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# Reading Sample

This book guides you through different processes in Sales and Distribution. In this sample, you'll be introduced to the core activity in Sales and Distribution: Sales. Then, walk through the entire sales process, from inquiry to order creation or customer returns.









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# Sales and Distribution in SAP ERP— Practical Guide

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www.sap-press.com/3672

# **Preface**

In today's competitive environment, the ability to handle business processes cost-effectively is critical. Sales and Distribution in SAP ERP (which, in this book, we'll refer to as SD) offers such a set of tools. As one of the most important and most often implemented SAP logistics functionalities, SD makes information more manageable and accessible.

With several books on the market covering details of SAP implementation from blueprinting to go-live and focusing mostly on members of the implementation teams, we came to the conclusion that the end user community doesn't really have anything readily available to help out in day-to-day operations. So, the target group for this book includes members of the end-user SD community who are executing sales and distribution transactions as part of their primary job function, "super-users" and system support members helping others solve issues, and all people trying to polish and master new functionality to better fit in the corporate positions, such as the following:

- ► Sales analysts
- ► Sales managers
- ► Shipping and transportation planners/managers
- ► Customer service representatives

## **What This Book Covers**

This book provides you with a detailed, comprehensive guide to the day-to-day use of the key SD functions. Its objective is to give you an easy-to-use resource for learning how to perform all of the key functions of the system, how to trouble-shoot minor problems and system issues, how to explore advanced functions and reports, and how to get the most out of the system.

This publication serves both as a tutorial and reference for all key processes in sales and distribution.

The book starts out with a general introduction to SAP logistics processes and Sales and Distribution, and quickly moves on to the main processes: pre-sales, sales order processing, availability check, pricing, delivery, picking, transportation, and billing. Chapter 1 will walk you through the basics of SAP ERP and will shed some light on enterprise structure building blocks mandatory for Sales and Distribution (SD) in SAP ERP to function. Chapter 2 introduces you to some of the most important master data objects influencing your SD processes, and Chapter 3 will describe some of the most important SD functions and transactions starting with inquiries, quotations, and contracts finishing with returns processes. Chapter 4 will focus on the logistics aspects, including delivery processing, picking and packing, and transportation planning. Chapter 5 will describe the billing process for you and integration points with Financial Accounting. **Chapter 6** will introduce some of the commonly used SD reports used to simply access and analyze data. In this second edition, we've added a few more chapters to cover updates to the SAP software, and provide insight on new skills that you can add to your arsenal. Chapter 7 introduces you to some of the functions you can find if your business also runs SAP Customer Relationship Management; these functions will give you additional tools and also enhance existing SD functionality. We'll finish this book with **Chapter 8**, which explains some of the steps you'll need to know to work with Financial Supply Chain Management.

You'll also come across a few **appendices** in the back of the book. These will help you understand the basic navigation in an SAP system, and provide further insight into a few niche topics.

# Note

Bonus downloads on SAP HANA and enhancement packages are available at www.sap-press.com/3672.

Our goal is to present detailed information in a compact format that includes enough material to fulfill the "80/20" principle—most of the focus will be on the top 20% of functions used by 80% of end users.

We hope you'll use the book as a reference to quickly search for and use practical information by topic and function.

There was a time in enterprise software when each area in a company used a different technology, a different vendor, and a different system, creating a corporate Babel Tower. SAP changed all that.

# 1 Introduction

It was 1972 when a group of five IBM engineers from Manheim, Germany—Dietmar Hopp, Hans-Werner Hector, Hasso Plattner, Klaus Tschira, and Claus Wellenreuther—decided to create the next big thing in systems history: the first enterprise resource planning (ERP) system.

At that time, the software industry was formed by a multitude of vendors; each had developed its own technologies, developed systems for functional business areas, and created software systems for accounting, inventory control, purchasing, order processing, and more. Each of these computer systems was designed differently and used different file systems, different programming languages, and often even different hardware platforms. To exchange information, different areas had to print out reports, and, many times, the information contained in the reports had to be captured in the other system.

Software has come a long way since 1972. In this chapter, we'll quickly overview today's SAP Business Suite, how an enterprise structure is set up in SAP software, and then focus our attention more specifically on executing logistics and explaining the Sales and Distribution component in SAP ERP.

#### 1.1 The SAP Business Suite

Today, the SAP software catalog is vast and complex, including the enterprise resource planning application now known as SAP ERP (replacing R/3), which takes care of the day-to-day operations of a company. It also includes SAP Supply Chain Management (SAP SCM) for complex operations planning and SAP Business Warehouse (SAP BW) for complex decision making. In the following sections, we'll review the other tools within the SAP Business Suite.

#### 1.1.1 SAP ERP

SAP ERP is used to execute the everyday operations of a company. A company can plan and execute the whole collection of steps involved in its supply chain, from the sales forecasts, master production scheduling, production planning, production scheduling, purchasing, inventory management, and warehousing to the logistics chain that's involved in shipping, transportation planning, and yard management.

At the heart of SAP ERP is the General Ledger (GL); like a hub and spokes, it touches every other component and functionality. Every time you sell, buy, pay, collect, or manufacture, the accounting system is updated. Values are posted to an account in the ledger to show a customer's balance, changes in inventory value, the payables needed to cover the vendors, and so on.

SAP ERP is divided into functional pieces called *components, modules,* or *functionalities*. Each functional area of a company might use one or more component or functionality, but many times a person's work won't involve more than one.

The following is a list of the components that are included in SAP ERP (we'll cover these in more detail in Section 1.3):

- ► Financial Accounting
- ► Controlling
- ► Project System
- ► Sales and Distribution
- ► Materials Management
- ► Logistics Execution
- ► Quality Management
- ▶ Plant Maintenance
- ► Production Planning and Control
- ▶ Human Resources or Human Capital Management

#### 1.1.2 SAP PLM

SAP Product Lifecycle Management (SAP PLM) is a completely separate application that performs the activities involved in creating, developing, prototyping, and moving a new product into the manufacturing process. Some of the functions covered include the following:

- ► Portfolio planning (planning and tracking, budgeting)
- ▶ Development and manufacturing (product data management, engineering change management, variant configuration, recipe management, digital manufacturing)
- ► Service (maintenance of service manuals, product documentation, process definition for claim and warranty management, management of physical assets)

#### 1.1.3 SAP CRM

SAP Customer Relationship Management (SAP CRM) is another separate application that helps companies with sales lifecycle management. It supports the following functions within the sales and marketing processes:

- ► Marketing (campaign management, branding, loyalty management, segmentation, e-marketing)
- ► Sales (e-commerce, interaction center, channel management, offer management)
- ► Service (interaction center, business communication, channel management, eservice)
- ► Contact Center (interaction center, business communication, marketing, sales, service, offer management)
- ► E-Commerce (e-marketing, e-commerce, e-service, web channel analytics)

#### 1.1.4 SAP SRM

SAP Supplier Relationship Management (SAP SRM) was designed to automate, simplify, and accelerate procure-to-pay processes for goods and services with a very important focus on web-based operations and e-commerce. Some of the functions included in this application are listed here:

- ► E-sourcing (spend analysis, category and project management, requests for proposal, information and quotation, forward and reverse auctions, contract generation and management, supplier management)
- ► On-demand e-sourcing
- ► Contract lifecycle management
- ► SAP Spend Performance Management

#### 1.1.5 SAP SCM

The SAP Supply Chain Management (SAP SCM) application is probably the most complex of all of the applications built around the original SAP ERP. It helps integrate complex supply chains into a single planning, execution, and monitoring system.

