectangular box highlights the "What is an Access Sequence?" section.

SD Guide to Pricing and Conditions

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Condition Technique: Overview

Example of a Condition Table

A sales department creates condition records for customer-specific material prices. The standard version of the R/3 system provides a condition table for this purpose. The key of table includes the following fields:

- Sales organization
- Distribution channel
- Customer
- Material

The first two fields identify important organizational data and the last two fields express the relationship between the customer and the material.

What is an Access Sequence?

An access sequence is a search strategy that the system uses to find valid data for a particular condition type. The access sequence determines the sequence in which the system searches for data.

Example of an Access Sequence

A sales department may create different kinds of price data. There may be a basic price for a product, a special customer-specific price for the same product, and a price list for, say, large customers. A customer may, in theory, qualify for all three different prices. The access sequence enables the system to access the pricing data records in a particular sequence until it finds a valid price. In this example, the sales department may want the customer to get the most advantageous price and defines the special customer-specific price as the first place to search.

What is a Procedure?

A procedure is a listing of condition types, defined in a particular sequence. It enables the system to determine that a particular set of condition types, in a specified sequence, apply in given circumstances.

Example of a Procedure

In pricing, you define a procedure that determines how prices, discounts, and surcharges appear in sales orders and invoices. In a typical situation, the first condition type in the procedure determines the gross price. Condition types then follow that determine the various discounts. Finally, there are condition types that determine freight costs and sales taxes. If you have customers in different countries, you can group the customers by country or region. You can then define for each grouping a procedure that takes into account local requirements (for example, sales taxes).

Condition Technique in Different Applications

Each application that uses the condition technique uses the same basic elements. Different applications also use the same screens. For example, the screens for procedures, access sequences, and condition tables are always essentially the same, regardless of application. Individual applications, however, may decide not to display fields that they do not need. Condition types are an exception. Here, each application can design its own screen.

For more information about specific applications, please refer to the documentation for individual applications.

How the Elements of the Condition Technique Work Together

The following figure illustrates the relationships between elements of the condition technique.

SAP00029637-8; SAP00013938-9.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

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Access Sequences

Example: Price Determination (Sales)

A sales department may offer customers different kinds of prices. The department may create, for example, the following condition records in the system:

- A basic price for a material
- A special customer-specific price for the same material, and
- A price list for, say, major customers

During sales order processing, a customer may, in theory, qualify for all three different prices. The access sequence enables the system to access the data records in a particular sequence until it finds a valid price. In this example, the sales department may want the customer to get the most advantageous price and defines the special customer-specific price as the first place to search. The following figure shows how the system searches for the relevant record.

Condition type

PR01	Price	Access sequence: PR00
K004	Discount%	Access sequence: K004
K007	Major customer disc.	Access sequence: K007

Access sequence

PR00	1. Customer / Material
	2. Price listtype / Currency / Material
	3. Material

Specific
General

SAP00029659; SAP00013962-3.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

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Access Sequences

purchasing organization and into records, respectively.

Information About Fields

The following topic is a reference for the fields that control various aspects of access sequences. A brief description of each field follows.

Access Number

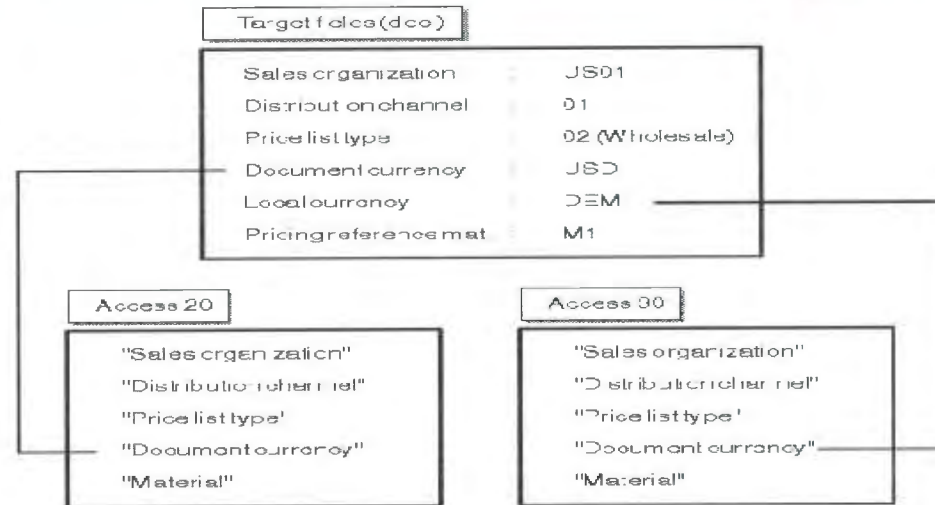
If there is more than one access in an access sequence, the access number determines the order in which the system carries out the accesses.

Condition Table

The condition table that you specify here determines which condition records the system accesses during its search for valid data. The condition table defines the key that identifies the relevant condition records. For more information about condition tables, see the previous topic in this section.

Requirement

In this field you specify a routine. The routine checks that certain requirements have been fulfilled before it carries out the access. For example, the system can use a routine to check whether the document currency is local or foreign. Depending on the result, the system carries out an access or ignores it and moves on to the next access. The following figure illustrates the use of requirements in an access.



SAP00029662-3; SAP00013966-7.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The screenshot shows a web browser window with the title 'SAP R/3 Online Pricing and Conditions'. The browser's address bar shows 'http://www.sap.com'. Below the browser window, the document content is displayed. The main heading is 'Access Sequences'. The text explains that an access sequence is used to find valid records during pricing. It includes three sub-sections: 'Purpose of the Access Sequence', 'Access Sequences in the SAP R/3 Standard Version', and 'Example: Price Determination (Sales)'. The 'Example' section lists three types of prices: a basic price, a special customer-specific price, and a price list for major customers. It also explains that the system searches for the most advantageous price by following the access sequence.

Access Sequences

You specify an access sequence for each condition type for which you create condition records. The access sequence helps the system to find valid records during pricing. There are some condition types for which you do not create condition records (header discounts that you can only enter manually, for example). These condition types do not require an access sequence.

Purpose of the Access Sequence

The access sequence provides a strategy for the system when it searches for relevant condition records. The access sequence consists of one or more accesses. The sequence of the accesses establishes which condition records have priority over others. The accesses tell the system where to look first, second, and so on, until it finds a valid condition record.

Access Sequences in the SAP R/3 Standard Version

The standard version contains access sequences that are predefined for each of the standard condition types. The names of the access sequences often correspond to the condition types for which they were designed. For example, the access sequence for a material discount (condition type K004) is also called K004.

Example: Price Determination (Sales)

A sales department may offer customers different kinds of prices. The department may create, for example, the following condition records in the system:

- A basic price for a material
- A special customer-specific price for the same material, and
- A price list for, say, major customers

During sales order processing, a customer may, in theory, qualify for all three different prices. The access sequence enables the system to access the data records in a particular sequence until it finds a valid price. In this example, the sales department may want the customer to get the most advantageous price and defines the special customer-specific price as the first place to search. The following figure shows how the system searches for the relevant record.

SAP00029659; SAP00013962.

The access sequences operate in two modes, controlled by an “exclusive access indicator” in each access sequence. When the exclusive access indicator is not set each condition record identified by the access sequence is retrieved (from its condition table) in the order specified, and the last one retrieved is used in the calculation of the price. In this case, the condition records are ordered from most general to most specific, and it is the most specific one that is utilized to calculate a price. When the exclusive access indicator is set (in “exclusive” mode), the first record identified by the access sequence is retrieved from its condition table and then used in the calculation of the price. In this case, the condition records are ordered from most specific to most general.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

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Access Sequences

Access 30 only takes place if access 20 was successful and if the local currency differs from the document currency.

In the example in the preceding figure, the local currency is in German Marks. In this case, the access fulfills the requirement that the local currency must differ from the document currency before the system carries out a search for a record. The system makes the access. If the local currency had been in US dollars, the system would have ignored the access (thus improving system performance during pricing).

Exclusive Access Indicator

You specify in this field whether you want the system to stop when it finds a valid condition record for the access. If you do not mark the exclusive access indicator, the system continues to make each access in the sequence, finally proposing the last valid condition record it finds.

In the earlier example of access sequences for Sales and Purchasing where the indicator is set for each access, the system stops when it finds the first valid condition record. Alternatively, it would be possible to not set the indicator and to reverse the order of the accesses and have them starting with the most general condition records and ending with the most specific (in this case, the customer/material price). In the sales order, the system would then list all the condition records it found but would only use the last one. You would then be able to see all the various possible prices that apply to the particular document.

Details of an Access

You can see a detailed view of each access by pressing F2 (Detail screen).

Sales

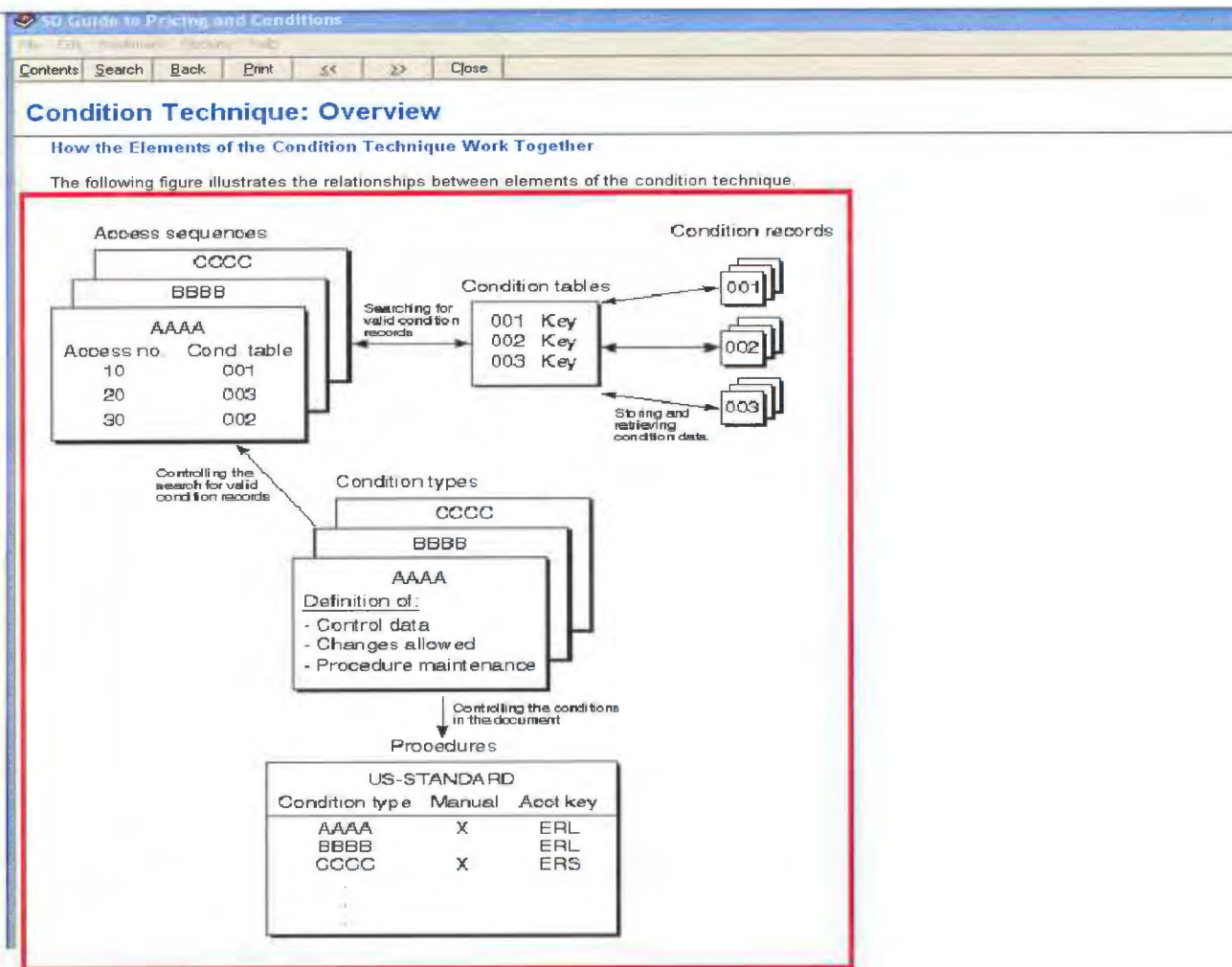
The following figure shows the access sequence PR00. The first access in the sequence is *Customer/Material* and refers to condition table 5 (the table that defines condition records for customer-specific material prices).

The following figure shows the details of the first access, *Access number 10*.

SAP00029663-4; SAP00013967-8.

As shown in the following excerpt from the R3 documentation, the pricing information is associated with pricing types (which are condition types in the R3 documentation) using pricing procedures and access sequences.

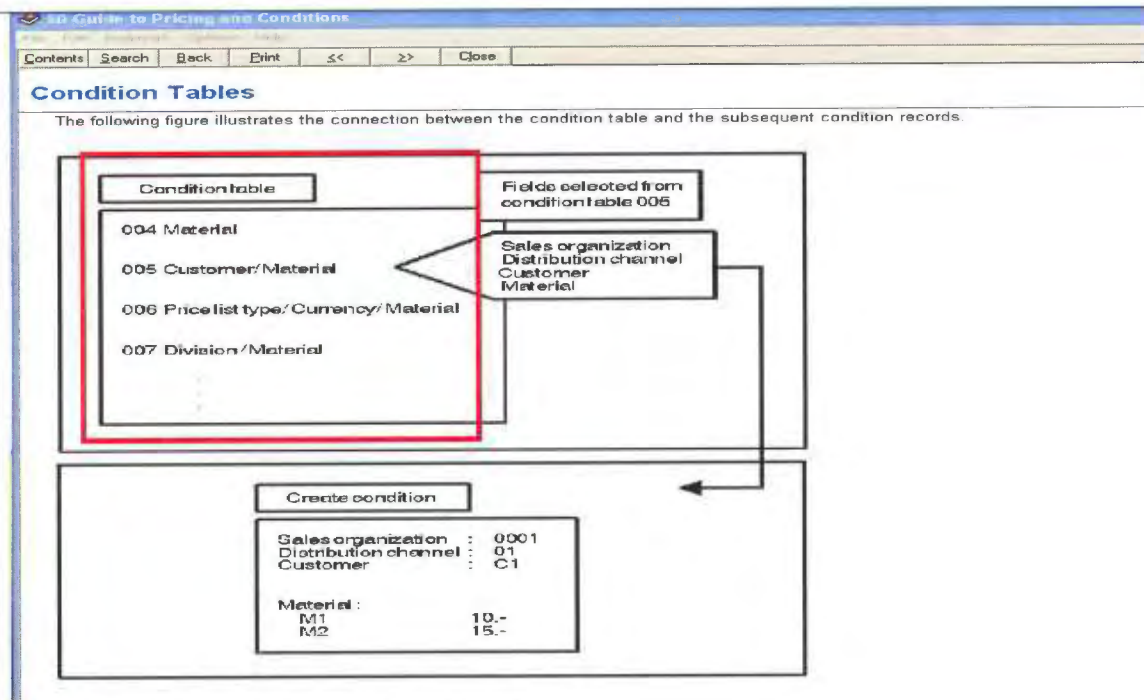
Anticipation: 35 U.S.C. §102 (R3 Documentation)



SAP00029638; SAP00013939.

The pricing information is associated with organizational groups and product groups using access sequences and condition tables, as shown in the following excerpts.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



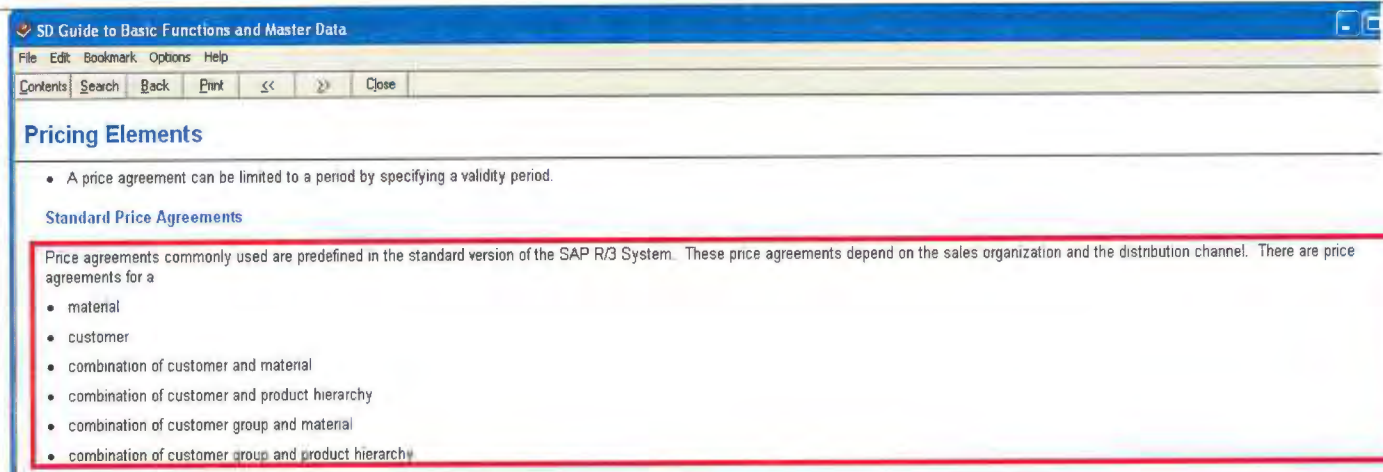
SAP00029653-4; SAP00013956-7.

The above example from the R3 documentation shows a number of condition tables that demonstrate that pricing information is associated with organizational groups. The standard condition tables in the R3 documentation associate prices with a sales organization and a distribution channel along with information associated with the customer and the product, thus these two elements are always included in the key for every condition table. Table 005 stores condition records associated with a particular customer and a material (in addition to the always-present sales organization and distribution channel). Table 004 stores condition records that are not associated with a particular customer; the key for this condition table is just the material. Table 007 stores condition records that are associated with a division (a grouping of customers or “organizational group”) and a material.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The following excerpt from the R3 documentation describes how pricing information (condition records or price agreements in R3) can be associated with any combination of material, material hierarchy (“product group”), customer, and customer hierarchy (“customer group”).

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window titled "SD Guide to Basic Functions and Master Data". The browser's address bar contains "Contents Search Back Print << >> Close". The main content area is titled "Pricing Elements" and contains a bulleted list: "• A price agreement can be limited to a period by specifying a validity period." Below this is a sub-section "Standard Price Agreements" with a red-bordered box containing the text: "Price agreements commonly used are predefined in the standard version of the SAP R/3 System. These price agreements depend on the sales organization and the distribution channel. There are price agreements for a" followed by a bulleted list: "• material", "• customer", "• combination of customer and material", "• combination of customer and product hierarchy", "• combination of customer group and material", and "• combination of customer group and product hierarchy".

• A price agreement can be limited to a period by specifying a validity period.