SAP SCM is capable of rapidly sharing information with your company's supply chain partners and enhancing the collaboration capabilities. SAP SCM evolved from SAP Advanced Planning & Optimization (SAP APO). Integration of the new collaboration and execution components made it a very powerful tool. Now it helps you deal with multi-plant capacity planning and scheduling, Global ATP management, distribution planning, and other complex functions that in many cases used to be executed outside of the ERP systems. The latest release of SAP SCM includes SAP Event Management and a completely redesigned SAP Extended Warehouse Management (SAP EWM) application designed to compete with the best of breed.

The following are some of the functions supported by SAP SCM:

- ► Planning (demand planning and forecasting, safety stock planning, supply network planning, distribution planning, strategic supply chain design)
- ► Execution (order fulfillment, procurement, transportation, warehousing, manufacturing)
- ► Supplier collaboration (access to supply chain information for demand and supply synchronization)
- ► Customer collaboration (replenishment management, vendor managed inventory)
- ► Contract manufacturer collaboration (extends the visibility of the manufacturing process)

#### Important Note

All of the preceding applications use SAP NetWeaver to communicate among themselves and with other non-SAP applications. The interfaces are known as *connectors* and serve as the highway through which the information runs from one application to another.

# 1.1.6 Financial Supply Chain Management

Financial Supply Chain Management is commonly known as FSCM or Financial Supply. It got its name from leveraging the advantages of successful models such as SCM (Supply Chain Management) that for several years have shown benefits. FSCM is a component of SAP ERP Financials suites and manages the cash-to-cash cycle. Financial Supply Chain Management integrates the supply chain of the cash flow to provide you with an incorporated module, improving visibility and cash control. In simple terms, FSCM effectively manages the demand and supply of cash and cash equivalents of a company, lowering the associated operational cost and even increasing customer satisfaction.

You will find that by using SAP FSCM, you have greater visibility and more control over the cash-related processes of a company. This is because FSCM integrates sales and logistics, finance and company operations to a more effective cash flow. Additionally, you'll discover that FSCM interconnected events of the working capital, product inventory, payment terms, credits and pricing and even the employee's behavior will give you a more harmonized view, including sales tendencies, usually impacted by the employee's bonuses or time of the year, as some examples.

Initially, the module was launched with five basic submodules such as Credit Management, Collection Management, Dispute Management, and Biller Direct, but now it's offered with additional functionality such as In-house Cash, Treasure and Risk Management, Cash and Liquidity Management, and more recently, Bank Relationship Management and Billing Consolidation.

In Chapter 8, we'll provide a deeper analysis of the FSCM functionality and submodules, including common transactions and how each subcomponent integrates with Sales and Distribution and your daily tasks.

# 1.1.7 SAP Enhancement Packages and Shipping Strategy

In 2006, SAP introduced a way to deliver new functionality without having companies spend time and effort to bring the latest features and technology. The objective was to alleviate the effort that you or any other SAP customer spends adopting, managing and implementing new software functionality on top of SAP ERP 6.0. Typically, when SAP had a new release or functionality available, it was delivered under a full software release or version such as version 3.1c, 3.1d, or

4.0. On more than one occasion, SAP clients decided to scrap their current ERP version to be able to better upgrade to the next one. Does this sound familiar to you? That strategy was not only risky to the overall well-being of the companies, but also allocated significant time, resources, and budget.

SAP has released enhancement package 7 as an optional package that customers can selectively install in their ERP systems. In the next couple of chapters, we will go into detail about the areas in which is SAP offering modified functionality or added features.

However, how can you understand what an SAP enhancement package (EHP) is? Moreover, what's the difference between an SAP enhancement package and an SAP Support Package?

Those two concepts are bound tightly together and certainly may cause you a lot of confusion, the same as any SAP end user. Everybody needs to understand the basics of these concepts and how they impact your daily activities. We describe the details and definitions on enhancement packages, SAP Notes, and Support Packages in the next section.

# **Enhancement Package Concept**

Optional in nature, the EHP delivers SAP software innovations, which typically are described in three major categories: innovations for user interface (UI) simplifications, functional enhancements to any functionality, and Enterprise services. As we mentioned, EHPs are also cumulative and there is a major distinction between EHPs and Support Packages, discussed in detail later.

Figure 1.1 shows how the current strategy is designed to eliminate the expensive upgrades involved in traditional delivery by offering enhancement in smoother and shorter increments, while the business requirements are also in smaller increments.

SAP delivered EHP with the following main objectives:

# ► Less disruption

The EHPs are installed but activated only selectively and based upon the current needs of each client. They also can be selected as add-ons to any existing deployment or simply as a separate side-by side project or deployment.

# **▶** Continuity

The EHPs are cumulative and each contains previous EHPs. They also package consolidated functionality to be delivered on a continuous basis; more importantly, this saves clients time and money.

#### ▶ Ease

Each EHP is provided as part of configuration and customization, which lowers the implementation effort. SAP has also provided a Software Update Manager (SUM), a tool to facilitate the process.

# **▶** Functionality

EHPs are redesigned to accumulate functionality that's delivered in Support Packages and In-Advance Shipments together, so you don't have to install each application individually.

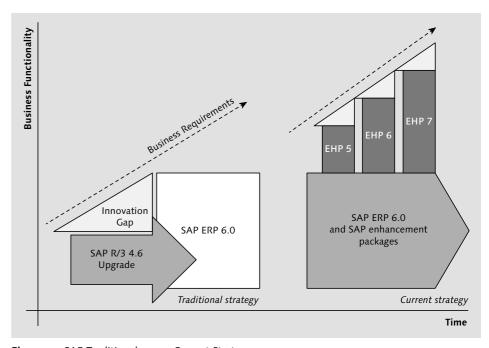


Figure 1.1 SAP Traditional versus Current Strategy

Since their introduction, EHPs have been based on a proven strategy and proven concept; therefore, SAP intends to keep the same as long as SAP ERP 6.0 is on the market. No major revisions of the SAP ERP 6.0 release are scheduled until several years in the future (2020). This is why you or any user should understand and

manage EHPs not only as a concept, but also as way to increase productivity and as evolution to the current functionality.

SAP follows synchronized numbering for enhancement package delivery, starting with EHP 1 for ERP released in 2006 until 2013, when EHP 7 was released. EHP 7 includes SAP ERP (EHP 7), SAP CRM (EHP 3), SAP SCM (EHP 3), and SAP SRM (EHP 3). You can find more information about enhancement packages in the online download at <a href="https://www.sap-press.com/3672">www.sap-press.com/3672</a>.

The screenshots in this book are based off of EHP 7.

#### **SAP Notes**

There are several classifications of SAP Notes, but in general they can be explained as a way to achieve continuous shipping support and corrections. In general, SAP allows you to communicate via Notes to report program errors or even make suggestions to SAP. In turn, SAP provides warranty support via program corrections or additions and even delivers certain functionality using SAP Notes delivered to customers. SAP Notes contain detailed instructions about known errors in SAP programs or routines. On other occasions, the SAP Notes could include workarounds or could provide correction instructions, with detailed steps on how to correct ABAP repository objects. In an SAP Note, you could also find the Support Package number where the note is included.

## **Support Packages**

Support Packages (SP) are, in plain terms, accumulations of SAP Notes that are delivered at one time (corrections). Legal improvements, continuous improvements, and even interfaces are included in Support Packages. The SPs delivered functionality can be also implemented optionally and selectively.

## **In-Advance Shipments**

In-Advance Shipments were created by SAP to make innovation available upfront to selected customers. They are also used by early adaptors in new technology or new functionality (one example is SAP HANA, which was optionally delivered to selected SAP customers in EHP 6 as an early adoption). Thereafter, In-Advance Shipments are incorporated into EHPs.

As shown in Figure 1.2, the SAP shipping elements together contain In-Advance Shipment, SAP Notes, and Support Package, constituting the continuous Shipment Strategy of SAP improvements delivered to you. SAP also claims that their SPs have no "side-effects;" they're easy to deploy and represent a minimum impact to your business.

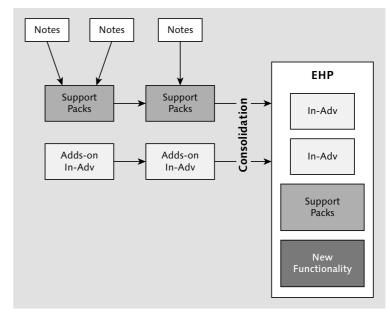


Figure 1.2 Elements of the SAP Shipping Strategy

Let's now discuss concepts on how the enterprise is represented in SAP software via the enterprise structure.

# 1.2 Enterprise Structure in SAP

Because it's a process-oriented application, SAP needs to reflect the company's structure. To do that, it has its own enterprise structure. This structure consists of several levels across various areas: a finance structure, logistics structure, manufacturing structure, sales structure, and so on. For our purposes, we need to get acquainted with the finance, logistics, and sales structures. See Figure 1.3 for an overview of the enterprise components. We'll discuss the SD structure in more detail later in this chapter.

Figure 1.3 SAP Enterprise Structure Components

#### 1.2.1 Client

The highest level in the SAP structure is a general level called the *client number*. The client number is the SAP instance in which we'll be working. You have to enter this number in the logon screen along with your user ID and password.

allowed

# 1.2.2 Company Code

Next is the *company code*, which is the first functional level, and it belongs to Financial Accounting. The company code reflects a company's legal entity. If your company is a conglomerate of companies, then your SAP instance probably has more than one company code. Each company code has a General Ledger.

The finance and controlling structure also consists of the following levels that provide reporting and consolidation capabilities:

#### ▶ Business area

One company code can be divided into multiple business areas, and a business area can belong to more than one company code.

# **▶** Company

The company is hierarchically above the company code, and it's the smallest unit for which you can have a chart of accounts in the SAP system.

#### ► Credit control area

This is the level at which all of the accounts receivables from a customer are totaled. This level can be defined across several company codes.

## ► Funds management area

The funds management area is the level at which you plan the expenditures of one or several company codes. It controls the budget management.

# ► Dunning area

The dunning area manages the communications with customers to ensure the collection of accounts receivables. In the SAP system, it groups together the different sets of procedures to communicate with customers under different circumstances.

#### ► Chart of accounts

This contains the General Ledger accounts. A company code can only have one chart of accounts.

# ► Controlling area

Controlling areas put together information that has to be provided to external parties. A controlling area can group together several company codes.

# 1.2.3 Plant

The logistics structure reflects the operational structure of a company; at the top of the pyramid stands the *plant*. The plant is the element where a company's operations are executed (i.e., purchasing, production, inventory, and sales).

The plant should be an SAP element that reflects a physical location within the company structure. In other words, it's the SAP tool to reflect a manufacturing plant or a distribution center. In some cases, when the operations within a facility are too different from one another, you can also reflect two separate plants in the SAP system. For example, if you have a manufacturing plant that assembles radios in one wing and TV sets in another, then you might want to split it into two separate plants within SAP. Below the plant, there are several levels from different functional areas.

# 1.2.4 Storage Location

These are places where stock is kept. In the SAP system, the storage locations keep the quantity and value of every material a company uses. Every time a material is received from a vendor, used in a production order, or sold to a customer, the storage location reflects these changes in the stock levels and at the same time it updates the accounting General Ledger.

#### 1.2.5 Warehouse

The warehouse number represents the physical warehouse complex, including all of the racks, cages, and crates that are used to store the product. While the storage location tells you how many units of a certain product you have and how much they are worth, the warehouse number tells you where in the warehouse to find them. It is built from a number of storage types, storage sections and finally storage bins. Basically, it's a system of coordinates to pinpoint a product location.

## ► Storage type

These definable logical and physical locations allow you to reflect either the physical layout of the facility or the logical division of zones based on the picking or putaway techniques. Storage type consists of one or more storage sections.

## Storage section

This structure gives you the ability to subdivide your storage type and you must have at least one section per storage type for the warehouse structure to function. Sections allow you to group together storage bins with similar features or uses.

## ▶ Storage bin

Storage type and storage section can contain one or several storage bins—for example, rack spaces or slots. This is the smallest available unit of space in a warehouse. The storage bin provides the information on location of the goods in the warehouse structure.

# 1.2.6 Purchasing Organization

This represents the different purchasing groups in your company. For example, if there is a group in charge of buying raw materials for manufacturing, another in charge of buying computer equipment, another one for capital assets, and so on, each of them could be set up in the SAP system as a different purchasing organization.

# 1.2.7 Purchasing Group

The purchasing groups represent the people in charge of procurement—simply put, the people responsible for buying things you need. Each purchasing group can have a name, telephone number, fax number, and email address. All this information is added to a purchase order when it's printed or sent to the vendor so users have a way of contacting the buyer.

# 1.3 SAP ERP Logistics: Components and Integration

Logistics in SAP ERP is built on a collection of applications, components, and functionalities that crisscross themselves, automating and recording materials and services requirements, external procurement, production, storage, quality management, foreign trade, and so on. It's been expanding release after release, bringing some of the former add-ons to a standard core set of functionalities. The current version of SAP ERP 6.0 includes many new functionalities that add new features, such as global trade management, compensation management, and agency business, but the core has not changed much throughout the years. Some companies may also be implementing components such as SAP Project System and SAP Environmental, Health, and Safety Management (SAP EHS Management). Common features used by almost all logistics subcomponents may also include handling unit management, batch management, engineering change management, and variant configuration.

Let's review some of the most important logistics components in a little bit more detail.

# 1.3.1 Materials Management

The Materials Management functionality in SAP ERP is one of the oldest functionalities and serves as a foundation for the logistics functions of the entire company. The key components of Materials Management include consumption-based planning, purchasing, inventory management, logistics invoice verification, and physical inventory. It houses key master data objects that are shared with other

functionalities and includes the material master, service master, batch records, and vendor master.

Outside of integrated master data objects, such as the material master, which is shared by almost all of the ERP components and functionalities, there are also component-specific master data objects, such as purchasing info records, source lists, and quota arrangements. These are very important while executing the different system transactions, because the system will determine the correct data based on these master data records.

## 1.3.2 Sales and Distribution

Sales and Distribution covers the entire chain of processes (order-to-cash) from customer inquiry and sales orders to the delivery of products to the customer destination of choice through billing and payment collection. The components of logistics execution are also heavily integrated and include picking, packing, and shipping. We'll talk about SD functions later in this chapter in detail.

# 1.3.3 Logistics Execution

The Logistics Execution functionality of SAP ERP covers all product movements for your company-starting with goods receipts via inbound delivery, where goods are following the standard of pick, pack, and putaway. This is accomplished using the Warehouse Management (LE-WM) functions via transfer order processing. Then the goods can be moved internally within the plant between storage locations, using inventory management functions or using shipping functions via outbound delivery to execute cross-plant or cross-company movements. It can also involve the SAP Transportation Management (LE-TRA) functionality that allows grouping deliveries into a shipment or chain of shipments. The same process also applies to customer orders, where it's integrated into the sales order fulfillment part. If the WM functionality is implemented, a very granular process is available where transfer orders help in executing picking and packing, and where tasks and resources are managed efficiently with the use of RF (radio frequency) devices. Also, the yard management (LE-YM) functionality is available to streamline the dock and trailer yard operations. We'll touch base on the Logistics Execution processes throughout this book.