Standard Price Agreements

Price agreements commonly used are predefined in the standard version of the SAP R/3 System. These price agreements depend on the sales organization and the distribution channel. There are price agreements for a

- material
- customer
- combination of customer and material
- combination of customer and product hierarchy
- combination of customer group and material
- combination of customer group and product hierarchy

SAP00029499-500; SAP00013796-7.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

<p>retrieving applicable pricing information corresponding to the product, the purchasing organization, each product group above the product group in each branch of the hierarchy of product groups in which the product is a member, and each organizational group above the purchasing organization in each branch of the hierarchy of organizational groups in which the purchasing organization is a member;</p>	<p><i>The R3 documentation describes methods for retrieving applicable pricing information corresponding to the product, the purchasing organization, each product group above the product group in each branch of the hierarchy of product groups in which the product is a member, and each organizational group above the purchasing organization in each branch of the hierarchy of organizational groups in which the purchasing organization is a member.</i></p> <p><i>The R3 documentation describes how pricing information is retrieved when pricing a sales order. The description includes the use of the condition technique, including condition records, access sequences and pricing procedures. The documentation describes using a pricing procedure (RVAAUS in the example discussed below) to indicate what condition types should be used to calculate a price for the sales order. The pricing procedure indicates the order in which the system should apply condition types; in the example the condition types are PR00, RB01, and RB02. Associated with each condition type is an access sequence which specifies the order in which condition tables should be searched to find an applicable condition record. For the PR00 condition type, the access sequence is also named PR00. For each condition type, the pricing procedure retrieves pricing information. The pricing procedure then utilizes the retrieved pricing information in calculating a price.</i></p> <p><i>The example pricing procedure (RVAAUS) indicates that the condition types for the sale are “Price” (PR00), “Discount 1” (RB01), and “Discount 2” (RB02), applied in that order. For each condition type, the condition technique retrieves pricing information. The example describes the access sequence for one of the condition types (the access sequence is PR00 for the condition type PR00). Each access sequence indicates the order in which condition records will be retrieved from condition tables. In the example, the access sequence indicates that the system should first retrieve a price from the “Customer/material” condition table, then a price from the “Price list type/currency/material” condition table, and finally a price from the “Material” table. In this example, the access sequence is ordered from the most specific to the most general.</i></p>
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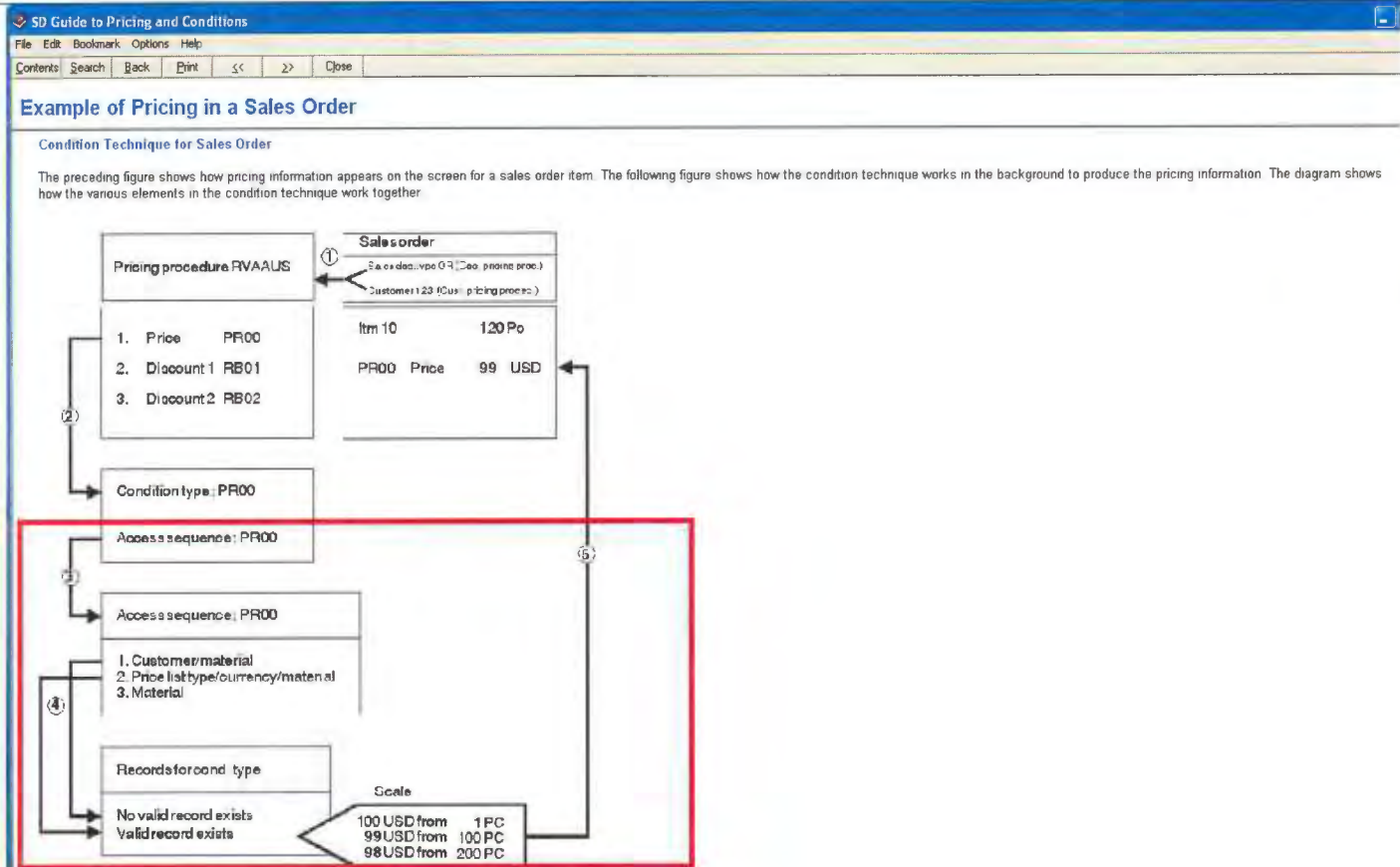
Anticipation: 35 U.S.C. §102 (R3 Documentation)

The R3 documentation discloses that access sequences can operate in two modes, depending on the setting of an “exclusive access indicator” for the access sequence.

In the first mode, when the exclusive access indicator is not set in an access sequence, every condition record specified in the access sequence is retrieved and ordered, and the last one retrieved is used. In this case, the order of the keys in the access sequence is ordered from the most general first to the most specific last.

In the second mode, when the exclusive access indicator is set in an access sequence, the first condition record retrieved is the one that is used. The price sequence is ordered from more specific to more general. This is the situation described by the example below.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



SAP00029642-3; SAP00013943-4.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

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Example of Pricing in a Sales Order

Scale	
100 USD from	1 PC
99 USD from	100 PC
98 USD from	200 PC

Step-by-step Description

- 1 The system first determines the procedure according to information defined in the sales document type and the customer master record.
- 2 The pricing procedure defines the valid condition types and the sequence in which they appear in the sales order. In the example above, the system takes the first condition type (PROD) in the pricing procedure and begins the search for a valid condition record.
- 3 Each condition type in the pricing procedure can have an access sequence assigned to it. In this case, the system uses access sequence PROD. The system makes the specified accesses until it finds a valid condition record. (Although this diagram does not show it, each access specifies a particular condition table. The table provides the key with which the system searches for records)
- 4 In the example, the first access (searching for a customer-specific material price) is unsuccessful. The system moves on to the next access and finds a valid record.
- 5 The system determines the price according to information stored in the condition record. If a pricing scale exists, the system calculates the appropriate price. In the example, the sales order item is for 120 pieces of the material. Based on the quantity, the system determines a price of \$99 per piece.

The system repeats this process for each condition type in the pricing procedure and comes up with a final price.

SAP00029643; SAP00013944-5.
As mentioned above, the R3 documentation discloses that access sequences can operate in two modes, depending on the setting of an “exclusive access indicator” for the access sequence. This is described in the next excerpt.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The screenshot shows a window titled "SD Guide to Pricing and Conditions" with a menu bar (File, Edit, Bookmark, Options, Help) and a toolbar (Contents, Search, Back, Print, navigation arrows, Close). The main content area is titled "Access Sequences" and contains the following text:

Access 30 only takes place if
sooooo 20 was unsuccessful and if
the local currency differs from the
document currency.

In the example in the preceding figure, the local currency is in German Marks. In this case, the access fulfills the requirement that the local currency must differ from the document currency before the system carries out a search for a record. The system makes the access. If the local currency had been in US dollars, the system would have ignored the access (thus improving system performance during pricing).

Exclusive Access Indicator

You specify in this field whether you want the system to stop when it finds a valid condition record for the access. If you do not mark the exclusive access indicator, the system continues to make each access in the sequence, finally proposing the last valid condition record it finds.

In the earlier example of access sequences for Sales and Purchasing where the indicator is set for each access, the system stops when it finds the first valid condition record. Alternatively, it would be possible to not set the indicator and to reverse the order of the accesses and have them starting with the most general condition records and ending with the most specific (in this case, the customer/material price). In the sales order, the system would then list all the condition records it found but would only use the last one. You would then be able to see all the various possible prices that apply to the particular document.

Details of an Access

You can see a detailed view of each access by pressing F2 (Detail screen).

Sales

The following figure shows the access sequence PRO0. The first access in the sequence is *Customer/Material* and refers to condition table 5 (the table that defines condition records for customer-specific material prices).

The following figure shows the details of the first access, Access number 10.

SAP00029663-4; SAP00013967-8.

The R3 documentation has a number of descriptions of access sequences. In the following example, there is a base price for a product, a special customer-specific price for the same product, and a price list for, say, large customers. This shows that customers as well as customer groups can be used to retrieve pricing information.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

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Condition Technique: Overview

Example of a Condition Table

A sales department creates condition records for customer-specific material prices. The standard version of the R/3 system provides a condition table for this purpose. The key of table includes the following fields:

- Sales organization
- Distribution channel
- Customer
- Material

The first two fields identify important organizational data and the last two fields express the relationship between the customer and the material.

What is an Access Sequence?

An access sequence is a search strategy that the system uses to find valid data for a particular condition type. The access sequence determines the sequence in which the system searches for data.

Example of an Access Sequence

A sales department may create different kinds of price data. There may be a basic price for a product, a special customer-specific price for the same product, and a price list for, say, large customers. A customer may, in theory, qualify for all three different prices. The access sequence enables the system to access the pricing data records in a particular sequence until it finds a valid price. In this example, the sales department may want the customer to get the most advantageous price and defines the special customer-specific price as the first place to search.

What is a Procedure?

A procedure is a listing of condition types, defined in a particular sequence. It enables the system to determine that a particular set of condition types, in a specified sequence, apply in given circumstances.

Example of a Procedure

In pricing, you define a procedure that determines how prices, discounts, and surcharges appear in sales orders and invoices. In a typical situation, the first condition type in the procedure determines the gross price. Condition types then follow that determine the various discounts. Finally, there are condition types that determine freight costs and sales taxes. If you have customers in different countries, you can group the customers by country or region. You can then define for each grouping a procedure that takes into account local requirements (for example, sales taxes).

Condition Technique in Different Applications

Each application that uses the condition technique uses the same basic elements. Different applications also use the same screens. For example, the screens for procedures, access sequences, and condition tables are always essentially the same, regardless of application. Individual applications, however, may decide not to display fields that they do not need. Condition types are an exception. Here, each application can design its own screen.

For more information about specific applications, please refer to the documentation for individual applications.

SAP00029637-8; SAP00013938.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

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Access Sequences

Example: Price Determination (Sales)

A sales department may offer customers different kinds of prices. The department may create, for example, the following condition records in the system:

- A basic price for a material
- A special customer-specific price for the same material, and
- A price list for, say, major customers

During sales order processing, a customer may, in theory, qualify for all three different prices. The access sequence enables the system to access the data records in a particular sequence until it finds a valid price. In this example, the sales department may want the customer to get the most advantageous price and defines the special customer-specific price as the first place to search. The following figure shows how the system searches for the relevant record.

Condition type

PR01	Price	Access sequence: PR00
K004	Discount%	Access sequence: K004
K007	Major customer disc.	Access sequence: K007

Access sequence

PR00	1. Customer / Material
	2. Price listtype / Currency / Material
	3. Material

SAP00029659; SAP00013962-3.

The following excerpts from the R3 documentation describe how pricing information can be associated with the product or a product group in which the product is a member as well as the purchasing organization or an organizational group in which the purchasing is a member as well as combinations of these criteria.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The screenshot shows a web browser window with the title "SD Guide to Basic Functions and Master Data". The browser's address bar contains "http://sap.com". Below the address bar is a navigation menu with buttons for "Contents", "Search", "Back", "Print", "<<", ">>", and "Close". The main content area is titled "Pricing Elements" and contains a bulleted list: "• A price agreement can be limited to a period by specifying a validity period". Below this is a sub-section titled "Standard Price Agreements" which contains a paragraph: "Price agreements commonly used are predefined in the standard version of the SAP R/3 System. These price agreements depend on the sales organization and the distribution channel. There are price agreements for a" followed by a bulleted list: "• material", "• customer", "• combination of customer and material", "• combination of customer and product hierarchy", "• combination of customer group and material", and "• combination of customer group and product hierarchy". The entire content area is enclosed in a red rectangular border.

SAP00029499-500; SAP00013796-7.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Basic Functions and Master Data

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Grouping Materials

Materials can be grouped according to different criteria. This allows for easier management and better evaluation of materials with similar features. The standard version of the SAP R/3 System does not provide exact criteria to differentiate between individual groupings. These criteria can be defined by the company to meet their specific demands. The groupings are determined and defined by the system administrator. Contact him, if you have questions concerning the existing groupings. In the standard version of the SAP R/3 System the following groupings are possible, for example:

- Material group
- Material pricing group
- Product hierarchy

Material Group

Goods with the same features (for example, nails) can be grouped using the field *Material group*. Unlike the product hierarchy, the material group does not contain different levels or possible combinations of goods. You can, however, use the material group to carry out different analysis functions. The material group is defined by a nine-digit, alphanumeric key. It is not primarily of importance for sales and distribution, but is used mainly in materials management.

Material Pricing Group

The material pricing group can also be used to group materials, especially for pricing and for analyses. The material pricing group is defined by a two-digit, numeric key.

Product Hierarchy

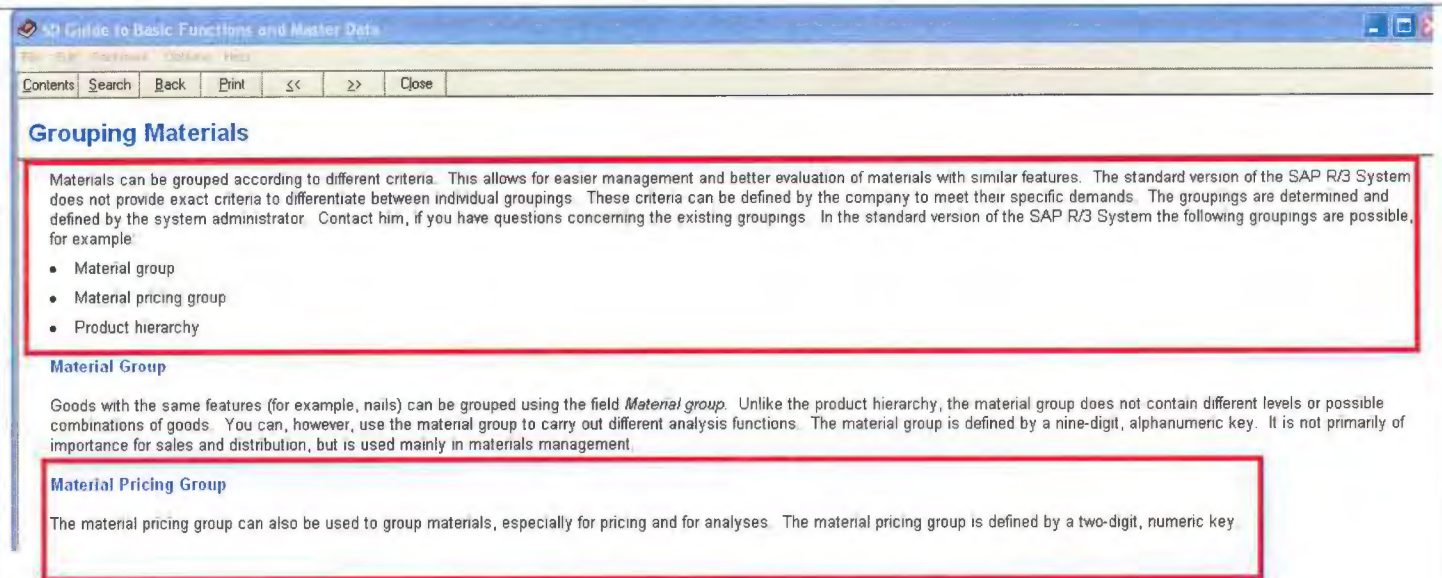
The product hierarchy is used to group materials by combining different features. It is used for analyses and pricing. A product hierarchy can consist of up to eighteen characters. Its features can be combined in various ways. The following figure gives an example of how materials can be grouped using product hierarchies.

```
graph TD
    A["Electrical appliances  
00001"] --- B["Dry appliances  
00001"]
    A --- C["Wet appliances  
00002"]
    D["Spare parts  
00002"] --- E["...."]
    D --- F["...."]
    B --- G["Electrical stoves  
00000001"]
    B --- H["Food processors  
00000002"]
    C --- I["Washing machines  
00000001"]
    C --- J["Dish-washers  
00000002"]
    F --- K["....."]
    F --- L["....."]
    F --- M["....."]
```

In this case, a dishwasher can be described by product hierarchy 000100002000000002. This series of characters states that dishwashers belong to the category *electrical appliances* (series of characters 00001, position 1-5), and also to *wet appliances* (series of characters 00002, position 6-10) and, finally, to *dishwashers* (series of characters 00000002, position 11-18).

SAP00029548-9; SAP00013845-6.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window with the title "Guide to Basic Functions and Master Data". The browser's address bar and menu bar are visible. Below the browser window, the text "Grouping Materials" is displayed in a blue header. The main content area contains a paragraph explaining that materials can be grouped by criteria for easier management, and lists three types of groupings: Material group, Material pricing group, and Product hierarchy. Below this list, the "Material Group" section explains that goods with similar features (like nails) can be grouped using the *Material group* field, and that this field is defined by a nine-digit alphanumeric key. The "Material Pricing Group" section explains that this group can be used for pricing and analysis, and is defined by a two-digit numeric key. The text in the screenshot is enclosed in red rectangular boxes.