# 1.3.4 Production Planning and Control

The Production Planning functionality in SAP ERP helps you manage your company's production process. The production process starts with the analysis of your requirements and includes input from long-term or short-term forecasts, Sales and Operations planning, external planning tools such as SAP APO (Advanced Planning & Optimization), and material master settings.

The basic planning procedures are defined in different material requirements planning (MRP) types. Using consumption-based planning, the system looks at past consumption values and forecast or statistical calculations to determine future requirements.

The MRP procedure takes current and future sales figures as its base point to determine future requirements for the entire BOM structure, which produces better planning results than consumption-based planning.

Production Planning has its own master data objects, including work centers, routings, BOMs, and recipes, and allows you to execute capacity planning, master production scheduling (MPS), execute MRP, and perform and capture shop floor operations.

#### 1.3.5 Plant Maintenance

The Plant Maintenance functionality is used to maintain the equipment and other technical infrastructure used by your company and your customers. It allows you to plan, schedule, and execute inspections, preventive maintenance, repairs, and refurbishment, as well as manage external services. Plant Maintenance has its own enterprise structure components, including maintenance plant, locations and plant sections, and master data applicable exclusively to Plant Maintenance, such as functional locations, work centers, equipments, and BOMs.

# 1.3.6 Customer Service

The Customer Service functionality helps companies service customers with warranty repairs and servicing of products where materials can either be sent back to you or your affiliates for repair or be maintained on site. If you manufacture and sell products with warranties, this functionality in SAP ERP will help your company maximize the efficiency of your service and repair operations. Customer

Service is frequently implemented in tandem with Quality Management, which helps resolve product quality issues.

# **Quality Management**

The Quality Management functionality is fully integrated with other SAP functionalities and components, and it is configured to fit your company-specific requirements. Settings could be specific to industry sectors and geared to support FDA or GMP regulations.

The standard Quality Management functionality supports the classic quality management tasks such as quality planning, quality inspection, and quality control, as well as supplementary functions such as integration with Engineering Change Management (ECM). It's also fully integrated with other logistics components such as Materials Management, Production Planning, Sales and Distribution, Project Systems, Plant Maintenance, and Customer Service.

# 1.3.8 SAP Global Trade Management

SAP Global Trade Management (GTM) is part of the family of modules from the SAP ERP Business Suite. It was designed by SAP, taking into consideration those companies oriented to Global Operations with large scale trading contracts or partners around the world and involving multiple trading countries. The GTM application is delivered by SAP as an add-on, which means that you need to activate it to make it available for configuration and usage in SAP ERP.

You can activate GTM via the Configuration menu (SPRO) Logistics • General • GLOBAL TRADE MANAGEMENT • ACTIVATE COMPONENTS. During activation, you will find that GTM can be activated generally or specifically one functionality at a time based on your company needs.

GTM is particularly useful when purchasing and sales orders are involved in a transaction, even when they're triggered in parallel. General traders or commodity traders, wholesales, and importers or exporters are some typical SAP clients who use GTM as part of their ERP System. One of the main objectives of GTM is to keep and improve the effectiveness of the supply chain, primarily by integrating all elements of the logistics, accounting, and settlements to buyers as well as sellers.

#### **GTM Processes**

At first instance, you can say that domestic sales, domestic sales with receipt to warehouse, and foreign sales constitute the main processes covered by SAP GTM. Each begins with an inquiry followed by the draft contract, which in turn gets confirmation as a final contract. You can find an overview of the GTM components in Table 1.1.

GTM Component	Description
Trading Contract	Allows both sales and purchase orders to be maintained within a single transaction. You have control of both in one place. Based on the type of scenario you are running, a Trading Contract also is the integration between sales and purchase documents in ERP, such as in import trading contracts or export trading contracts.
Trading Execution Workbench (TEW)	TEW is a central tool or cockpit that helps you process trading contracts and subsequent components such as sales and purchase orders.
Position Management	GTM delivers a subcomponent to help you reduce inventory risks and loss of sales via two main functionalities: Portfolio Management and Association Management.
Trading Expenses	Trading incurred costs and commissions are controlled via Trading Expenses in GTM, including your freights, storage and loading costs, insurances, commissions and customs duties, among others.
Archiving Data in SAP Global Trade Management	This tool provided by GTM is very useful to keep reduced data to a minimum. Archiving data helps your system perform faster and is easy to maintain.
Differential Invoices	Differential Invoices enables business functions using Contract-to Cash for Commodities and Procure-to Pay for Commodities, to establish the differentials in Purchasing, Inventory Management, and Logistics.
Invoice Forecasting (IFW)	IFW is primarily a tool that enables current outstanding contracts to be invoiced. IFW is a real-time tool. It provides you with real-time prices of commodities, market prices, prices on the contract, average pricing, FX under consider periods, among others.

Table 1.1 Global Trade Management Components in SAP ERP 6.0

Global trading and trading business starts with a sales order for customers or a purchase order for vendors. The implementation and configuration of both Sales and Distribution and Material Management (MM) components and settings are mandatory. The customer and vendor master data should be configured to allow the GTM application to coexist and integrate properly (see Figure 1.4).

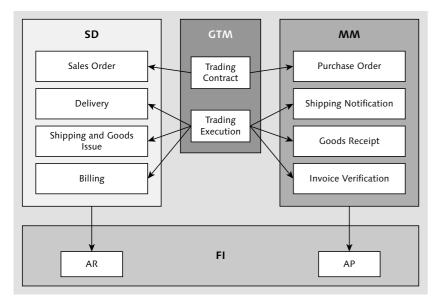


Figure 1.4 GTM Integration with ERP SD, MM, and FI

Additional SD elements such as pricing conditions and sales transactions are also required. Enabling purchasing transactions in the MM side is also essential to the well operation of the GTM application. Trading Contract interacts with sales orders as well as purchase orders, while Trading Execution interacts with Delivery, Shipping, and Billing on the SD side, as well as Shipping, Goods Receipts, and Invoice Verification on the MM side. AR and AP postings are placed throughout the supply chain cycle.

## 1.4 Sales and Distribution

The Sales and Distribution functionality in SAP ERP (which throughout this book we'll simply refer to as Sales and Distribution or SD), with the help of integration

with other functionalities such as Materials Management and Logistics Execution, covers the entire order-to-cash process of your company. This is also one of the oldest applications, which was part of the SAP R/2 version.

SD has evolved to be a very robust and flexible functionality of the core SAP ERP solution that today is very well complemented by the SAP Business Suite packages such as SAP Customer Relationship Management (SAP CRM) covering the frontend of business activities and customer interaction, and by SAP Supply Chain Management (SAP SCM) covering the distribution and delivery end.

In this section, we'll describe the enterprise structure components (see Figure 1.5 for an overview of all structures that are used in SD), talk about the sales area, and define the main activities that we'll be covering in later chapters. Let's start with pre-sales, credit management, order processing, picking, shipping, transportation, and billing.