Grouping Materials

Materials can be grouped according to different criteria. This allows for easier management and better evaluation of materials with similar features. The standard version of the SAP R/3 System does not provide exact criteria to differentiate between individual groupings. These criteria can be defined by the company to meet their specific demands. The groupings are determined and defined by the system administrator. Contact him, if you have questions concerning the existing groupings. In the standard version of the SAP R/3 System the following groupings are possible, for example:

- Material group
- Material pricing group
- Product hierarchy

Material Group

Goods with the same features (for example, nails) can be grouped using the field *Material group*. Unlike the product hierarchy, the material group does not contain different levels or possible combinations of goods. You can, however, use the material group to carry out different analysis functions. The material group is defined by a nine-digit, alphanumeric key. It is not primarily of importance for sales and distribution, but is used mainly in materials management.

Material Pricing Group

The material pricing group can also be used to group materials, especially for pricing and for analyses. The material pricing group is defined by a two-digit, numeric key.

SAP00029548; SAP00013845.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

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Discounts and Surcharges

The standard version of the SAP system includes a variety of commonly-used discounts. If your business requires it, special discounts and surcharges can be defined in SD Customizing during system configuration or subsequent customizing.

Discounts in the Standard Version

The standard version includes the following discounts

Discount (Key)	Kind of discount
Customer (K007)	Percentage
Material (K004)	Absolute
Price group (K020)	Percentage
Material group (K029)	Absolute discount by weight
Customer/material (K005)	Absolute
Customer/material group (K030)	Percentage
Price group/material (K032)	Absolute
Price group/material group (K031)	Percentage

You can use any of these standard discounts to create condition records in the system. During automatic pricing, the system takes into account the discounts that apply in the circumstances and searches for valid condition records. In the case of discounts that refer to a grouping of some kind (for example, material and price groups), you must assign the group in the corresponding customer or material master record before automatic pricing takes place.

Further Information

For more detailed information about each of these discounts, you can ask your system administrator about how each discount is set up in your system. You can also, during sales order processing, branch from each pricing element in the document to screens that give you more information. You can see, for example, some of the data - the relevant **condition record** and **pricing scale** information, and so on - that the system uses to calculate a pricing element.

New Discounts in Release 2.1

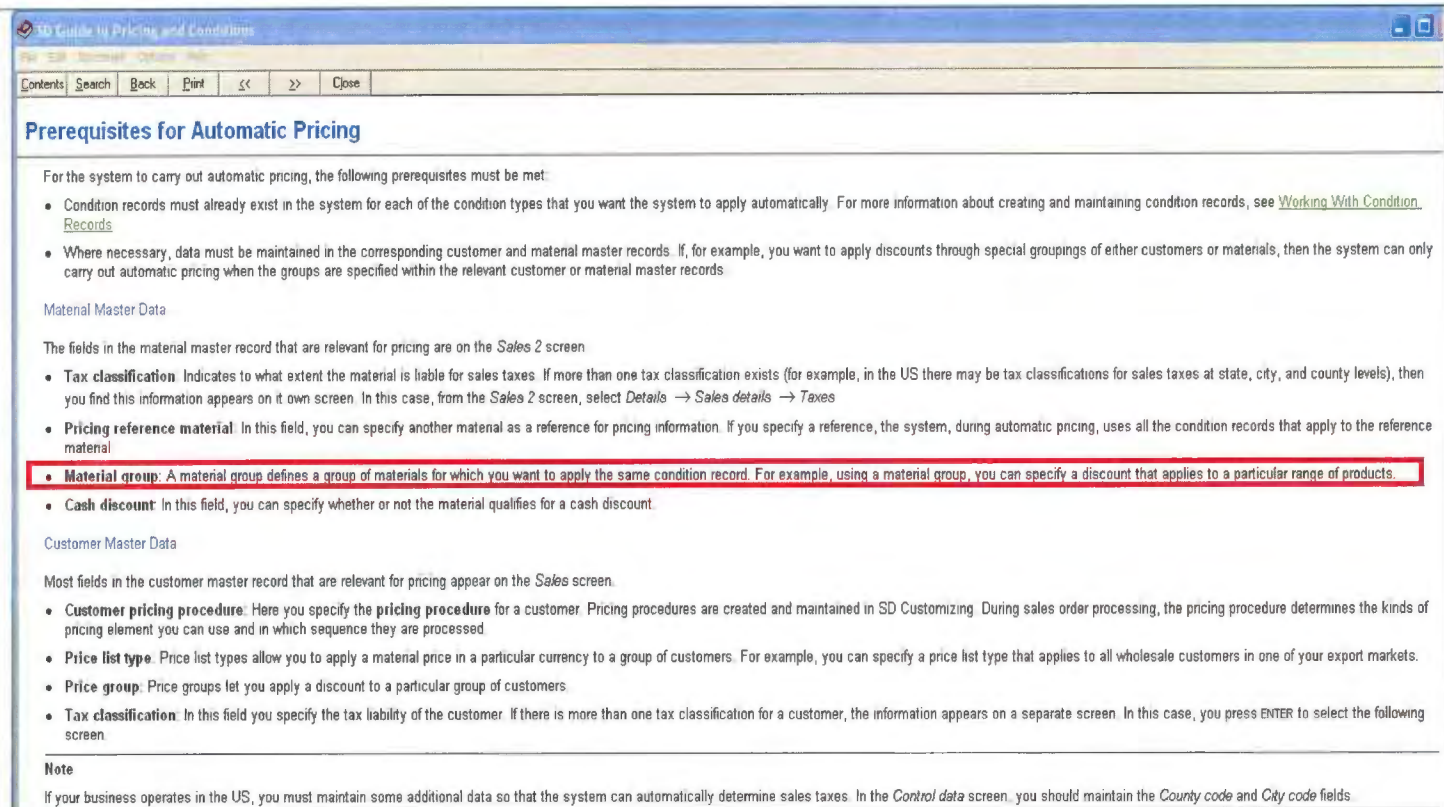
Release 2.1 of the standard version of the SAP R/3 System includes new discounts for use in the following new billing functions:

Function	Condition type	Description
Rebate processing	B001	Group rebate (%)
	B002	Material rebate (fixed)
	B003	Customer rebate (%)
Inter-company proc.	PI01	Inter-company (fixed)
	PI02	Inter-company (%)
Invoice lists	RL00	Factoring discount
	MW15	Factoring discount tax

For more information about these new billing functions, see the *SD Billing Guide*.

SAP00029677; SAP00013981.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar is empty, and the page has a navigation menu with "Contents", "Search", "Back", "Print", and "Close" buttons. The main content area is titled "Prerequisites for Automatic Pricing".

For the system to carry out automatic pricing, the following prerequisites must be met:

- Condition records must already exist in the system for each of the condition types that you want the system to apply automatically. For more information about creating and maintaining condition records, see [Working With Condition Records](#).
- Where necessary, data must be maintained in the corresponding customer and material master records. If, for example, you want to apply discounts through special groupings of either customers or materials, then the system can only carry out automatic pricing when the groups are specified within the relevant customer or material master records.

Material Master Data

The fields in the material master record that are relevant for pricing are on the *Sales 2* screen.

- **Tax classification** Indicates to what extent the material is liable for sales taxes. If more than one tax classification exists (for example, in the US there may be tax classifications for sales taxes at state, city, and county levels), then you find this information appears on its own screen. In this case, from the *Sales 2* screen, select *Details* → *Sales details* → *Taxes*.
- **Pricing reference material** In this field, you can specify another material as a reference for pricing information. If you specify a reference, the system, during automatic pricing, uses all the condition records that apply to the reference material.
- **Material group**: A material group defines a group of materials for which you want to apply the same condition record. For example, using a material group, you can specify a discount that applies to a particular range of products.
- **Cash discount** In this field, you can specify whether or not the material qualifies for a cash discount.

Customer Master Data

Most fields in the customer master record that are relevant for pricing appear on the *Sales* screen.

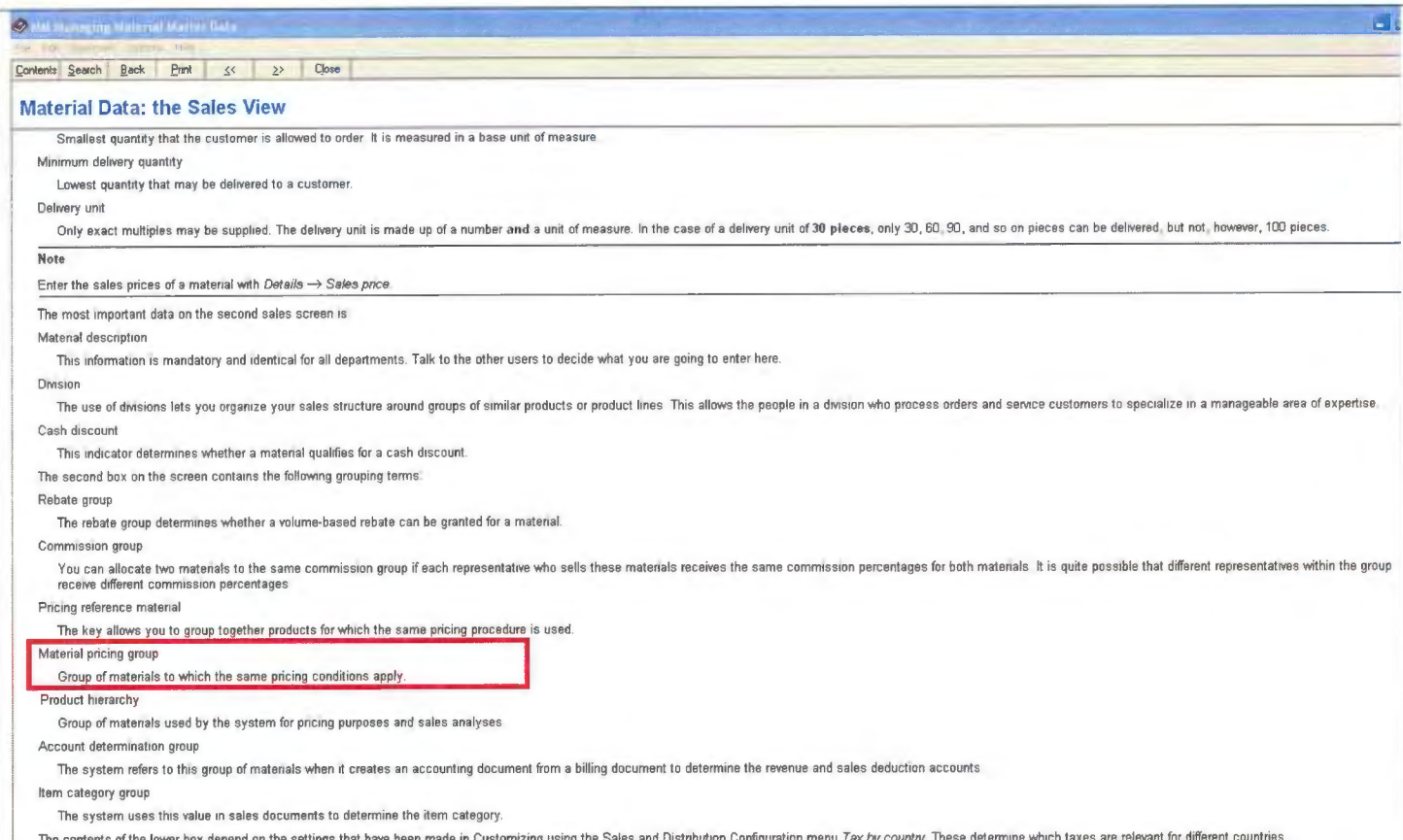
- **Customer pricing procedure** Here you specify the pricing procedure for a customer. Pricing procedures are created and maintained in SD Customizing. During sales order processing, the pricing procedure determines the kinds of pricing element you can use and in which sequence they are processed.
- **Price list type** Price list types allow you to apply a material price in a particular currency to a group of customers. For example, you can specify a price list type that applies to all wholesale customers in one of your export markets.
- **Price group** Price groups let you apply a discount to a particular group of customers.
- **Tax classification** In this field you specify the tax liability of the customer. If there is more than one tax classification for a customer, the information appears on a separate screen. In this case, you press ENTER to select the following screen.

Note

If your business operates in the US, you must maintain some additional data so that the system can automatically determine sales taxes. In the *Control data* screen, you should maintain the *County code* and *City code* fields.

SAP00029698; SAP00014002.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows the SAP Material Master Data - Sales View window. The title bar reads 'MAT Managing Material Master Data'. The menu bar includes 'Contents', 'Search', 'Back', 'Print', '<<', '>>', and 'Close'. The main content area is titled 'Material Data: the Sales View' and contains the following text:

Smallest quantity that the customer is allowed to order. It is measured in a base unit of measure.

Minimum delivery quantity
Lowest quantity that may be delivered to a customer.

Delivery unit
Only exact multiples may be supplied. The delivery unit is made up of a number and a unit of measure. In the case of a delivery unit of 30 pieces, only 30, 60, 90, and so on pieces can be delivered, but not, however, 100 pieces.

Note
Enter the sales prices of a material with *Details* → *Sales price*.

The most important data on the second sales screen is

Material description
This information is mandatory and identical for all departments. Talk to the other users to decide what you are going to enter here.

Division
The use of divisions lets you organize your sales structure around groups of similar products or product lines. This allows the people in a division who process orders and service customers to specialize in a manageable area of expertise.

Cash discount
This indicator determines whether a material qualifies for a cash discount.
The second box on the screen contains the following grouping terms:

Rebate group
The rebate group determines whether a volume-based rebate can be granted for a material.

Commission group
You can allocate two materials to the same commission group if each representative who sells these materials receives the same commission percentages for both materials. It is quite possible that different representatives within the group receive different commission percentages.

Pricing reference material
The key allows you to group together products for which the same pricing procedure is used.

Material pricing group
Group of materials to which the same pricing conditions apply.

Product hierarchy
Group of materials used by the system for pricing purposes and sales analyses.

Account determination group
The system refers to this group of materials when it creates an accounting document from a billing document to determine the revenue and sales deduction accounts.

Item category group
The system uses this value in sales documents to determine the item category.

The contents of the lower box depend on the settings that have been made in Customizing using the Sales and Distribution Configuration menu *Tax by country*. These determine which taxes are relevant for different countries.

SAP00023355-6; SAP00008915-6.

Pricing Analysis allows the user to see the accesses that the system makes when determining a price.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SAP00029706; SAP00014011.

The Pricing Analysis screen below shows the result of analyzing the pricing procedure RVAAUS. In this example, the condition type K032 is based on the combination of the customer price group and the material, K005 is based on the specific customer and the material, K004 is based on the material (product), K029 is based on the material pricing group, K030 is based on the customer and the material pricing group, and K031 is based on the customer pricing group and the material pricing group. Clearly the R3 documentation shows that pricing information can be applicable to the pricing type, the product, the purchasing organization, each product group above the product group in each branch of the hierarchy of product groups in which the product is a member, and each organizational group above the purchasing organization in each branch of the hierarchy of organizational groups in which the purchasing organization is a member.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The screenshot shows the 'SD Guide to Pricing and Conditions' application window. The title bar reads 'Condition Analysis: Procedure (Pricing) RVAAUS'. The menu bar includes 'Analysis', 'Edit', 'Goto', 'System', and 'Help'. Below the menu bar is a toolbar with various icons. There are two tabs: 'Details' and 'Documentation'. The main area displays a table of condition types and their comments. The table is outlined with a red border.

Condition type	Comment
PR00 Price	208 Condition record has been found
PB00 Price (gross)	001 Manual condition
Gross	200
KA00 Special offer	009 Condition record is missing
K032 Price group/material	102 Access not made (initialized field)
K005 Customer/material	118 Condition record has been deleted
K007 Customer discount	208 Condition record has been found
K004 Material	109 Condition record is missing
K020 Price group	002 Access not made (initialized field)
K029 Mat.pricing group	102 Access not made (initialized field)
K030 Customer/mat.pr.grp	102 Access not made (initialized field)
K031 Price grp/mat.pr.grp	102 Access not made (initialized field)
RA00 % Discount from net	001 Manual condition
RA01 % Disc.from gross	001 Manual condition
RB00 Discount (value)	001 Manual condition
RC00 Quantity discount	001 Manual condition
RD00 Weight discount	001 Manual condition
Discount Amount	200

At the bottom right of the window, there is a status bar showing 'OVR' and '15:28'.

SAP00029706; SAP00014012.

The following example shows a complete pricing example which demonstrates the use of four condition types: PR00 (Price), K007 (customer discount), KF00 (freight), and UTX1 (State sales tax). This example identifies all of the pricing information that is retrieved when pricing this particular sales order.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions
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Example of Pricing in a Sales Order

The following figure shows the pricing information for an item in a sales order. The pricing screen for the item shows the gross price that the customer is charged, several discounts for which the customer qualifies, and other pricing elements, such as freight and sales taxes. The condition types that apply to each of these pricing elements appear on the left side of the pricing screen. The sequence in which the various condition types appear is determined by the pricing procedure.

Standard Order Create: Item Conditions

Edit Goto System Help

Details Delete New pricing Condition record

Item: 10 Netvalue in USD: 1,708.20
 Quantity: 120.000 FL Tax amount: 64.06
 Material: E-4000 Pennsylvania's Finest

ConTy	Description	Rate	Curr	per	UoM	Cond. value	USD
<input type="checkbox"/> PR00	Price	14.00	USD	1	FL	1,680.00	
<input type="checkbox"/>	Gross	14.00	USD	1	FL	1,680.00	
<input type="checkbox"/> K007	Customer discount	1.000-	%			16.80-	
<input type="checkbox"/>	Discount Amount	0.14-	USD	1	FL	16.80-	
<input type="checkbox"/> KF00	Freight	0.50	USD	1	KG	45.00	
<input type="checkbox"/>	Net Value 2	14.24	USD	1	FL	1,708.20	
<input type="checkbox"/> UTX1	State sales tax	3.750	%			64.06	
<input type="checkbox"/>	Net value for ord.	14.77	USD	1	FL	1,772.26	
<input type="checkbox"/> UPRS	Cost	6.00	USD	1	L	540.00	
<input type="checkbox"/>	Profit Margin	9.74	USD	1	FL	1,168.20	

OVR NUM 1336

Condition Technique for Sales Order

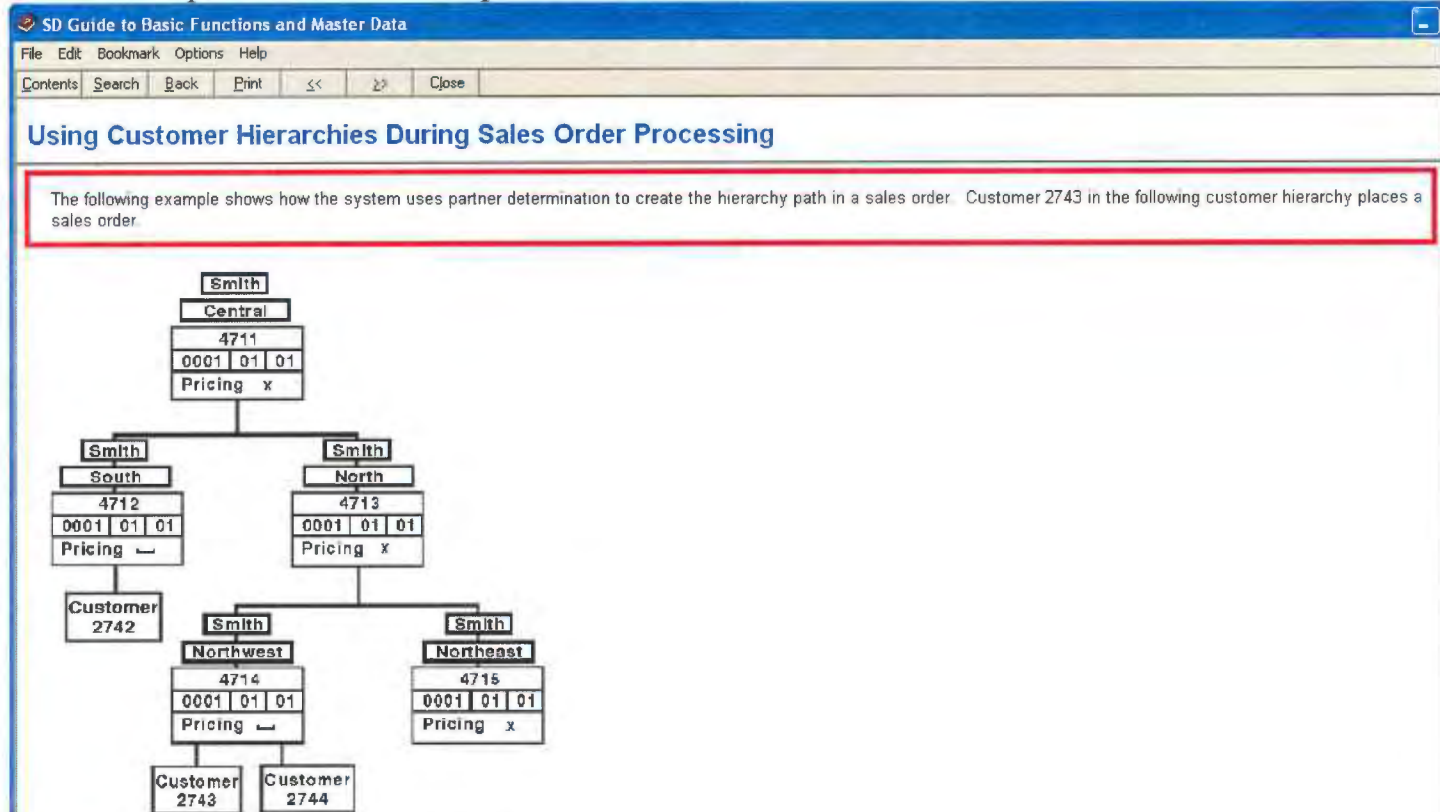
The preceding figure shows how pricing information appears on the screen for a sales order item. The following figure shows how the condition technique works in the background to produce the pricing information. The diagram shows how the various elements in the condition technique work together.

SAP00029642; SAP00013943.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The R3 documentation of customer hierarchies provides a detailed example of retrieving applicable pricing information corresponding to the purchasing organization and each organizational group above the purchasing organization in each branch of the hierarchy of organizational groups in which the purchasing organization is a member.

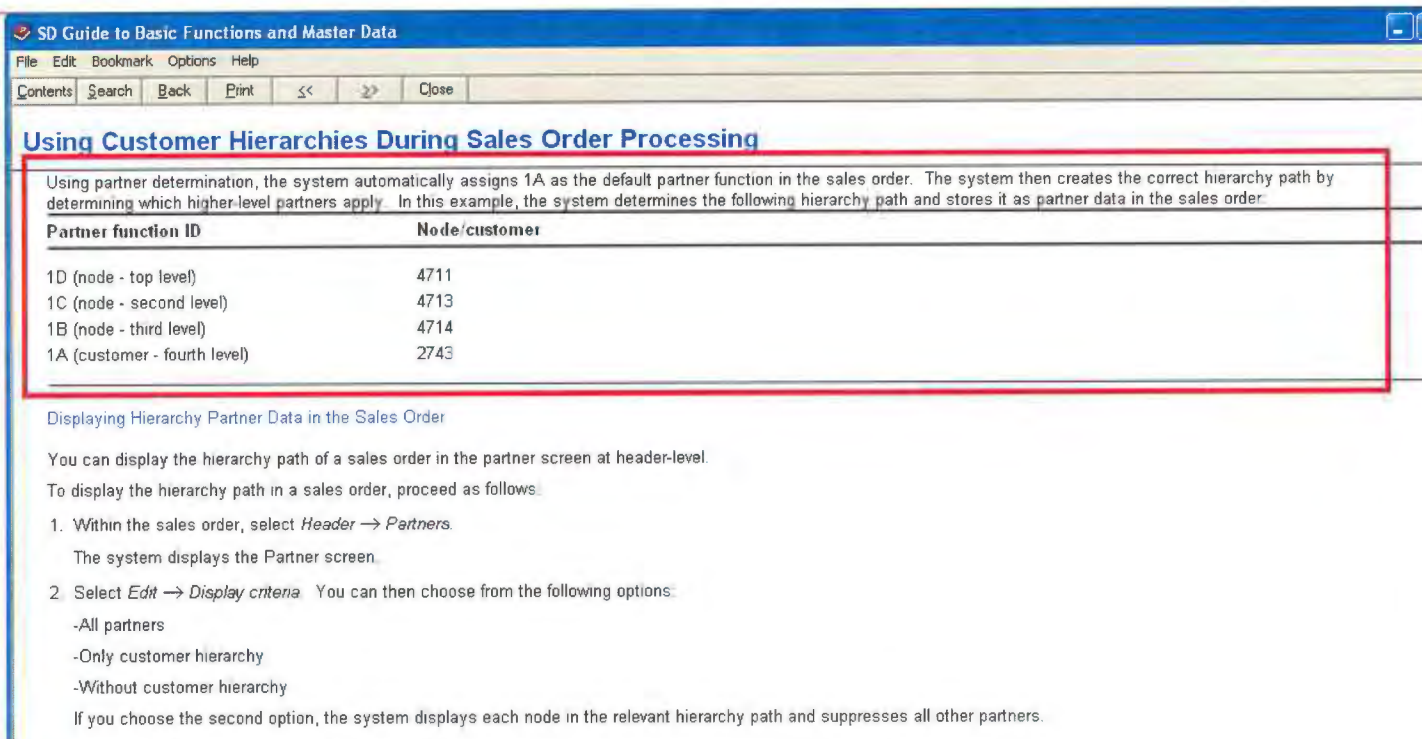
In this example, customer 2743 places a sales order.



SAP00029622-3; SAP00013923-4.

The example documents the identification of the customer groups that customer 2743 is a member of: Smith Northwest (4714), Smith North (4713), and Smith Central (4711).

Anticipation: 35 U.S.C. §102 (R3 Documentation)



SD Guide to Basic Functions and Master Data

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Using Customer Hierarchies During Sales Order Processing

Using partner determination, the system automatically assigns 1A as the default partner function in the sales order. The system then creates the correct hierarchy path by determining which higher-level partners apply. In this example, the system determines the following hierarchy path and stores it as partner data in the sales order.

Partner function ID	Node/customer
1D (node - top level)	4711
1C (node - second level)	4713
1B (node - third level)	4714
1A (customer - fourth level)	2743

Displaying Hierarchy Partner Data in the Sales Order

You can display the hierarchy path of a sales order in the partner screen at header-level.

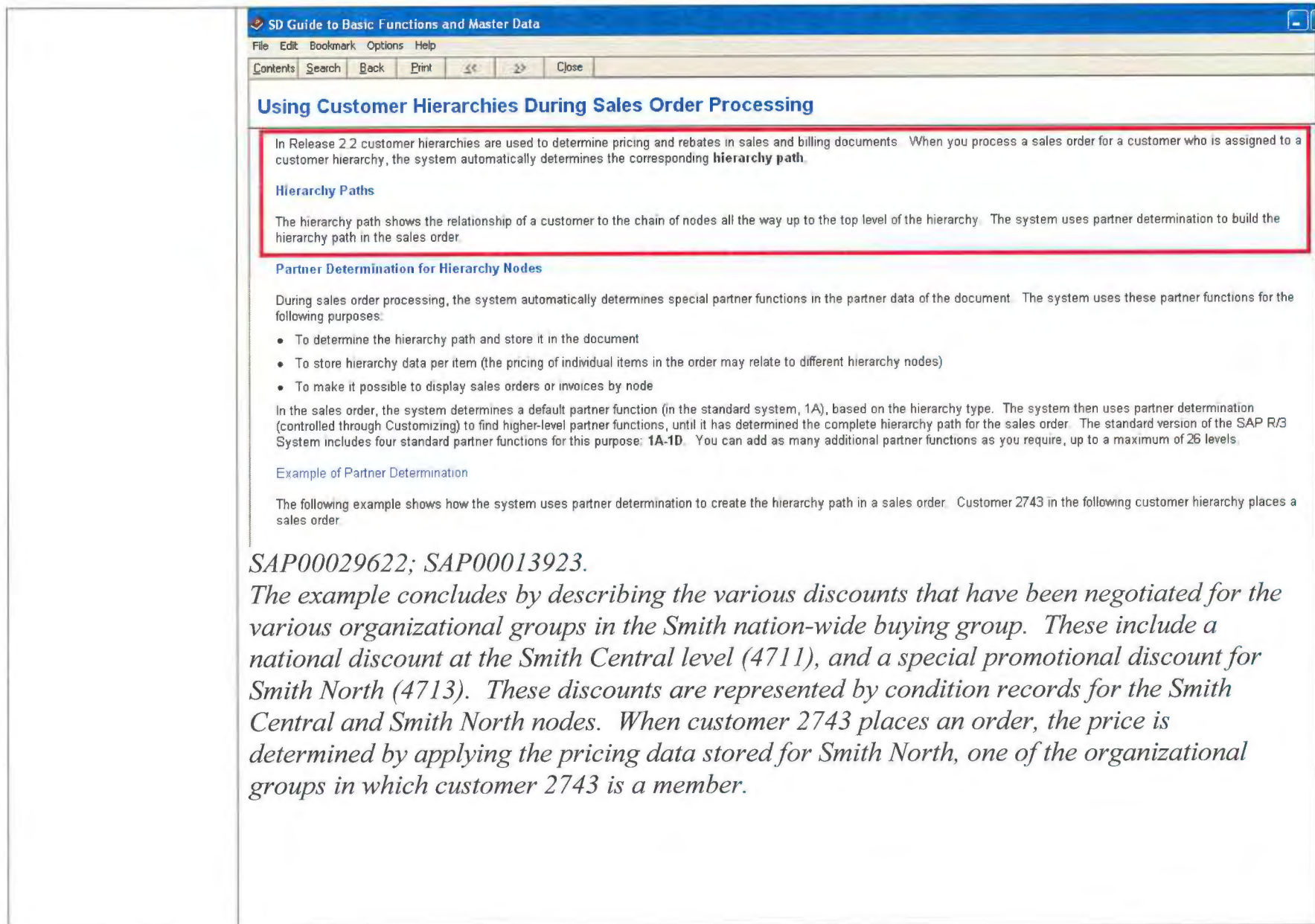
To display the hierarchy path in a sales order, proceed as follows:

1. Within the sales order, select *Header* → *Partners*.
The system displays the Partner screen.
2. Select *Edit* → *Display criteria*. You can then choose from the following options:
 - All partners
 - Only customer hierarchy
 - Without customer hierarchyIf you choose the second option, the system displays each node in the relevant hierarchy path and suppresses all other partners.

SAP00029623; SAP00013924-5.

The example continues by explaining that this sequence of the particular customer and all of its ancestors in the customer hierarchy form a hierarchy path which is used for pricing.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window with the title "SD Guide to Basic Functions and Master Data". The browser's address bar contains "Contents Search Back Print << >> Close". The main content area is titled "Using Customer Hierarchies During Sales Order Processing".

In Release 2.2 customer hierarchies are used to determine pricing and rebates in sales and billing documents. When you process a sales order for a customer who is assigned to a customer hierarchy, the system automatically determines the corresponding **hierarchy path**.

Hierarchy Paths

The hierarchy path shows the relationship of a customer to the chain of nodes all the way up to the top level of the hierarchy. The system uses partner determination to build the hierarchy path in the sales order.

Partner Determination for Hierarchy Nodes

During sales order processing, the system automatically determines special partner functions in the partner data of the document. The system uses these partner functions for the following purposes:

- To determine the hierarchy path and store it in the document
- To store hierarchy data per item (the pricing of individual items in the order may relate to different hierarchy nodes)
- To make it possible to display sales orders or invoices by node

In the sales order, the system determines a default partner function (in the standard system, 1A), based on the hierarchy type. The system then uses partner determination (controlled through Customizing) to find higher-level partner functions, until it has determined the complete hierarchy path for the sales order. The standard version of the SAP R/3 System includes four standard partner functions for this purpose: **1A-1D**. You can add as many additional partner functions as you require, up to a maximum of 26 levels.

Example of Partner Determination

The following example shows how the system uses partner determination to create the hierarchy path in a sales order. Customer 2743 in the following customer hierarchy places a sales order.

SAP00029622; SAP00013923.

The example concludes by describing the various discounts that have been negotiated for the various organizational groups in the Smith nation-wide buying group. These include a national discount at the Smith Central level (4711), and a special promotional discount for Smith North (4713). These discounts are represented by condition records for the Smith Central and Smith North nodes. When customer 2743 places an order, the price is determined by applying the pricing data stored for Smith North, one of the organizational groups in which customer 2743 is a member.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The screenshot shows a window titled "SD Guide to Basic Functions and Master Data" with a navigation bar containing "Contents", "Search", "Back", "Print", and navigation arrows. The main content area is titled "Using Customer Hierarchies During Sales Order Processing".

Pricing in the Sales Order

In the standard version, the system determines hierarchy-related pricing in the sales order (condition types H101 and H102) by searching for valid condition records at each level in the hierarchy path, starting with the lowest level. As soon as the system finds a valid condition record, it stops the search. If the same kind of condition record (say, a material discount) is stored at two different levels in the hierarchy, the system takes the first valid record at the lowest level. In Customizing for Sales, you can specify your own access sequences.

By using exclusion groups, you can, for example, specify that if similar condition records exist at different levels of the hierarchy, the system takes the most favorable price or discount for the customer (regardless of which level in the hierarchy the pricing data comes from).

Example of Pricing in Use

In the previous example, the customer hierarchy represents the Smith nation-wide buying group. The central office - Smith Central - is defined as the top node in the hierarchy. The regional offices of the buying group - Smith South, North, Northwest, and Northeast - are defined as nodes. During negotiations, you establish a pricing agreement for a particular product line. You offer a national discount, available for all Smith stores. In addition, you offer a special promotional discount for Smith North. You create the corresponding pricing condition records for the Smith Central and Smith North nodes. A subsequent sales order from customer 2742 gets the national discount. When customers 2743 and 2744 place orders, however, the system determines pricing by applying the pricing data stored for Smith North.

Copying Hierarchy Info Between Documents

The copying of hierarchy information between documents is controlled, as usual, by copying routines specified in document flow. You can specify, for example, which hierarchy-related data is copied or redetermined when you copy data from a quotation into a sales order or from a sales order into an invoice. You create and specify copying routines in Customizing for Sales.

Inverted Display of Customer Hierarchy

In addition to being able to display the hierarchy path for a particular sales order, you can also display information about a particular node. For example, you can display which customers and nodes are assigned to the node. When you select this view of a node, the system displays all the relevant assignments.

Procedure

To display the assignments of a particular node, proceed as follows:

1. Select *Logistics* → *Sales/distribution* → *Master data* in the main menu screen.
You reach the *Sales & Distribution Master Data* screen.
2. Select *Business partners* → *Customer hierarchy* → *Change*.
You reach the selection screen for customer hierarchies.
3. Enter a customer hierarchy type (the standard version includes only one type: A), a validity date, and select *Execute*.
The system displays a list of existing customer hierarchies that are valid for the date you entered.
4. Place your cursor on the node for which you want to display assignments and select *Edit* → *Nodes* → *All assignments*.
A dialog box lists all the assignments that belong to the node you selected.

SAP00029624-5; SAP00013925-6.

The following excerpt explains that pricing information, discounts in this particular example, can also be associated with a product (material), a product group (material group), or a combination of customer and product at any level in their respective hierarchies.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions
Close

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Discounts and Surcharges

The standard version of the SAP system includes a variety of commonly-used discounts. If your business requires it, special discounts and surcharges can be defined in SD Customizing during system configuration or subsequent customizing.

Discounts in the Standard Version

The standard version includes the following discounts:

Discount (Key)	Kind of discount
Customer (K007)	Percentage
Material (K004)	Absolute
Price group (K020)	Percentage
Material group (K029)	Absolute discount by weight
Customer/material (K005)	Absolute
Customer/material group (K030)	Percentage
Price group/material (K032)	Absolute
Price group/material group (K031)	Percentage

You can use any of these standard discounts to create condition records in the system. During automatic pricing, the system takes into account the discounts that apply in the circumstances and searches for valid condition records. In the case of discounts that refer to a grouping of some kind (for example, material and price groups), you must assign the group in the corresponding customer or material master record before automatic pricing takes place.

Further Information

For more detailed information about each of these discounts, you can ask your system administrator about how each discount is set up in your system. You can also, during sales order processing, branch from each pricing element in the document to screens that give you more information. You can see, for example, some of the data - the relevant **condition record** and **pricing scale** information, and so on - that the system uses to calculate a pricing element.

New Discounts in Release 2.1

Release 2.1 of the standard version of the SAP R/3 System includes new discounts for use in the following new billing functions:

Function	Condition type	Description
Rebate processing	B001	Group rebate (%)
	B002	Material rebate (fixed)
	B003	Customer rebate (%)
Inter-company proc.	P101	Inter-company (fixed)
	P102	Inter-company (%)
Invoice lists	RL00	Factoring discount
	MW15	Factoring discount tax

For more information about these new billing functions, see the *SD Billing Guide*.

SAP00029677; SAP00013981.