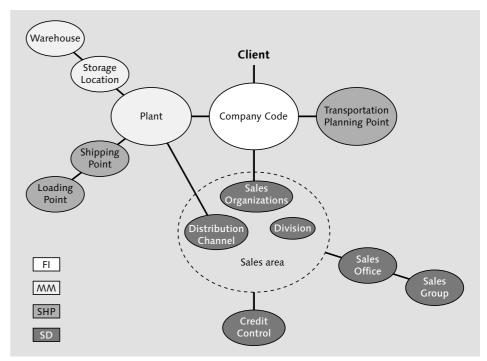


Figure 1.5 Enterprise Structure Overview and Integration in SAP ERP

# 1.4.1 Organizational Structure in Sales and Distribution

The SAP system allows complex multitudes of business units to be defined and to represent the functional and legal structure of your company. As described in previous sections, every business activity in the SAP system is transparent and may be recorded by multiple functionalities or components that use different enterprise structures supporting them in an integrated fashion. SD is integrated as well and joined with Financial Accounting, Materials Management, and Logistics Execution components such as Shipping & Transportation.

## **Sales Organization**

The sales organization has an enterprise structure in logistics that's defined for distributing goods and services. This structure can mirror the business presence of your sales organization and mimic regional structure or international layout. The SAP system requires at least one sales organization to be defined for the SD functionality to work. A sales organization has to be assigned to the company code for accounting to be integrated.

Bear in mind that more than one sales organization can be assigned to a single company code. All activities within this structure are reported at the sales organization level as a summation level. The sales organization has its own address, currency, and calendar that can be different and unique to each sales organization you've defined.

#### **Distribution Channel**

The distribution channel identifies a unique way for your customers to obtain goods and services from your company, such as wholesale, retail, Internet sales, and so on. By design, to use the SD functions, you need at least one distribution channel. A distribution channel doesn't have addresses, calendars, or currencies to maintain. They're defined in the parent object: the sales organization. Each distribution channel can span across one, some, or all of your sales organizations. You can also assign one or more plants to a combination of sales organization and distribution channel, but you need at least one for SD to function. After you define the distribution channel, you'll be able to do the following:

- ▶ Define materials and services master data.
- ► Create and maintain your customer master data.

- ► Allow for complex pricing strategies.
- ▶ Define determination of sales document types.
- ▶ Use the channel in sales statistics.

#### Division

This SAP enterprise structure is usually based on a wide group of products or services. Just like a distribution channel, a single division can be assigned to multiple sales organizations, and you need exactly one division for SD to function. Your material and customer master data has parts that are specific to the division, therefore allowing you to maintain business activity limited to a narrow group of goods and services.

#### Note

A material master record can belong to only one division and is maintained on the master data tab Sales: Sales Org. Data 1.

You can make customer-specific agreements, set pricing, set terms of payment, and perform statistical reporting that limits the data selection to a specific division.

#### Note

Customer master data is specific to a division and is one of the key structures used in master data maintenance.

#### **Sales Office**

In the SAP system, the sales office is optional. You can use SD without creating sales offices. If your organization needs this granularity of data, you should know the following:

- ► A sales office can be assigned to one or more sales areas.
- ► A sales office can consist of sales groups, usually representing a salesperson or a group of salespeople.
- ▶ You can maintain an address for the sales office.
- ▶ The sales office acts as a selection criterion for sales document maintenance.
- ► You can use a sales office to determine the output for your sales documents.

# Sales Group

In the standard SAP system, the definition of sales groups is optional and usually represents the salesperson or a group of salespeople. You can use the SD functionality without creating any sales groups. However, if you're using this in your system, it allows you to do the following:

- ▶ Assign a salesperson to the code representing a sales group.
- ► Assign a sales group to one or more sales offices.
- ▶ Select the sales group as a criterion for sales documents.
- ▶ Use this structure to influence printer determination for your sales documents output.

#### Sales Area

The main component required for SD to function is the sales area. A sales area is built from a combination of sales organization, distribution channel, and division described earlier. Basically, the sales area defines the distribution channel that a specific sales organization can use to sell products or services of a particular division. See Figure 1.6 for a layout showing the basic sales area.

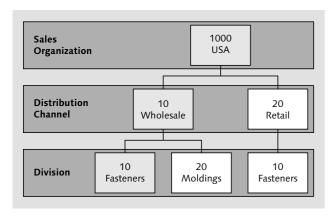


Figure 1.6 Basic Sales Area Structure

In this figure, you should identify three sales areas:

#### ► Sales Area 1:

▶ Sales Organization: 1000

▶ Distribution Channel: 10

▶ Division: 10

#### ► Sales Area 2:

Sales Organization: 1000Distribution Channel: 10

▶ Division: 20

#### ► Sales Area 3:

Sales Organization: 1000Distribution Channel: 20

▶ Division: 10

#### Credit Control Area

The credit control area is a Financial Accounting organizational unit that maintains and monitors credit limits for customers. A credit control area can be assigned to one or more company codes. It isn't possible, however to assign a company code to multiple control areas. Multi-currency credit limits aren't supported within single credit control areas.

# Plant, Storage Location, and Warehouse

To procure, store, and distribute goods and services, you need a Materials Management structure called a plant, which we discussed earlier in this chapter. The plant is linked to the company code, which is defined in SAP ERP Financials Financial Accounting. It's also linked to the Sales Organization and Distribution Channel, integrating all three together—Materials Management (material inventory) and Financial Accounting (where all transactions are recorded on the company books).

To inventory your products, you also need a storage location or multiple storage locations representing your warehouses, including at least one for SD to function and fulfill the deliveries.

To get down to the bin level management of your goods, you also create a warehouse structure that can be assigned to one or more storage locations.

# **Shipping Point**

The enterprise structure component responsible for the distribution activities is a shipping point. This logical definition can mirror your physical shipping dock, mail depot, or a group of people responsible for distribution activities. You can have multiple shipping points per plant, but you need at least one for the shipping functionality to be available. More than one plant can also be assigned to a shipping point, although this is recommended only for plants that are close to each other. A shipping point has its own address and calendar, influencing the scheduling and processing of deliveries to customers, as well as your own replenishment deliveries. The shipping point also influences the pick storage location determination together with plant and shipping condition. The organizational assignment of the shipping point is carried out at plant level.

## Note

Single sales orders or stock transport orders can have multiple lines and multiple deliveries. A single delivery can be processed only by one shipping point.

## **Loading Point**

Shipping points can have loading points, representing structures such as loading docks, and can be assigned during delivery processing. You can also assign the name of the person responsible for the loading dock location. Loading points are optional and aren't required for the shipping functionality to work.

# **Transportation Planning Point**

The transportation planning point is assigned to the company code and allows for planning and execution of shipments (documents that group one or more deliveries). Transportation planning points can represent a physical transportation department responsible for type of shipment, geographical territory responsibility, and have its own address. You need at least one for transportation functionality to be available. You can have one or more transportation planning points for a company code, but you can't share the transportation planning points among multiple company codes.

# 1.4.2 Processes in Sales and Distribution

The SAP software package is designed to capture almost any business activity, and if the standard functionality isn't available, it allows you to create custom solutions to close the gap between the pre-packaged application and the desired state. Out-of-the-box SD functionality covers most of the standard business functions that are universal for most industries. See Figure 1.7 for a quick process overview.

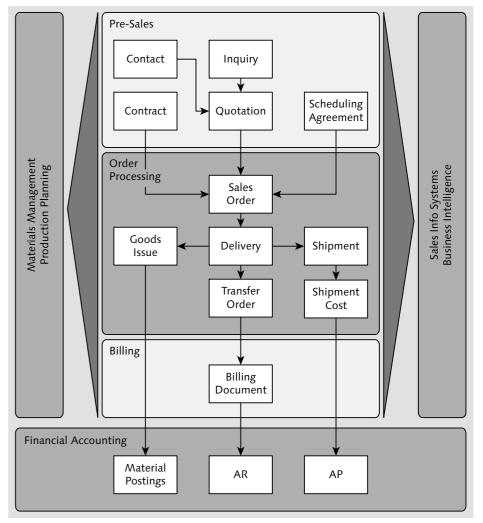


Figure 1.7 Sales and Distribution Process Overview

## **Pre-Sale Activities**

In real-life scenarios, before the sale takes place, your business needs to collect basic data and create master records in the system for either existing or potential customers. You'll create data for contact people, sales prospects, and existing customers, and you'll also maintain data about your competitors. After this foundation is established, the actual contact with the sales prospects is made and can be recorded as an SD document in the form of inquiry or quotation. These documents can help you determine important sales-related data that can be accessed for reporting purposes, to evaluate sales activities, and finally to convert to sales orders, giving you a full record of the sales activities from establishing the contact with the customer to collecting the payment. Storage of the pre-sales data also helps with establishing large contracts and scheduling agreements. We'll cover all of the activities and documents in detail throughout the rest of this book.

# **Order Processing**

Order processing is built on myriad activities and usually starts with recording the actual sales order, then procurement steps if goods or services aren't available, followed by delivery picking, packing, and shipping to the final destination.

The sales order document stores the data of customer's firmed request for your goods or services. The system uses master data you've maintained and established to fulfill this request. Sales orders are recorded either by your own sales force or directly by customer via web front, EDI, or XML interface messages.

The sales order contains customer information, partner data (sold-to, ship-to, bill-to), material, quantity, pricing, delivery date, and shipping and transportation information required for delivery. A goods availability check is performed at the time of the order entry, triggering the potential procurement requests as needed.

The requirements created by the sales order can be filled from available on-hand stock inventories, procured by replenishment that is processed by internal source such as stock transport orders or production orders or by external sources such as purchase orders replenishing your in-house stock levels, or via third-party delivery—performed by external supplier shipping goods directly to your customer on your behalf.

On the shipping due date, the delivery documents are created, and the route is determined if you are using the SAP Transportation Management software. You

can then start the process of picking, packing, staging, and loading, if you're using all of these steps in your business process. If you are using SAP WM functionality (lean warehouse management or standard Warehouse Management in SAP ERP), you're using transfer orders to initiate picking. The transfer order includes data copied from the delivery document. Standard SAP functionality provides some complicated picking methods such as grouped deliveries, wave picking, and two-step. Transfer orders can be processed as printed pick tickets or in electronic form using RF devices on the warehouse floor. The confirmation of the transfer order completes the picking activities. If you use the transportation functionality, you can also start collaborating with freight service providers, start the tendering process, and finish up by creating the shipment cost document, which captures the payable activities related to the delivery of goods to your customers. Delivery packing list and bill of lading output are usually triggered at the completion of these steps.

The posting of the goods issue completes the process and results in stock movement or a confirmation of service that changes your on-hand inventory balance, reducing it and updating the balance sheet accounts in Financial Accounting.

# **Billing**

The last step before collecting your customer's payment is creating a billing document or invoice that is sent to the customer's bill-to party for payment request. Just as with the delivery document, data is copied from either the sales document or the delivery document and other billing documents, creating credit or debit memos. When you create the billing document, account determination is performed, and appropriate GL account postings are executed that debit the customer's receivables and credit the revenue account.

# **Financial Accounting**

As we touched on earlier in this chapter, the integrated philosophy of SAP is showing you how all activities, in one form or another, end up recorded in the balance sheet accounts in Financial Accounting.

The material documents recorded when the goods issue was posted, and a subsequent accounting document stored the stock movement data. The transportation service provider purchase order ended up as an entry for accounts payable, and

Additional activities may also be performed when differences are reconciled and potentially resolved with either credit or debit memos.

All activities in the SD process end up reflected in the system as documents, master data, and pricing records, and they are used as a foundation for the sales info system (SIS) or SAP Business Warehouse for reporting.

# 1.4.3 SAP HANA Overview and SD Application

In this section, we explain in simple terms what SAP HANA has to offer, how your daily job will be impacted by this technology, and also what SAP HANA is and how it impacts the Sales and Distribution component.

Let's begin by saying that SAP HANA is a piece of technology that allows you to process massive analysis of real-time data in the memory of the servers. This means no more delays or long hours spent on a Friday night running that report required by Monday. Without being too technical, SAP HANA is becoming the platform for current and future SAP analytics and applications. This is the reason why it's important to understand the basics of SAP HANA to manage the coming changes better.

#### Note

SAP HANA stands for *high-performance analytic appliance* and relates to an in-memory, relational database management system developed by SAP.

#### SAP HANA for the Cloud, Mobile, and Social Media

SAP now supports cloud computing. In October 2012, HANA One was announced as a variation of the original SAP HANA technology, which uses a smaller amount of memory via Amazon Web Services. In 2013, SAP HANA also began offering the HANA Cloud Platform (hosting services and cloud environment), and SAP HANA enterprise cloud (enterprise solutions for SAP Business Suites and Business Warehouse as Service). Mobile and social networks are supported by a real-time data platform in SAP to allow you uniformity and a faster data analysis.

SAP HANA functions are delivered to SAP ERP via Services Packages (SP) rather than the regular software versioning (see Section 1.1.7).

#### SAP HANA Impact on Sales and Distribution (SD)

As of EHP 6 with SAP HANA, only SAP HANA-Optimized is delivered with functionality for SD. SAP HANA also provides you with a platform to develop applications and is expected in a near SP to have more SD applications based on this new technology. SAP HANA significantly expedites the time spent running Sales and Distributions reports. Do you remember having to stay longer at work running the billing list or the shipping list? Or having to trigger them via a nightly batch process just to find out the next day they weren't finished yet? SAP HANA-Optimized could be the solution.

#### SAP HANA-Optimized and How It Can Help You in Sales and Distribution

SAP HANA-Optimized is part of business intelligence (BI) that uses HANA technology. SAP HANA-Optimized BI content uses DataSources and BEx queries to expedite analysis of SD reports such as sales overviews, delivery, pricing conditions, service levels, and even SD backorders. SAP delivers BEx queries using MultiProvider, which enables you to run reports at a more granular level without the loading of data into an InfoCube (real-time data). In contrast to the current InfoCube in BI, data upload is required.

## MultiProvider

InfoProviders and MultiProviders are the objects or views that are relevant for reporting. A Multiprovider is a type of object that combines data from a number of InfoProviders for reporting purposes.

SAP delivers the following SD BEx queries that run on MultiProviders applicable to Sales and Distribution. They'll be discussed in detail in the online download (refer to www.sap-press.com/3672).

- ► Sales Overview (/IMO/SD M10).
- ► SD-DLV: Service Level (/IMO/SD\_M50)
- ► Delivery (/IMO/SD\_M20)
- ► Delivery Overview (/IMO/SD\_M20\_Q0001)

- I Introduction
  - ► Billing SD-DLV: Backorders (/IMO/SD\_D51):
  - ► Billing SD-DLV (/IMO/SD\_D30):
  - ► Pricing Conditions (/IMO/SD\_M40)

# 1.5 Summary

In this chapter, we provided a lot of information as briefly and simply as possible, including a history of SAP, a discussion of enterprise structure, and an overview of key SD processes. You should now understand all enterprise structure components of SAP ERP. You should also be able to recognize SD-specific enterprise structure components and understand the core integration points with other functionalities. Understanding these components provides a great foundation to continue with the next chapters, where we'll discuss master data and sales processes in detail.