How pricing information is retrieved is explained by the R3 documentation with reference to the following diagram:

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

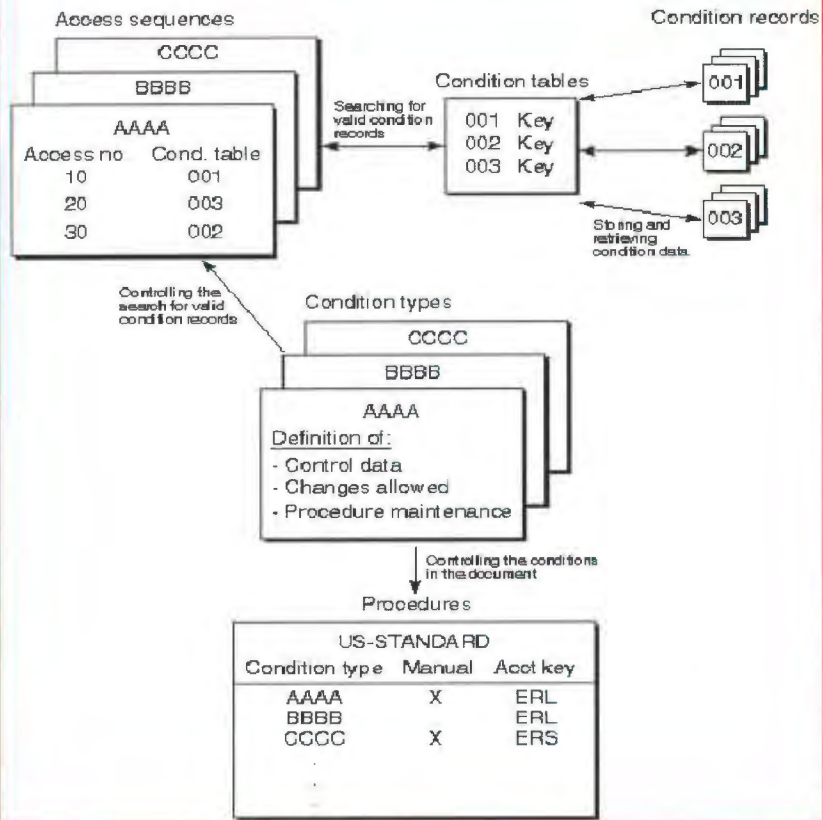
File Edit Bookmark Options Help

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Condition Technique: Overview

How the Elements of the Condition Technique Work Together

The following figure illustrates the relationships between elements of the condition technique.



SAP00029638; SAP00013939.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

At runtime, a sales representative will request a price for a particular sales order (e.g., a particular customer will order a particular product in a certain quantity). In the case of the immediately preceding example, the condition technique will then operate as follows:

1) *The condition technique will cause each condition type in the pricing procedure to be processed (AAAA, BBBB, and CCCC), and each condition type will return pricing information that will influence the price offered to the customer. For example, the pricing information returned for the condition types in a pricing procedure may include a base price of \$10, a discount of 10% and a sales tax of 5%, in which case the final sales price will be \$9.45.*

2) *Each condition type's access sequence (in the example, AAAA, BBBB, and CCCC) has a list of condition tables to search through to find the appropriate pricing information (condition records). For example, one condition type may be responsible for determining the base price. The access sequence searches each table in turn to determine if that table has a condition record that satisfies the criteria of the sales order. In the example, access sequence AAAA accesses condition tables 001, 003, and 002 in that order.*

3) *When each condition table is accessed, a key is formed based on criteria from the sales order (e.g., the customer and the requested product, or the customer and the product group that contains the requested product, or the customer group and the requested product, and so forth). The table is then indexed using this key to determine if a condition record exists that matches the sales order's criteria.*

4) *Each access sequence returns, via the condition tables, one condition record for use in determining a final price. In the case where the exclusive access indicator is not set, however, the access sequence retrieves all matching condition records, orders the condition records from most general to most specific, and returns the most specific one for use in generating a price. In the case where the exclusive access indicator is set, the access*

Anticipation: 35 U.S.C. §102 (R3 Documentation)

sequence retrieves the first matching condition record and uses this one in generating a price.

5) *The pricing information from each access sequence/condition type is then utilized in the order specified by the pricing procedure to determine the final price.*

Anticipation: 35 U.S.C. §102 (R3 Documentation)

sorting the pricing information according to the pricing types, the product, the purchasing organization, the hierarchy of product groups, and the hierarchy of organizational groups;

I find nothing in the claim language that requires that the sorting happen after the retrieving has been completed. In other words, the sorting step could occur before the retrieving step. Also, in my opinion, a system that interleaved retrieving and sorting would satisfy these elements. Such a system, for example, may retrieve some pricing information, sort that pricing information, retrieve some additional pricing information, sort that additional pricing information, etc.

The claimed sorting is accomplished by the condition technique. The condition technique does sorting at two levels. First, the pricing procedure defines the order in which condition types will be used to determine a price; all condition records retrieved are therefore first sorted according to the condition type to which they belong. Second, the access sequence determines the order in which condition records will be considered for each condition type. Each of these sorts—performed by the pricing procedure and the access sequence—individually satisfies the broadest reasonable interpretation of the claimed sorting step.

The access sequence itself satisfies the claimed sorting step in two ways based on the setting of the “exclusive access indicator” in each access sequence. As the name implies, the exclusive access indicator will return all matching pricing information when not set (“non-exclusive”) and will return the most specific pricing information (“exclusive”) when it is set. Whether the exclusive access indicator is set or not, the access sequence defines the order in which condition records should be retrieved, and the access sequence accomplishes the required sorting in order to respect this defined order. Each mode is described further below.

In one mode of operation, when the exclusive access indicator is not set in an access sequence, the R3 documentation describes retrieving every condition record specified in the access sequence in the order specified by the access sequence. In this case, although all pricing information that satisfies the condition records is retrieved, only the last one retrieved is used. In this mode of operation, the condition tables identified in the access sequence are ordered from the most general first to the most specific last. In this mode of operation, all

Anticipation: 35 U.S.C. §102 (R3 Documentation)

condition records are retrieved and sorted in the order of most general to most specific. In my opinion, this accomplishes the claimed sorting step.

In another mode of operation, when the exclusive access indicator is set in an access sequence, the R3 documentation indicates that access sequences retrieve the single “most specific” condition record from its condition table for a condition type. In this mode, the R3 documentation describes first attempting to retrieve the most specific condition record, and if one cannot be found, then attempting to retrieve the next more general condition record, and so on. In this way, the first condition record that is found according to the order that has been defined by the access sequence is retrieved. In my opinion, this also satisfies the claimed sorting step because the condition records are sorted before they are retrieved based on the order in which they appear in the access sequence.

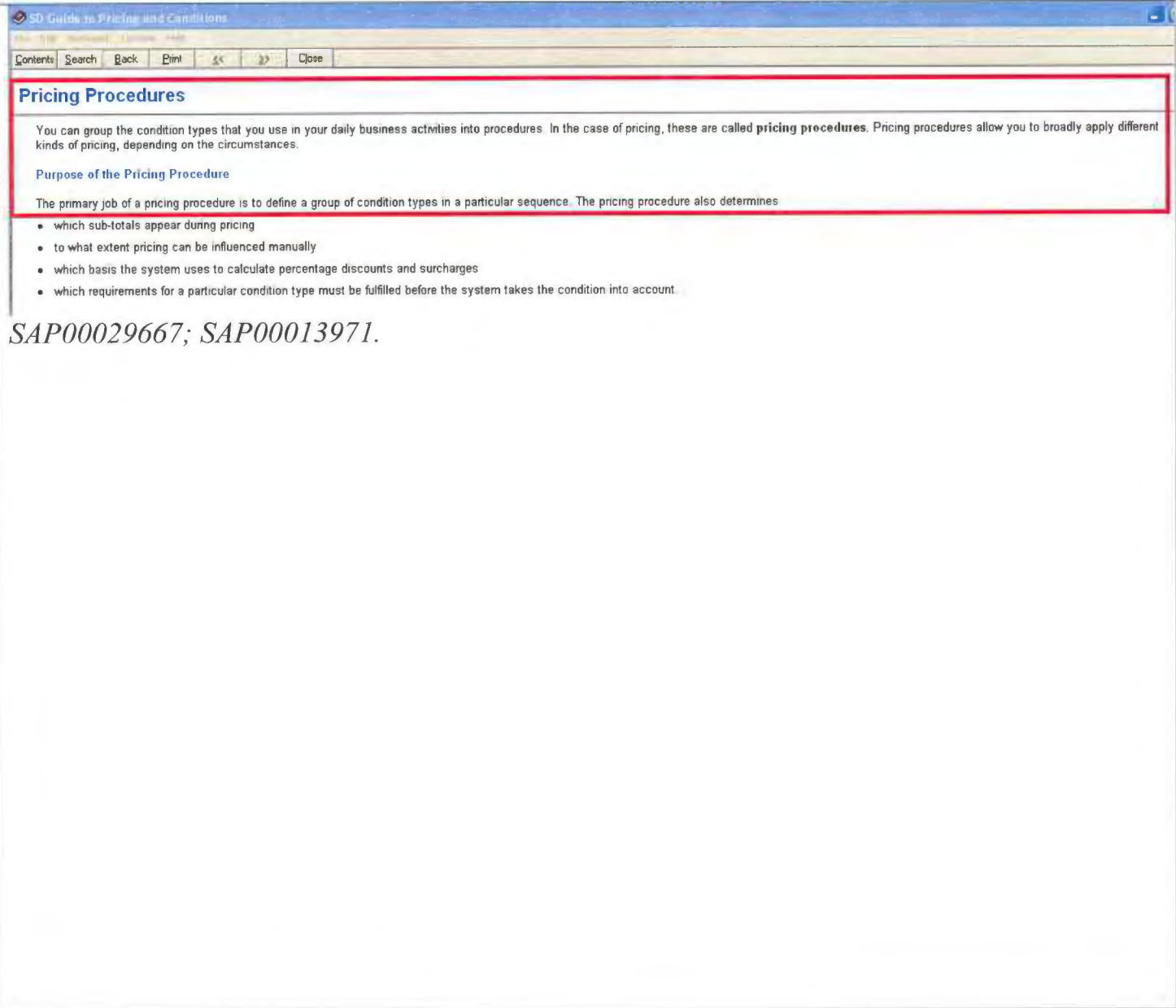
It is therefore my opinion that there are at least 3 individual ways in which the claimed sorting step is satisfied by the R3 documentation.

First, I discuss the pricing procedures.

Pricing procedures

Pricing procedures specify a group of condition types in a particular sequence. The sequence that is specified in the procedure defines the ordering of the condition records that will be retrieved by the pricing procedure.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar is empty, and the navigation menu includes "Contents", "Search", "Back", "Print", and "Close". The main content area is titled "Pricing Procedures" and contains the following text:

You can group the condition types that you use in your daily business activities into procedures. In the case of pricing, these are called **pricing procedures**. Pricing procedures allow you to broadly apply different kinds of pricing, depending on the circumstances.

Purpose of the Pricing Procedure

The primary job of a pricing procedure is to define a group of condition types in a particular sequence. The pricing procedure also determines

- which sub-totals appear during pricing
- to what extent pricing can be influenced manually
- which basis the system uses to calculate percentage discounts and surcharges
- which requirements for a particular condition type must be fulfilled before the system takes the condition into account.

SAP00029667; SAP00013971.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

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Pricing Procedures

Pricing procedure

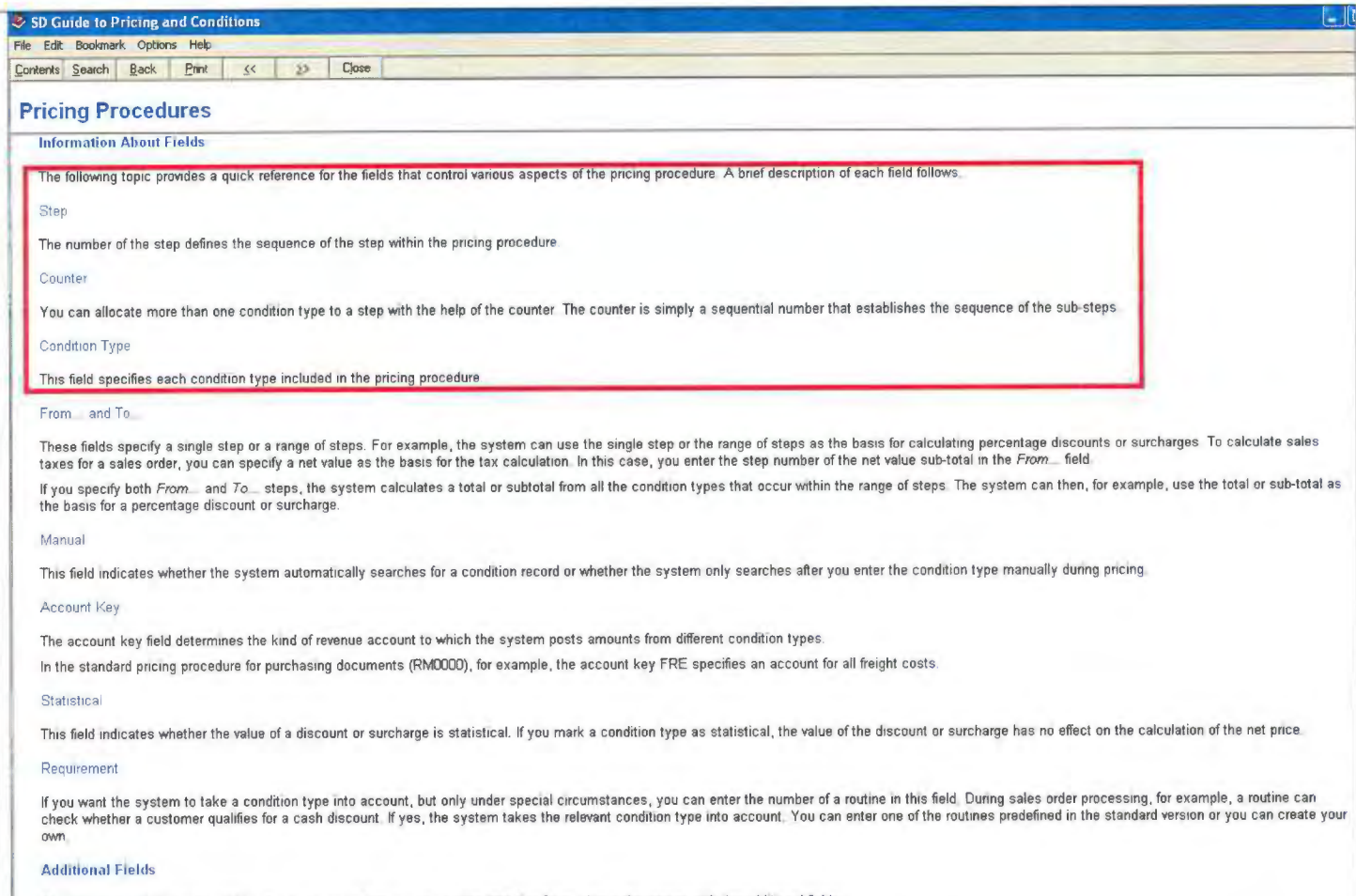
Step	Cond. type	Description	Reference step	Manual	Req.
1	XXX1	Price			2
2		Gross value			
3	XXX2	Spec. offer disc.			2
4	XXX3	Discount %	2		2
5	XXX4	Discount %		X	2
6		Discount value	3-5		
7		Net value 1			
8	XXX5	Header disc. %		X	
9	XXX6	Freight			
10		Net value 2			
11	XXX7	Sales tax			
12		Cash disc. basis			
13	XXX8	Cash discount			

Pricing Procedures in the SAP R/3 Standard Version

The standard version includes predefined pricing procedures, containing commonly used condition types in the most likely sequences. You can, of course, modify these standard pricing procedures or create your own from scratch.

SAP00029667-8; SAP00013972.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The following topic provides a quick reference for the fields that control various aspects of the pricing procedure. A brief description of each field follows.

Step

The number of the step defines the sequence of the step within the pricing procedure.

Counter

You can allocate more than one condition type to a step with the help of the counter. The counter is simply a sequential number that establishes the sequence of the sub-steps.

Condition Type

This field specifies each condition type included in the pricing procedure.

From ... and To ...

These fields specify a single step or a range of steps. For example, the system can use the single step or the range of steps as the basis for calculating percentage discounts or surcharges. To calculate sales taxes for a sales order, you can specify a net value as the basis for the tax calculation. In this case, you enter the step number of the net value sub-total in the *From ...* field.

If you specify both *From ...* and *To ...* steps, the system calculates a total or subtotal from all the condition types that occur within the range of steps. The system can then, for example, use the total or sub-total as the basis for a percentage discount or surcharge.

Manual

This field indicates whether the system automatically searches for a condition record or whether the system only searches after you enter the condition type manually during pricing.

Account Key

The account key field determines the kind of revenue account to which the system posts amounts from different condition types.

In the standard pricing procedure for purchasing documents (RMD000), for example, the account key FRE specifies an account for all freight costs.

Statistical

This field indicates whether the value of a discount or surcharge is statistical. If you mark a condition type as statistical, the value of the discount or surcharge has no effect on the calculation of the net price.

Requirement

If you want the system to take a condition type into account, but only under special circumstances, you can enter the number of a routine in this field. During sales order processing, for example, a routine can check whether a customer qualifies for a cash discount. If yes, the system takes the relevant condition type into account. You can enter one of the routines predefined in the standard version or you can create your own.

Additional Fields

Additional entry fields are available when you press F8 (Change view). The following figure shows the screen with the additional fields.

SAP00029670-1; SAP00013974-5.

The following excerpt show a small subset (the steps are numbered from 910 to 950) of the condition types in the pricing procedure RVAAUS.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

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Pricing Procedures

Additional Fields

Additional entry fields are available when you press F8 (Change view). The following figure shows the screen with the additional fields.

Sales & Distribution Maintain Pricing: Pricing Procedure

Condition Edit Goto Environment System Help

Change view Delete line Condition type Records by cond.type

Procedure RVAAUS Standard - USA

Steps

Step	Cntr	CndTy	Description	AltCTy	AltCBV	SubTs	AccKy2	Print	Mdt
910		UTX1	State sales tax				MUS	<input type="checkbox"/>	<input type="checkbox"/>
912		UTX2	County sales tax				MUS	<input type="checkbox"/>	<input type="checkbox"/>
914		UTX3	City sales tax				MUS	<input type="checkbox"/>	<input type="checkbox"/>
920			Net value for ord			A		<input type="checkbox"/>	<input type="checkbox"/>
930		SKTO	Cash discount					<input type="checkbox"/>	<input type="checkbox"/>
940		UPRS	Cost			B		<input type="checkbox"/>	<input type="checkbox"/>
950			Profit Margin	11				<input type="checkbox"/>	<input type="checkbox"/>

OVR NUM 15.08

Alternative Formula for Condition Type Value

If you want the system to calculate the value of a condition type or sub-total by using a formula other than the calculation types available in the standard version, you can enter the number of a routine here. You can enter one of the routines predefined in the standard version or you can create your own.

SAP00029671-2; SAP00013975-6.