Sales is the core activity involved in providing your customers with products or services in return for payment. In this chapter, we'll walk through the entire process, from inquiry to order creation.

# 3 Sales

Sales is the process that enables you to deliver goods or services to your customers so you can collect payment or replace a faulty product, and be able to measure the effectiveness of your order fulfillment. In this chapter, we won't discuss how to excel in sales techniques; instead, you'll learn about how you can better use the sales functionality in the SAP system. We'll walk through the entire sales process from inquiry to order creation or customer returns. We'll also cover credit management, some basic foreign trade, and back order processing functions that interact with your standard sales activities on a transactional basis. First, however, we'll start our discussion about sales by defining the organizational structures in which sales transactions occur, and how different topics and items are grouped.

# 3.1 Sales Document Components

As mentioned before, all of your sales transactions occur within the organizational structures that you defined in configuration; will use pieces of master data you've maintained, as described in the previous chapter; and will finally come together in a business transaction recorded in the system as sales documents. These documents can be grouped into four distinct categories, and then within each category there are several document types (see Table 3.1) for details:

- ► Presales documents (inquiries and quotations)
- ► Sales orders
- ► Outline agreements (contracts and scheduling agreements)
- ► Customer complaints (free-of-charge orders and credit memos)

Document Category	Description	Sales Document Type
Presales Documents	Inquiry	IN
	Quotation	QT
Sales Orders	Standard Sales Order	OR
	Cash Sale	BV
	Rush Order	SO
Outline Agreements	Quantity Contract	CQ
	Maintenance Contract	WV
	Rental Contract	MV
	Scheduling Agreement	DS
Complaints	Credit Memo Request	CR
	Debit Memo Request	DR
	Returns	RE

Table 3.1 Sample of Standard Sales Document Types

#### 3.1.1 Sales Document Structure

Before we start the detailed review of each of the document categories, we'll define the functions of the document types and item categories, and describe how they interact with each other as they store the history in the document flow.

#### ▶ Document flow

The entire processing chain of sales documents, the history of your transactions—from the inquiry, quotation, sales order, delivery, and then invoice—creates a document flow stored in the database. This history is linked to all documents, which creates a visual hierarchy displayed in each of the documents in the chain. This allows you to navigate from one document into another seamlessly to help track history and resolution should issues arise.

# ▶ Document type

Document types represent a set of controls that enable you to define an individual behavior that mimics your business process at the document level. Your document type controls how some of the functions are performed when you

start processing business transactions, such as order entry. You can find a variety of these predefined sales document types, or you can set your own in Customizing. Figure 3.1 shows some of the predelivered order types in SAP ERP.

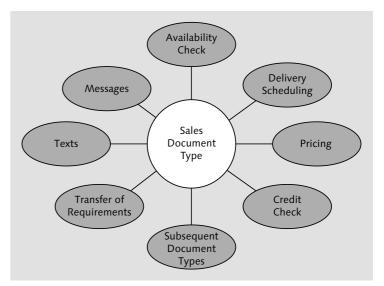


Figure 3.1 Sales Document Type Control Functions

For example, you can define your document type to perform delivery scheduling to predetermine the shipment start dates, and run the availability check to confirm promised quantities. You can automate the pricing and tax determination or leave some for manual input. You can set up your document to auto-determine texts you want to include when printing documents. All of these functions control not just the sales document itself but also the follow-on documents and their behavior. Figure 3.1 provides an overview of controls and most important influencing elements defined in Customizing for sales document types.

# 3.1.2 Customizing Settings of a Sales Document

We aren't going to cover Customizing transactions and details on setting up your document types, but you need to understand the influence of its components during sales processing.

Each document type has different attributes, and these attributes are set in customizing. Some of the most relevant settings are:

#### ▶ General Data

- ▶ CHECK DIVISION: This controls whether the division value used in the sales document will be taken from the material master record for all items or whether the alternative division specified in the header will take precedence.
- ▶ REFERENCE MANDATORY: This means the preceding document is required. For example, you would need to require an inquiry before a quotation is created.
- ► CHECK CREDIT LIMIT: This means that your customer credit check will be performed.
- ▶ ITEM DIVISION: This controls whether the value for the division comes from the material master record of the item. If the field is blank, the division in the document header applies to all items.
- ▶ READ INFO RECORD: This means the system will search for customer material info records during order entry.
- ► SCREEN SEQUENCE: This controls which screens and in what sequence you see them during document processing.
- ▶ INCOMPLETION PROCEDURE: This controls the assignment of the incompletion procedure that checks your order for fields that are defined as mandatory before further processing can take place.
- ► INCOMPLETION MESSAGES: This means that you control whether the incomplete document can be saved.
- DOCUMENT PRICING PROCEDURE: This setting determines how the system carries out pricing for the sales document.
- ► LEAD TIME IN DAYS: This defines the number of days from the current day added to the calculations for the proposed delivery date.
- DATE TYPE: This is where you can set up whether your schedule lines will use day, week, or month as a base time unit.
- ▶ Proposal for Pricing Date: This is where you can control whether the pricing will use the proposed delivery date or a date of the order creation.
- ▶ PROPOSE DELIVERY DATE: If this is set, the system uses the current date as your delivery date.
- PROPOSE PO DATE: If this is set, the system automatically proposes the current date as the purchase order date.

# ► Shipping Data

- ▶ Delivery Type: This determines which delivery type will be created as a subsequent document type.
- ▶ Delivery Block: This is where you can define whether the delivery block should be set automatically, or whether someone in your organization needs to check the delivery details before shipping takes place.
- ▶ Shipping Condition: When creating sales documents, this setting is normally copied from the customer master record, but if this value is maintained in configuration for the document type, it will take priority over the customer master data and will be set as a default value for your sales document.
- ► SHIPMENT COST INFO PROFILE: If you maintain this entry, the selected profile will be used to carry out options for shipment cost determination.
- ► IMMEDIATE DELIVERY: If this is set, your subsequent delivery can be created as soon as the order is saved.

## **▶** Billing Data

- Delivery Relevant Billing Type: This defines which billing document type will be the default for the sales document.
- ORDER RELEVANT BILLING TYPE: Here you control which billing document type will be applied for sales document items that aren't relevant for delivery but are relevant for billing.
- ► INTERCOMPANY BILLING: This specifies a default billing document type for intercompany transactions.
- ▶ BILLING BLOCK: You can define this as a default, which would automatically assign a billing block value in configuration and force you to check the document before billing can be executed.
- ► CONDITION TYPE LINE ITEMS: You can define the condition type used to transfer the cost of line items. If defined, the same pricing condition will be used for all line items of your document.

# 3.1.3 Item Categories

SAP item categories are defined to arm you with additional controls during sales document processing. Basically, the same material can behave differently when

processed by different order types. Just like with the document types, item category settings can give you completely different end results, depending on your business scenarios.

For example, the behavior of your normal standard order item can be totally different for returns order or cash sales. In real life, you may create the quotation for your customer's inquiry. The item category on the quotation isn't subject to delivery or billing. Then you create a subsequent sales order with reference to your quotation, so the item is deliverable by a third party. During your order creation, Customizing settings were accessed, and the destination order type and item categories were determined. Of course, you can create your own item categories by making the settings in Customizing to fine-tune controls and to match your needs. Table 3.2 lists some of the available standard delivered item categories.