The documentation describes using a pricing procedure (RVAAUS in the example below) to indicate what condition types should be used in what order to calculate a price for the sales order. The pricing procedure indicates the order in which the system should apply condition types; in the example the condition types are PR00, RB01, and RB02. Each condition type retrieves pricing information and the retrieved pricing information is sorted into the order

Anticipation: 35 U.S.C. §102 (R3 Documentation)

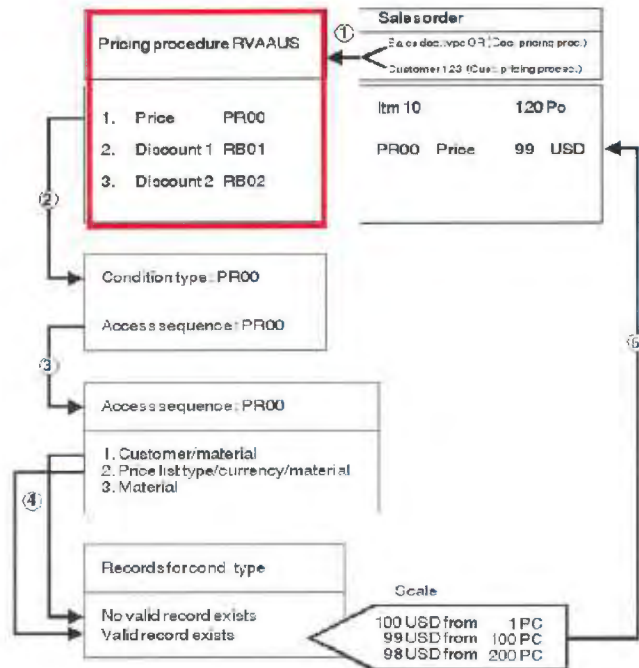
specified by the pricing procedure.



Example of Pricing in a Sales Order

Condition Technique for Sales Order

The preceding figure shows how pricing information appears on the screen for a sales order item. The following figure shows how the condition technique works in the background to produce the pricing information. The diagram shows how the various elements in the condition technique work together.



SAP00029642-3; SAP00013943-4.

The following example also describes that the order in which the condition types are applied to pricing an item in a sales order is determined by the pricing procedure.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SD Guide to Pricing and Conditions

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Example of Pricing in a Sales Order

The following figure shows the pricing information for an item in a sales order. The pricing screen for the item shows the gross price that the customer is charged, several discounts for which the customer qualifies, and other pricing elements, such as freight and sales taxes. The condition types that apply to each of these pricing elements appear on the left side of the pricing screen. The sequence in which the various condition types appear is determined by the pricing procedure.

Standard Order Create: Item Conditions

Edit Goto System Help

Details Delete New pricing Condition record

Item 10 Net value in USD 1,788.20
 Quantity 120.000 FL Tax amount 64.06
 Material E-4000 Pennsylvania's Finest

CnTy	Description	Rate	Curr.	per	UoM	Cond. value	USD
<input type="checkbox"/> PR00	Price	14.00	USD	1	FL	1,680.00	
<input type="checkbox"/>	Gross	14.00	USD	1	FL	1,680.00	
<input type="checkbox"/> K007	Customer discount	1.000-	%			16.80-	
<input type="checkbox"/>	Discount amount	0.14-	USD	1	FL	16.80-	
<input type="checkbox"/> KF00	Freight	0.50	USD	1	KG	45.00	
<input type="checkbox"/>	Net Value 2	14.24	USD	1	FL	1,708.20	
<input type="checkbox"/> UTX1	State sales tax	3.750	%			64.06	
<input type="checkbox"/>	Net value for ord.	14.77	USD	1	FL	1,772.26	
<input type="checkbox"/> VPRS	Cost	6.00	USD	1	L	540.00	
<input type="checkbox"/>	Profit Margin	9.74	USD	1	FL	1,168.20	

OVR:NUM:13:36

Condition Technique for Sales Order

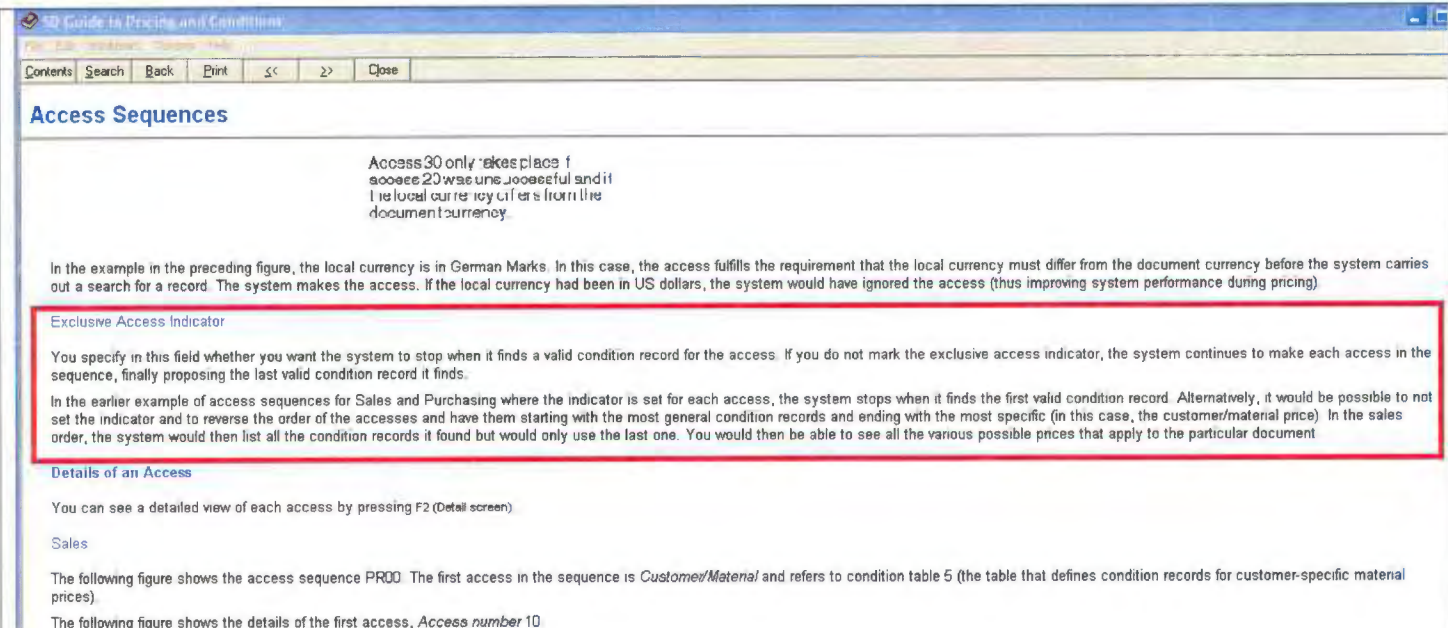
The preceding figure shows how pricing information appears on the screen for a sales order item. The following figure shows how the condition technique works in the background to produce the pricing information. The diagram shows how the various elements in the condition technique work together.

SAP00029642; SAP00013943.

Access sequences

I next discuss access sequences and the two modes in which they operate. In the following quote, the R3 documentation explains the use of the exclusive access indicator.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a window titled "SAP Guide to Pricing and Conditions" with a menu bar containing "Contents", "Search", "Back", "Print", and navigation arrows. The main content area is titled "Access Sequences" and contains the following text:

Access 30 only takes place if access 20 was unsuccessful and if the local currency differs from the document currency.

In the example in the preceding figure, the local currency is in German Marks. In this case, the access fulfills the requirement that the local currency must differ from the document currency before the system carries out a search for a record. The system makes the access. If the local currency had been in US dollars, the system would have ignored the access (thus improving system performance during pricing).

Exclusive Access Indicator

You specify in this field whether you want the system to stop when it finds a valid condition record for the access. If you do not mark the exclusive access indicator, the system continues to make each access in the sequence, finally proposing the last valid condition record it finds.

In the earlier example of access sequences for Sales and Purchasing where the indicator is set for each access, the system stops when it finds the first valid condition record. Alternatively, it would be possible to not set the indicator and to reverse the order of the accesses and have them starting with the most general condition records and ending with the most specific (in this case, the customer/material price). In the sales order, the system would then list all the condition records it found but would only use the last one. You would then be able to see all the various possible prices that apply to the particular document.

Details of an Access

You can see a detailed view of each access by pressing F2 (Detail screen).

Sales

The following figure shows the access sequence PR00. The first access in the sequence is *Customer/Material* and refers to condition table 5 (the table that defines condition records for customer-specific material prices).

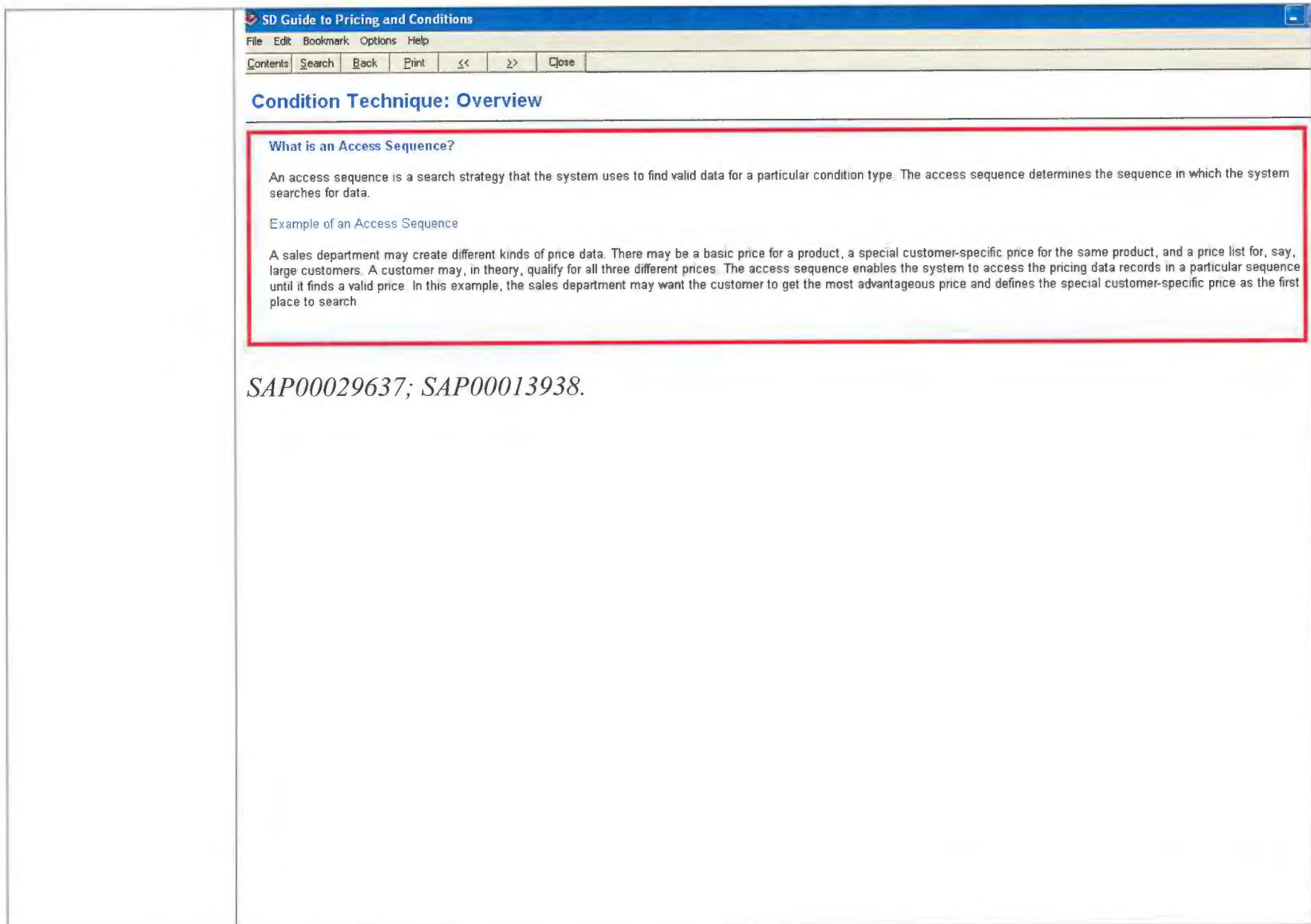
The following figure shows the details of the first access, *Access number 10*.

SAP00029663-4; SAP00013967-8.

The access sequence determines the order in which condition records will be retrieved for each condition type. The following several excerpts explain this and provide examples.

The access sequence determines the sequence (i.e., order) in which the system searches for data.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window with the title "SD Guide to Pricing and Conditions". The browser's address bar and menu bar are visible. The page content is as follows:

Condition Technique: Overview

What is an Access Sequence?

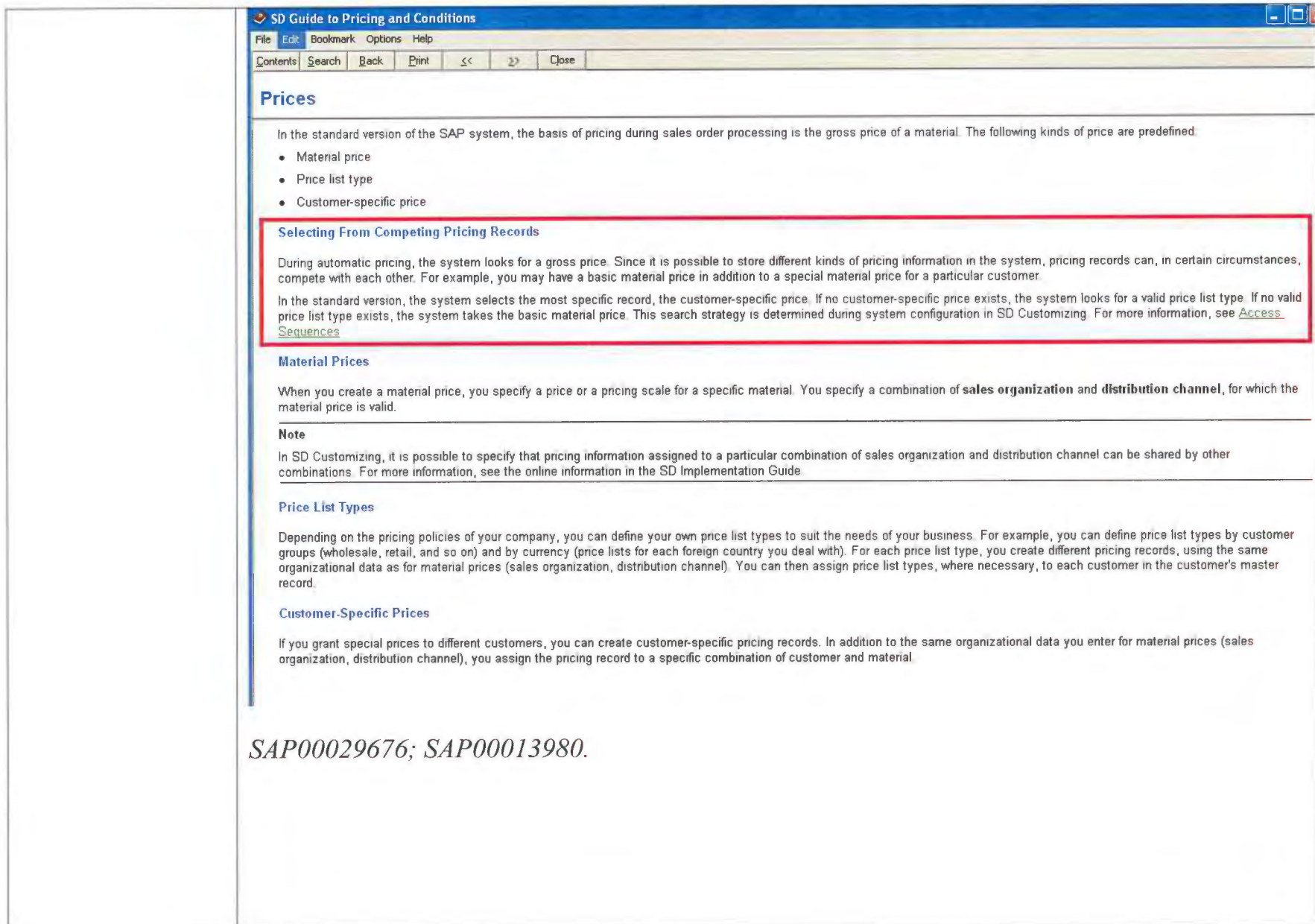
An access sequence is a search strategy that the system uses to find valid data for a particular condition type. The access sequence determines the sequence in which the system searches for data.

Example of an Access Sequence

A sales department may create different kinds of price data. There may be a basic price for a product, a special customer-specific price for the same product, and a price list for, say, large customers. A customer may, in theory, qualify for all three different prices. The access sequence enables the system to access the pricing data records in a particular sequence until it finds a valid price. In this example, the sales department may want the customer to get the most advantageous price and defines the special customer-specific price as the first place to search.

SAP00029637; SAP00013938.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar contains "Contents Search Back Print << >> Close". The page content is as follows:

Prices

In the standard version of the SAP system, the basis of pricing during sales order processing is the gross price of a material. The following kinds of price are predefined:

- Material price
- Price list type
- Customer-specific price

Selecting From Competing Pricing Records

During automatic pricing, the system looks for a gross price. Since it is possible to store different kinds of pricing information in the system, pricing records can, in certain circumstances, compete with each other. For example, you may have a basic material price in addition to a special material price for a particular customer.

In the standard version, the system selects the most specific record, the customer-specific price. If no customer-specific price exists, the system looks for a valid price list type. If no valid price list type exists, the system takes the basic material price. This search strategy is determined during system configuration in SD Customizing. For more information, see [Access Sequences](#).

Material Prices

When you create a material price, you specify a price or a pricing scale for a specific material. You specify a combination of **sales organization** and **distribution channel**, for which the material price is valid.

Note

In SD Customizing, it is possible to specify that pricing information assigned to a particular combination of sales organization and distribution channel can be shared by other combinations. For more information, see the online information in the SD Implementation Guide.

Price List Types

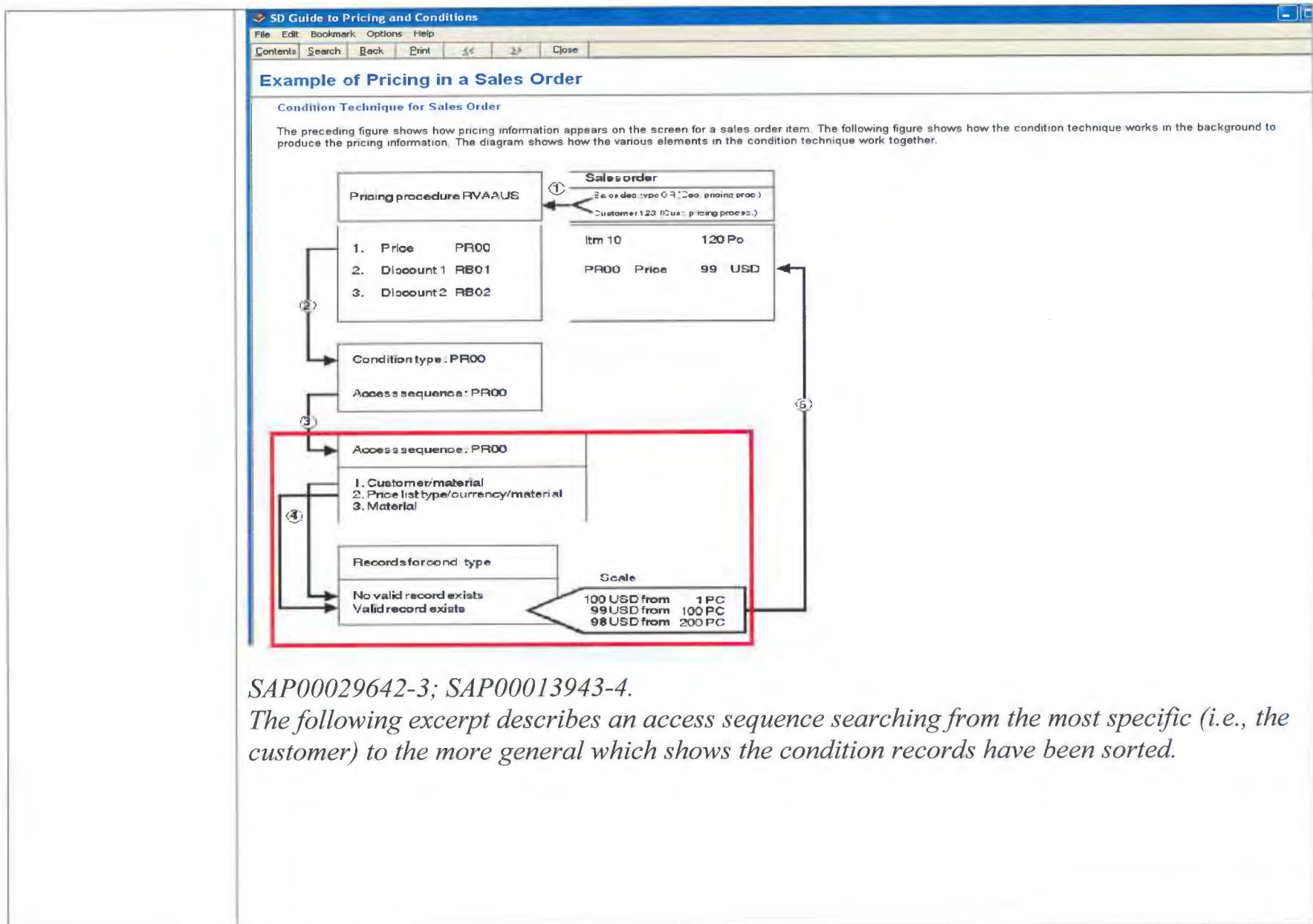
Depending on the pricing policies of your company, you can define your own price list types to suit the needs of your business. For example, you can define price list types by customer groups (wholesale, retail, and so on) and by currency (price lists for each foreign country you deal with). For each price list type, you create different pricing records, using the same organizational data as for material prices (sales organization, distribution channel). You can then assign price list types, where necessary, to each customer in the customer's master record.

Customer-Specific Prices

If you grant special prices to different customers, you can create customer-specific pricing records. In addition to the same organizational data you enter for material prices (sales organization, distribution channel), you assign the pricing record to a specific combination of customer and material.

SAP00029676; SAP00013980.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



SAP00029642-3; SAP00013943-4.

The following excerpt describes an access sequence searching from the most specific (i.e., the customer) to the more general which shows the condition records have been sorted.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

SAP Guide to Pricing and Conditions

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Example of Pricing in a Sales Order

Scale	
100 USD from	1 PC
99 USD from	100 PC
98 USD from	200 PC

Step-by-step Description

- 1 The system first determines the procedure according to information defined in the sales document type and the customer master record.
- 2 The pricing procedure defines the valid condition types and the sequence in which they appear in the sales order. In the example above, the system takes the first condition type (PR00) in the pricing procedure and begins the search for a valid condition record.
- 3 Each condition type in the pricing procedure can have an access sequence assigned to it. In this case, the system uses access sequence PR00. The system makes the specified accesses until it finds a valid condition record. (Although this diagram does not show it, each access specifies a particular condition table. The table provides the key with which the system searches for records).
- 4 In the example, the first access (searching for a customer-specific material price) is unsuccessful. The system moves on to the next access and finds a valid record.
- 5 The system determines the price according to information stored in the condition record. If a pricing scale exists, the system calculates the appropriate price. In the example, the sales order item is for 120 pieces of the material. Based on the quantity, the system determines a price of \$99 per piece.

The system repeats this process for each condition type in the pricing procedure and comes up with a final price.

SAP00029643; SAP00013944-5.

The following two excerpts from the R3 documentation describe an example of a sales department with different kinds of pricing information. The different pricing information includes a discount for “large customers.” The access sequence defines the order in which the pricing information is sorted.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

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Condition Technique: Overview

[Example of a Condition Table](#)

A sales department creates condition records for customer-specific material prices. The standard version of the R/3 system provides a condition table for this purpose. The key of table includes the following fields:

- Sales organization
- Distribution channel
- Customer
- Material

The first two fields identify important organizational data and the last two fields express the relationship between the customer and the material.

What is an Access Sequence?

An access sequence is a search strategy that the system uses to find valid data for a particular condition type. The access sequence determines the sequence in which the system searches for data.

[Example of an Access Sequence](#)

A sales department may create different kinds of price data. There may be a basic price for a product, a special customer-specific price for the same product, and a price list for, say, large customers. A customer may, in theory, qualify for all three different prices. The access sequence enables the system to access the pricing data records in a particular sequence until it finds a valid price. In this example, the sales department may want the customer to get the most advantageous price and defines the special customer-specific price as the first place to search.

What is a Procedure?

A procedure is a listing of condition types, defined in a particular sequence. It enables the system to determine that a particular set of condition types, in a specified sequence, apply in given circumstances.

[Example of a Procedure](#)

In pricing, you define a procedure that determines how prices, discounts, and surcharges appear in sales orders and invoices. In a typical situation, the first condition type in the procedure determines the gross price. Condition types then follow that determine the various discounts. Finally, there are condition types that determine freight costs and sales taxes. If you have customers in different countries, you can group the customers by country or region. You can then define for each grouping a procedure that takes into account local requirements (for example, sales taxes).

Condition Technique in Different Applications

Each application that uses the condition technique uses the same basic elements. Different applications also use the same screens. For example, the screens for procedures, access sequences, and condition tables are always essentially the same, regardless of application. Individual applications, however, may decide not to display fields that they do not need. Condition types are an exception. Here, each application can design its own screen.

For more information about specific applications, please refer to the documentation for individual applications.

SAP00029637-8; SAP00013938-9.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

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Access Sequences

You specify an access sequence for each condition type for which you create condition records. The access sequence helps the system to find valid records during pricing. There are some condition types for which you do not create condition records (header discounts that you can only enter manually, for example). These condition types do not require an access sequence.

Purpose of the Access Sequence

The access sequence provides a strategy for the system when it searches for relevant condition records. The access sequence consists of one or more accesses. The sequence of the accesses establishes which condition records have priority over others. The accesses tell the system where to look first, second, and so on, until it finds a valid condition record.

Access Sequences in the SAP R/3 Standard Version

The standard version contains access sequences that are predefined for each of the standard condition types. The names of the access sequences often correspond to the condition types for which they were designed. For example, the access sequence for a material discount (condition type K004) is also called K004.

Example: Price Determination (Sales)

A sales department may offer customers different kinds of prices. The department may create, for example, the following condition records in the system:

- A basic price for a material
- A special customer-specific price for the same material, and
- A price list for, say, major customers

During sales order processing, a customer may, in theory, qualify for all three different prices. The access sequence enables the system to access the data records in a particular sequence until it finds a valid price. In this example, the sales department may want the customer to get the most advantageous price and defines the special customer-specific price as the first place to search. The following figure shows how the system searches for the relevant record.

SAP00029659; SAP00013962.

The following example describes the second mode of operation where the exclusive access indicator is set and the elements in the access sequence are ordered from most specific to most general.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

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Access Sequences

Example: Price Determination (Sales)

A sales department may offer customers different kinds of prices. The department may create, for example, the following condition records in the system:

- A basic price for a material
- A special customer-specific price for the same material, and
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During sales order processing, a customer may, in theory, qualify for all three different prices. The access sequence enables the system to access the data records in a particular sequence until it finds a valid price. In this example, the sales department may want the customer to get the most advantageous price and defines the special customer-specific price as the first place to search. The following figure shows how the system searches for the relevant record.

Condition type

PR01	Price	Access sequence: PR00
K004	Discount%	Access sequence: K004
K007	Major customer disc.	Access sequence: K007

Access sequence

PR00	1. Customer / Material
	2. Price list type / Currency / Material
	3. Material

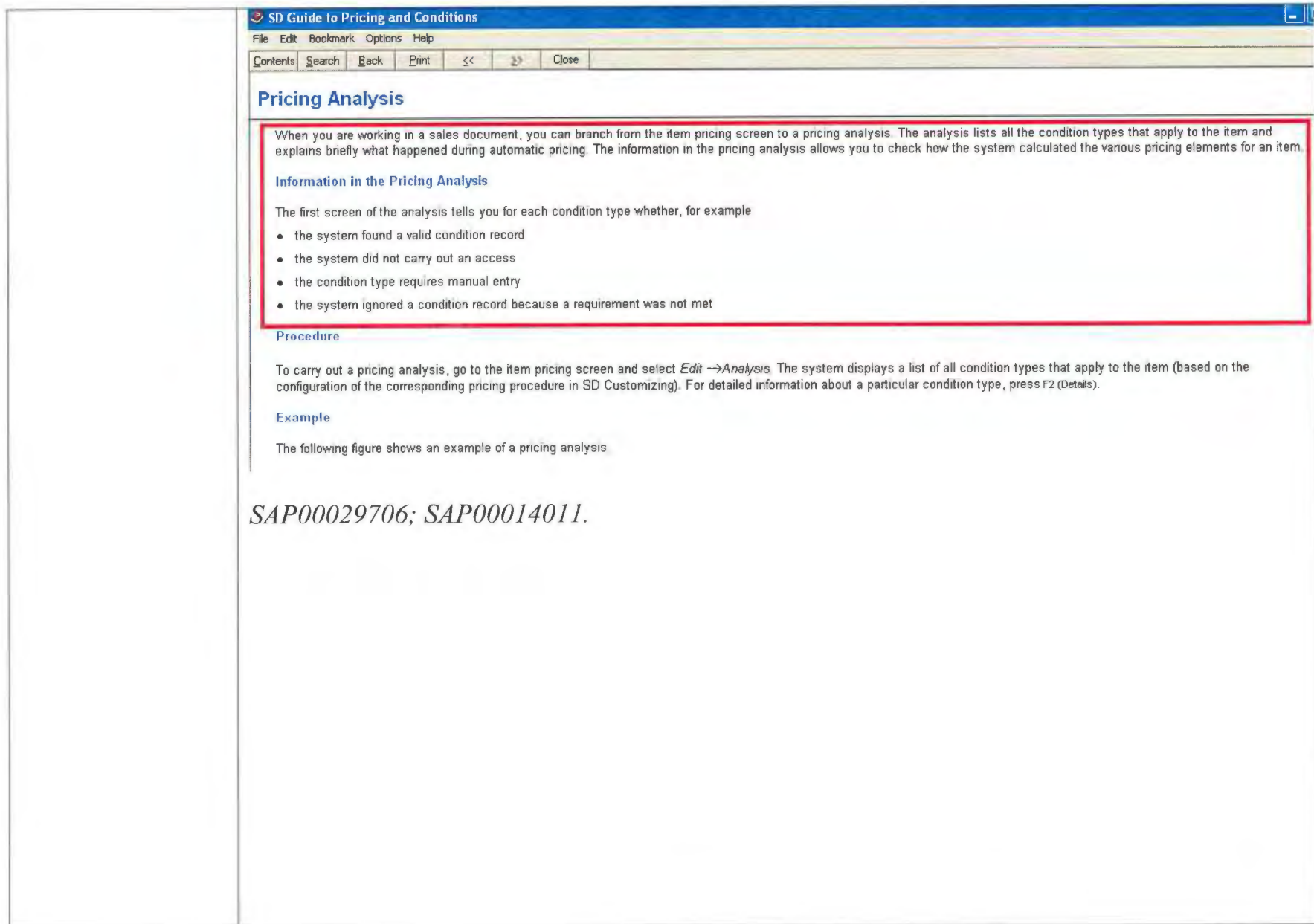
Specific

General

SAP00029659; SAP00013962-3.

“Pricing analysis” displays all the conditions that may affect a price, and does so in sorted order:

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a window titled "SD Guide to Pricing and Conditions" with a menu bar (File, Edit, Bookmark, Options, Help) and a toolbar (Contents, Search, Back, Print, <<, >>, Close). The main content area is titled "Pricing Analysis" and contains the following text:

When you are working in a sales document, you can branch from the item pricing screen to a pricing analysis. The analysis lists all the condition types that apply to the item and explains briefly what happened during automatic pricing. The information in the pricing analysis allows you to check how the system calculated the various pricing elements for an item.

Information in the Pricing Analysis

The first screen of the analysis tells you for each condition type whether, for example

- the system found a valid condition record
- the system did not carry out an access
- the condition type requires manual entry
- the system ignored a condition record because a requirement was not met

Procedure

To carry out a pricing analysis, go to the item pricing screen and select *Edit* → *Analysis*. The system displays a list of all condition types that apply to the item (based on the configuration of the corresponding pricing procedure in SD Customizing). For detailed information about a particular condition type, press F2 (*Details*).

Example

The following figure shows an example of a pricing analysis

SAP00029706; SAP00014011.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The screenshot displays the SAP SD Guide to Pricing and Conditions interface. The main window title is "Condition Analysis: Procedure (Pricing) RYAAUS". The menu bar includes "Analysis", "Edit", "Goto", "System", and "Help". Below the menu bar is a toolbar with icons for search, print, and other functions. The main content area shows a table with two columns: "Condition type" and "Comment".

Condition type	Comment
PR00 Price	208 Condition record has been found
PB00 Price (gross)	001 Manual condition
Gross	200
KA00 Special offer	009 Condition record is missing
K032 Price group/material	102 Access not made (initialized field)
K005 Customer/material	118 Condition record has been deleted
K007 Customer discount	208 Condition record has been found
K004 Material	109 Condition record is missing
K020 Price group	002 Access not made (initialized field)
K029 Mat.pricing group	102 Access not made (initialized field)
K030 Customer/mat.pr.grp	102 Access not made (initialized field)
K031 Price grp/mat.pr.grp	102 Access not made (initialized field)
RA00 % Discount from net	001 Manual condition
RA01 % Disc.from gross	001 Manual condition
RB00 Discount (value)	001 Manual condition
RC00 Quantity discount	001 Manual condition
RD00 Weight discount	001 Manual condition
Discount Amount	200

At the bottom right of the window, there is a status bar showing "OVR" and "15:28".

SAP00029706; SAP00014012.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

eliminating any of the pricing information that is less restrictive; and determining the product price using the sorted pricing information.

I find the term “pricing information that is less restrictive” unclear and insolubly ambiguous to one of ordinary skill in the art, as I have described elsewhere. However, as I’ve said previously, for the purposes of my analysis, I will assume that “pricing information that is less restrictive” means “pricing information that is less specifically applicable to a product, a purchasing organization, an organizational group or a product group.”

The claimed eliminating step is performed by the condition technique. As described previously, the R3 documentation describes how retrieving and sorting pricing information is accomplished by the condition technique. The combination of the pricing procedure and the access sequence determines the order in which the pricing information is retrieved. The behavior of the condition technique is dependent on the setting of the “exclusive access indicator” in each access sequence.

As I mentioned above, when the exclusive access indicator is not set, the condition technique, via the condition type, will retrieve all of the condition records in the order specified in the access sequence. In this case, the access sequence is ordered from the most general to the most specific. Once all condition records have been retrieved, the R3 documentation specifies that all but the last condition record found will be eliminated and only the last one will be used.

Alternatively, when the exclusive access indicator is set, the condition technique will retrieve just one condition record. In this case, the access sequence is ordered from the most specific to the most general. The R3 documentation specifies that the condition technique will stop when it finds the first condition record, thereby eliminating any of the pricing information that is less restrictive.

When the less restrictive pricing information has been eliminated as described above, the condition technique determines the product price using the sorted price information. An example from the R3 documentation describes all of the pricing information used to

Anticipation: 35 U.S.C. §102 (R3 Documentation)

determine the product price. In the step-by-step description of the process, the R3 documentation shows how the product price is determined using the pricing information associated with each condition type in the pricing procedure.

In these ways, the condition technique both eliminates any of the pricing information that is less restrictive; and determines the product price using the sorted pricing information.

Eliminating pricing information that is less restrictive

The following excerpt from the R3 documentation describes how less restrictive pricing information is identified and eliminated.

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Access Sequences

Example: Price Determination (Sales)

A sales department may offer customers different kinds of prices. The department may create, for example, the following condition records in the system:

- A basic price for a material
- A special customer-specific price for the same material, and
- A price list for, say, major customers

During sales order processing, a customer may, in theory, qualify for all three different prices. The access sequence enables the system to access the data records in a particular sequence until it finds a valid price. In this example, the sales department may want the customer to get the most advantageous price and defines the special customer-specific price as the first place to search. The following figure shows how the system searches for the relevant record.

The diagram illustrates the search process for price determination. It shows three condition types: PR01 (Price), K004 (Discount %), and K007 (Major customer disc.). Each condition type has an associated access sequence: PR00, K004, and K007 respectively. The PR00 access sequence is detailed in a separate box, showing a three-step search process: 1. Customer / Material, 2. Price list type / Currency / Material, and 3. Material. A triangle labeled 'Specific' is positioned above the first two steps, and a triangle labeled 'General' is positioned below the third step, indicating that the search becomes more general as it progresses through the steps.

Condition type	Condition description	Access sequence
PR01	Price	Access sequence : PR00
K004	Discount %	Access sequence : K004
K007	Major customer disc.	Access sequence : K007

Access sequence	Step	Search criteria
PR00	1.	Customer / Material
	2.	Price list type / Currency / Material
	3.	Material

SAP00029659; SAP00013962-3.

The following excerpts from the R3 documentation describe how the access sequence determines which information is less specific.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The screenshot shows a window titled "SD Guide to Pricing and Conditions" with a menu bar (File, Edit, Bookmark, Options, Help) and a toolbar (Contents, Search, Back, Print, <<, >>, Close). The main content area is titled "Access Sequences" and contains the following text:

Access30 only takes place if access 20 was unsuccessful and if the local currency differs from the document currency.

In the example in the preceding figure, the local currency is in German Marks. In this case, the access fulfills the requirement that the local currency must differ from the document currency before the system carries out a search for a record. The system makes the access. If the local currency had been in US dollars, the system would have ignored the access (thus improving system performance during pricing).

Exclusive Access Indicator

You specify in this field whether you want the system to stop when it finds a valid condition record for the access. If you do not mark the exclusive access indicator, the system continues to make each access in the sequence, finally proposing the last valid condition record it finds.

In the earlier example of access sequences for Sales and Purchasing where the indicator is set for each access, the system stops when it finds the first valid condition record. Alternatively, it would be possible to not set the indicator and to reverse the order of the accesses and have them starting with the most general condition records and ending with the most specific (in this case, the customer/material price). In the sales order, the system would then list all the condition records it found but would only use the last one. You would then be able to see all the various possible prices that apply to the particular document.

Details of an Access

You can see a detailed view of each access by pressing F2 (Detail screen).

Sales

The following figure shows the access sequence PR00. The first access in the sequence is *Customer/Material* and refers to condition table 5 (the table that defines condition records for customer-specific material prices).

The following figure shows the details of the first access, *Access number 10*.

SAP00029663-4; SAP00013967-8.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

The screenshot shows a window titled "SD Guide to Basic Functions and Master Data" with a menu bar (File, Edit, Bookmark, Options, Help) and a toolbar (Contents, Search, Back, Print, navigation arrows, Close). The main content area is titled "Using Customer Hierarchies During Sales Order Processing" and contains several sections:

- Pricing in the Sales Order**

In the standard version, the system determines hierarchy-related pricing in the sales order (condition types H101 and H102) by searching for valid condition records at each level in the hierarchy path, starting with the lowest level. As soon as the system finds a valid condition record, it stops the search. If the same kind of condition record (say, a material discount) is stored at two different levels in the hierarchy, the system takes the first valid record at the lowest level. In Customizing for Sales, you can specify your own access sequences.

By using exclusion groups, you can, for example, specify that if similar condition records exist at different levels of the hierarchy, the system takes the most favorable price or discount for the customer (regardless of which level in the hierarchy the pricing data comes from).
- Example of Pricing in Use**

In the previous example, the customer hierarchy represents the Smith nation-wide buying group. The central office - Smith Central - is defined as the top node in the hierarchy. The regional offices of the buying group - Smith South, North, Northwest, and Northeast - are defined as nodes. During negotiations, you establish a pricing agreement for a particular product line. You offer a national discount, available for all Smith stores. In addition, you offer a special promotional discount for Smith North. You create the corresponding pricing condition records for the Smith Central and Smith North nodes. A subsequent sales order from customer 2742 gets the national discount. When customers 2743 and 2744 place orders, however, the system determines pricing by applying the pricing data stored for Smith North.
- Copying Hierarchy Info Between Documents**

The copying of hierarchy information between documents is controlled, as usual, by copying routines specified in document flow. You can specify, for example, which hierarchy-related data is copied or redetermined when you copy data from a quotation into a sales order or from a sales order into an invoice. You create and specify copying routines in Customizing for Sales.
- Inverted Display of Customer Hierarchy**

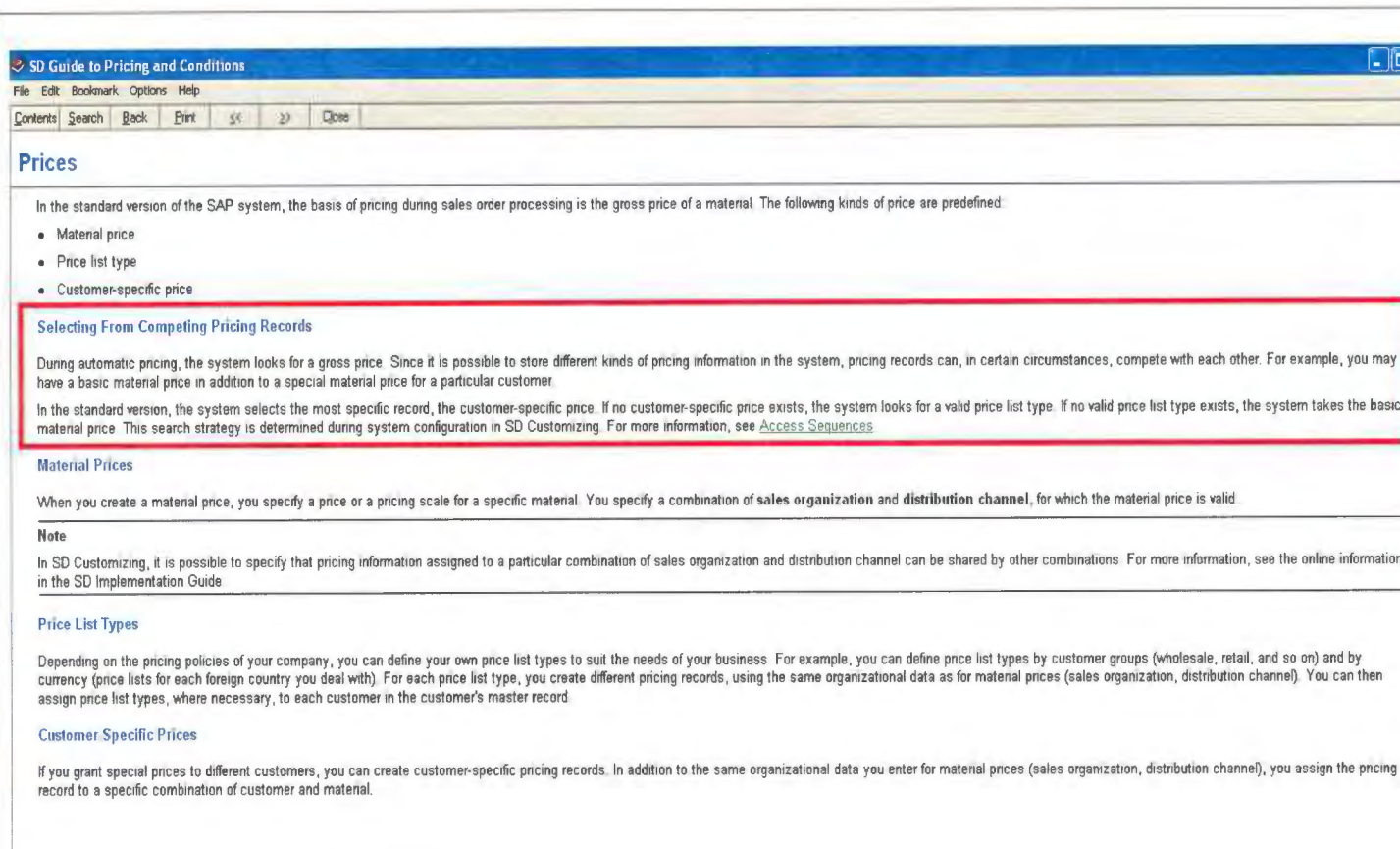
In addition to being able to display the hierarchy path for a particular sales order, you can also display information about a particular node. For example, you can display which customers and nodes are assigned to the node. When you select this view of a node, the system displays all the relevant assignments.
- Procedure**

To display the assignments of a particular node, proceed as follows:

 1. Select *Logistics* → *Sales/distribution* → *Master data* in the main menu screen.
You reach the *Sales & Distribution Master Data* screen.
 2. Select *Business partners* → *Customer hierarchy* → *Change*.
You reach the selection screen for customer hierarchies.
 3. Enter a customer hierarchy type (the standard version includes only one type: A), a validity date, and select *Execute*.
The system displays a list of existing customer hierarchies that are valid for the date you entered.
 4. Place your cursor on the node for which you want to display assignments and select *Edit* → *Nodes* → *All assignments*.
A dialog box lists all the assignments that belong to the node you selected.

SAP00029624-5; SAP00013925-6.

Anticipation: 35 U.S.C. §102 (R3 Documentation)



The screenshot shows a web browser window titled "SD Guide to Pricing and Conditions". The browser's address bar contains "Contents Search Back Print" and navigation icons. The main content area is titled "Prices" and contains the following text:

In the standard version of the SAP system, the basis of pricing during sales order processing is the gross price of a material. The following kinds of price are predefined:

- Material price
- Price list type
- Customer-specific price

Selecting From Competing Pricing Records

During automatic pricing, the system looks for a gross price. Since it is possible to store different kinds of pricing information in the system, pricing records can, in certain circumstances, compete with each other. For example, you may have a basic material price in addition to a special material price for a particular customer.

In the standard version, the system selects the most specific record, the customer-specific price. If no customer-specific price exists, the system looks for a valid price list type. If no valid price list type exists, the system takes the basic material price. This search strategy is determined during system configuration in SD Customizing. For more information, see [Access Sequences](#).

Material Prices

When you create a material price, you specify a price or a pricing scale for a specific material. You specify a combination of **sales organization** and **distribution channel**, for which the material price is valid.

Note

In SD Customizing, it is possible to specify that pricing information assigned to a particular combination of sales organization and distribution channel can be shared by other combinations. For more information, see the online information in the SD Implementation Guide.

Price List Types

Depending on the pricing policies of your company, you can define your own price list types to suit the needs of your business. For example, you can define price list types by customer groups (wholesale, retail, and so on) and by currency (price lists for each foreign country you deal with). For each price list type, you create different pricing records, using the same organizational data as for material prices (sales organization, distribution channel). You can then assign price list types, where necessary, to each customer in the customer's master record.

Customer-Specific Prices

If you grant special prices to different customers, you can create customer-specific pricing records. In addition to the same organizational data you enter for material prices (sales organization, distribution channel), you assign the pricing record to a specific combination of customer and material.

SAP00029676; SAP00013980.

Determining the product price

The following three excerpts show how the final product price is obtained. The first excerpt shows the pricing information that is used to determine the final product price (\$1,772.26) and how the price is calculated.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

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Example of Pricing in a Sales Order

The following figure shows the pricing information for an item in a sales order. The pricing screen for the item shows the gross price that the customer is charged, several discounts for which the customer qualifies, and other pricing elements, such as freight and sales taxes. The condition types that apply to each of these pricing elements appear on the left side of the pricing screen. The sequence in which the various condition types appear is determined by the pricing procedure.

CnTy	Description	Rate	Curr.	per	UoM	Cond. value	USD
<input type="checkbox"/> PR00	Price	14.00	USD	1	FL	1,680.00	
<input type="checkbox"/>	Gross	14.00	USD	1	FL	1,680.00	
<input type="checkbox"/> K007	Customer discount	1.000-	%			16.80-	
<input type="checkbox"/>	Discount Amount	0.14-	USD	1	FL	16.80-	
<input type="checkbox"/> KF00	Freight	0.50	USD	1	KG	45.00	
<input type="checkbox"/>	Net Value 2	14.24	USD	1	FL	1,708.20	
<input type="checkbox"/> UTX1	State sales tax	3.750	%			64.06	
<input type="checkbox"/>	Net value for ord.	14.77	USD	1	FL	1,772.26	
<input type="checkbox"/> UPRS	Cost	6.00	USD	1	L	540.00	
<input type="checkbox"/>	Profit Margin	9.74	USD	1	FL	1,168.20	

Item: 10 Net value in USD: 1,708.20
 Quantity: 120.000 FL Tax amount: 64.06
 Material: E-4000 Pennsylvania's Finest

Details Delete New pricing Condition record

OVR NUM 1336

SAP00029642; SAP00013943.

The next quote shows how pricing information is retrieved for an individual condition type.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

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Example of Pricing in a Sales Order

Condition Technique for Sales Order

The preceding figure shows how pricing information appears on the screen for a sales order item. The following figure shows how the condition technique works in the background to produce the pricing information. The diagram shows how the various elements in the condition technique work together.

Sales order							
Eas des: type OR (Des: pricing proc.)							
Customer: 123 (Cus: pricing process)							
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">itm 10</td> <td style="width: 30%; text-align: right;">120 Po</td> <td></td> </tr> <tr> <td>PR00</td> <td style="text-align: right;">Price</td> <td style="text-align: right;">99 USD</td> </tr> </table>		itm 10	120 Po		PR00	Price	99 USD
itm 10	120 Po						
PR00	Price	99 USD					

Pricing procedure: FVAAUS

1. Price PR00
 2. Discount 1 RB01
 3. Discount 2 RB02

Condition type: PR00

Access sequence: PR00

Access sequence: PR00

1. Customer/material
 2. Price list type/currency/material
 3. Material

Records for cond. type

No valid record exists
 Valid record exists

Scale

100 USD from 1 PC
 99 USD from 100 PC
 98 USD from 200 PC

SAP00029642-3; SAP00013943-4.

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Anticipation: 35 U.S.C. §102 (R3 Documentation)

This final quote from the example describes how the final price is determined. Steps 3 through 5 are repeated for each condition type in the pricing procedure, and step 5 describes how the condition technique uses the sorted pricing information (retrieved condition record) to determine the price.

The screenshot shows a window titled "SD Guide to Pricing and Conditions" with a menu bar (File, Edit, Bookmark, Options, Help) and a toolbar (Contents, Search, Back, Print, <<, >>, Close). The main content area is titled "Example of Pricing in a Sales Order".

The diagram illustrates a pricing scale. On the left, a box contains the text "No valid record exists" and "Valid record exists". An arrow points from this box to a larger box on the right labeled "Scale". The "Scale" box contains the following information:

100 USD from	1 PC
99 USD from	100 PC
98 USD from	200 PC

Below the diagram, the text "Step-by-step Description" is followed by a list of five steps. The third, fourth, and fifth steps are enclosed in a red rectangular box.

- 1 The system first determines the procedure according to information defined in the sales document type and the customer master record.
- 2 The pricing procedure defines the valid condition types and the sequence in which they appear in the sales order. In the example above, the system takes the first condition type (PROD) in the pricing procedure and begins the search for a valid condition record.
- 3 Each condition type in the pricing procedure can have an access sequence assigned to it. In this case, the system uses access sequence PROD. The system makes the specified accesses until it finds a valid condition record. (Although this diagram does not show it, each access specifies a particular condition table. The table provides the key with which the system searches for records)
- 4 In the example, the first access (searching for a customer-specific material price) is unsuccessful. The system moves on to the next access and finds a valid record.
- 5 The system determines the price according to information stored in the condition record. If a pricing scale exists, the system calculates the appropriate price. In the example, the sales order item is for 120 pieces of the material. Based on the quantity, the system determines a price of \$99 per piece.
The system repeats this process for each condition type in the pricing procedure and comes up with a final price.

SAP00029643; SAP00013944-5.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

<p>27. A computer implemented method for determining a price of a product offered to a purchasing organization comprising:</p>	<p><i>The R3 documentation discloses a method for determining a price of a product offered to a purchasing organization that includes all of the elements of claim 27. The process of determining a price is called pricing. It can be used by a client (owner/operator) of the software system to determine the price at which it will offer some product to a customer.</i></p> <p><i>As noted below, during a sales order, the R3 documentation discloses automatically determining pricing by taking into account such things as the base price, discounts and surcharges, and freight and sales taxes. The condition technique includes many of the processes used in determining the price of a product.</i></p> <p><i>See the evidence and my analysis for claim 17.</i></p>
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Anticipation: 35 U.S.C. §102 (R3 Documentation)

<p>retrieving from a data source pricing information that is (i) applicable to the purchasing organization and (ii) from one or more identified organizational groups, within a hierarchy of organizational groups, of which the purchasing organization is a member;</p>	<p><i>In claim 17 above, I provided an analysis for the “arranging a hierarchy of organizational groups” element which demonstrates that the R3 documentation discloses a hierarchy of organizational groups of which a purchasing organization is a member. I also provided an analysis for claim 17’s “retrieving” element that demonstrates that the R3 documentation discloses retrieving pricing information that is applicable to a purchasing organization and from one or more identified organizational groups within the hierarchy, of which the purchasing organization is a member. The analysis and evidence for those two elements in claim 17, therefore, demonstrates that this element of claim 27 is disclosed by the R3 documentation. For more details, see the evidence and my analysis for the claim elements “arranging a hierarchy of organizational groups” and “retrieving” in claim 17.</i></p>
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Anticipation: 35 U.S.C. §102 (R3 Documentation)

retrieving from the data source pricing information that is (i) applicable to the product and (ii) from one or more identified product groups, within a hierarchy of product groups, of which the product is a member; and

In claim 17 above, I provided an analysis for the “arranging a hierarchy of product groups” element which demonstrates that the R3 documentation discloses a hierarchy of product groups of which a product is a member. I also provided an analysis for claim 17’s “retrieving” element that demonstrates that the R3 documentation discloses retrieving pricing information that is applicable to a product and from one or more identified product groups within the hierarchy of product groups, of which the product is a member. The analysis and evidence for those two elements in claim 17, therefore, demonstrates that this element in claim 27 is disclosed by the R3 documentation. For more details, see the evidence and my analysis for the claim elements “arranging a hierarchy of product groups” and “retrieving” in claim 17.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

<p>receiving the price of the product determined using pricing information applicable to the one or more identified organizational groups and the one or more identified product groups according to the hierarchy of product groups and the hierarchy of organizational groups.</p>	<p><i>Claim 17's "retrieving," "eliminating" and "determining" elements encompass this functionality. Thus, the evidence and my analysis of these three elements above demonstrates that the R3 documentation discloses claim 27's "receiving the price of a product determined using pricing information applicable to the one or more identified organizational groups and the one or more identified product groups according to the hierarchy of product groups and the hierarchy of organizational groups." For more details, see the evidence and my analysis for the "retrieving," "eliminating," and "determining" claim elements in claim 17.</i></p>
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Anticipation: 35 U.S.C. §102 (R3 Documentation)

<p>28. A computer readable storage media comprising: computer instructions to implement the method of claim 27.</p>	<p><i>As I mentioned above with respect to claim 26, the R3 documentation inherently discloses a computer readable storage media with computer instructions.</i></p>
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Anticipation: 35 U.S.C. §102 (R3 Documentation)

<p>29. An apparatus for determining a price of a product offered to a purchasing organization comprising:</p> <p>a processor;</p> <p>a memory coupled to the processor, wherein the memory includes</p> <p>computer program instructions capable of:</p>	<p><i>Claim 29 is virtually identical to claim 28 and 27, except that it recites an “apparatus,” a “processor,” and a “memory coupled to the processor.” The R3 documentation discloses an enterprise information system, which is an apparatus and which necessarily includes both a memory and a processor that are coupled together. Therefore, these claim elements are disclosed by the R3 documentation. Furthermore, my analysis and the evidence I present for claims 28 and 27, which references my analysis of claims 26 and 17, demonstrates that the other elements of claim 29 are disclosed by the R3 documentation. Accordingly, claim 29 is also unpatentable over the R3 documentation.</i></p>
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Anticipation: 35 U.S.C. §102 (R3 Documentation)

<p>retrieving from a data source pricing information that is (i) applicable to the purchasing organization and (ii) from one or more identified organizational groups, within a hierarchy of organizational groups, of which the purchasing organization is a member;</p>	<p><i>See the corresponding claim element from claim 27.</i></p>
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Anticipation: 35 U.S.C. §102 (R3 Documentation)

retrieving from the data source pricing information that is (i) applicable to the product and (ii) from one or more identified product groups, within a hierarchy of product groups, of which the product is a member; and

See the corresponding claim element from claim 27.

Anticipation: 35 U.S.C. §102 (R3 Documentation)

receiving the price of the product determined using pricing information applicable to the one or more identified organizational groups and the one or more identified product groups according to the hierarchy of product groups and the hierarchy of organizational groups.

See the corresponding claim element from claim 27.