Item Category	Description
AFN	Inquiry item
AGN	Standard item in a quotation
AGX	Quotation item
REN	Standard Return item
REQ	Full product returns
RLN	Returns order
TAC	Variant configuration
TAD	Service
TAG	Generic article
TAK	Make-to-order product
TAM	Assembly item
TAN	Standard sales item
TANN	Free of charge item
TAS	Third-party item
TAK	Make-to-order item

Table 3.2 Sample of Available Standard Item Categories

Also, you maintain the assignment of the item categories to your document types in Customizing by defining which item categories can be used with certain document types. Then you set up copy controls that allow subsequent documents to be generated with reference, where allowed combinations of source and target document types and item categories are maintained. You control what is getting copied for you from inquiry to sales order, and creating shipping and billing documents.

#### **Important Functions**

The following are some of the most important functions controlled by item category Customizing:

#### ▶ General Data

- ▶ ITEM TYPE: You can define whether the item is to be a material or a text item; for example, by changing how the system will perform certain functions such as tax determination.
- ► Special Stock: If you need to process special stocks in a different way, you have to select stock in scope.
- ▶ Pricing: You can define whether set pricing for the item will be carried out.
- ▶ Business Item: You can select all item data to deviate from those at the header level of the document.
- SCHEDULE LINE ALLOWED: You can define whether schedule lines will be allowed for the item.
- RETURNS: You can determine whether the item is a return item
- ► CREDIT ACTIVE: You can specify whether the item will be subject to credit management controls and updates.
- ▶ BOM AND CONFIGURATION: You can define controls around variant configurable materials.

# Shipping Data

- ► ITEM RELEVANT FOR DELIVERY: If you set this flag, the item category is subject for delivery.
- ▶ WEIGHT/VOLUME RELEVANT: You can determine the weight and volume of an item.

# ▶ Billing Data

- ▶ BILLING RELEVANCE: You can define whether the item is relevant for billing.
- DETERMINE COST: If you select this, the system will determine the cost.
- ▶ BILLING BLOCK: You can assign an automatic billing block for documents that have to be reviewed before billing.
- ▶ STATISTICAL VALUE: You can define whether the system will add the statistical item value to the total value of the order. If this is set, the customer isn't charged for the item.

## **Item Category and Order Type Interaction**

Finally, we have all of the pieces of this puzzle together, and we can draft a picture, as shown in Figure 3.2, of how order types and item categories come together during order processing.

# ▶ Determining the item category

The item category in the sales document is determined based on the combination of the sales document type and material master item category group.

For example, you have a material master defined with item category group NORM. During quotation entry—sales document type Q—your item category determination will select the default value, which is AGN Standard Item. In another example, if you're using the same material, you enter the standard sales order—sales document type OR—and the determination will look for a default value finding TAN—Standard Item Category.

# ► Schedule line categories

We started analysis of sales document control elements from document type, adding a line item layer represented by item categories, and finally we're down to the most granular level represented by schedule line category. The schedule line is required for any sales order to create the subsequent delivery document. Also, the assignment of schedule lines to item categories and MRP types makes a connection between your sales activities and materials planning where MRP type is also assigned in the material master. You can have up to three manual schedule line categories assigned to a single item category/MRP type combination.

Standard predelivered schedule line categories' key characters represent the schedule line usage, as shown in Table 3.3.

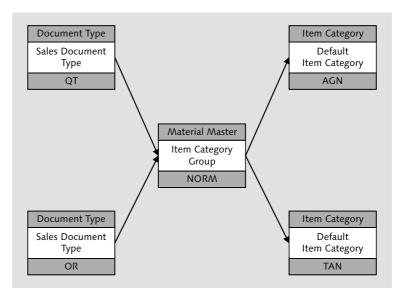


Figure 3.2 Item Category Determination Example

First Character	Usage
Α	Inquiry
В	Quotation
C	Sales order
D	Returns
Second Character	Usage
Т	No inventory management
X	No inventory management with goods issue
N	No planning
P	MRP
V	Consumption-based planning

Table 3.3 Schedule Line Usage Definition

The schedule line allows you to control the following data types.

#### ▶ General Data

- ▶ Movement Type: This is where you assign the movement type that will be used during goods issue—posting quantity and value changes to inventory and accounting. This shouldn't be set up for inquiry, quotations, and sales orders in SAP environments without integration with Inventory Management. Movement type is also to be specified for return delivery but not for return items.
- ▶ REQUIREMENTS: You have to set this flag to recognize the requests for materials that are assigned to your line item schedule line by MRP, transfer of requirements will also be carried out.
- AVAILABILITY: Here you control availability check relevancy. This is the lowest level of the availability check control.
- ▶ Purchase Order/Purchase Requisition: If you select this checkbox, purchase requisition can be automatically generated where default data for the purchase order type, item category, and account assignment category comes from values you maintain here.
- ▶ INCOMPLETION PROCEDURE: This is where you can control the assignment to incompletion procedure that determines which fields must be completed before the document can be processed further.

# ▶ Shipping Data

- ▶ ITEM RELEVANT FOR DELIVERY: You can set this checkbox if the schedule lines for your order items are relevant for physical delivery of goods.
- Delivery Block: You can use this feature if you decide to automatically block your orders schedule lines from being delivered. Just like with order types and item categories, it allows certain orders to be reviewed before further processing takes place.

Now that you have a good understanding of the core fundamental structure of sales documents, let's move on to discuss the actual documents in the works starting with the presales documents: inquiry and quotation.

# **Inquiry and Quotation**

As we briefly described in Chapter 1, the SAP system provides you with tools to capture all sales-related activities from the very first contact with your potential prospects to establishing long-term contractual agreements that capture all of your sales and marketing employees.

Armed with the information about current and prospective customers and contacts, you can now start recording your initial sales activities in the form of an inquiry and follow up with a quotation document that will be created as a response to the customer's inquiry. During the course of negotiations, you may be changing delivery dates, partners to whom the goods are to be shipped, or payment terms. You may have to adjust item categories and schedule lines if the negotiations require it. Standard predelivered document types and the combination of item categories and schedule lines are listed in Table 3.4.

Document Type	Item Category	Schedule Line
IN – Inquiry	► AFN – Inquiry Item	► AT – Inquiry Schedule Line
QT – Quotation	► AGN – Standard Item	► BV – Consumption MRP
	► AGNN – Free-of-Charge Item	► BN – No MRP
		► BP – Deterministic MRP

Table 3.4 Inquiry and Quotation Components Structure

You can also leverage the alternative items function to offer your customers substitute materials just in case the item requested isn't available. If your customer decides to accept one of the alternative materials, you can copy it from the quotation when you create the sales order.

When you create the quotation document with reference to an inquiry with alternative items or when you create a sales order with reference to a quotation with alternative items, the system automatically copies only the main items. If you want, you can copy an alternative item instead. To do so, on the initial screen of the document creation, open the List options, and choose the alternative items instead of the main items.

In the following sections, we'll go into the processes you'll need to follow to work with both inquiries and quotations.

# 3.2.1 Inquiry

You may receive inquiries from your customers asking for a specific product, price, and availability. Your customer may also give you the required delivery dates with a quotation submittal deadline. When you start recording the inquiry, you must specify the sales area. Remember: the sales area will be responsible for further processing of this inquiry.

Table 3.5 provides a list of inquiry transactions. When you start using these transactions, you'll notice that all standard sales document functions apply, if configured, and you can use the full capability of pricing, partner determination, and most of the other master data components described in earlier chapters.

Transaction	Menu Path
VA11 – Create	Logistics • Sales and Distribution • Sales • Inquiry • Create
VA12 – Change	Logistics • Sales and Distribution • Sales • Inquiry • Change
VA13 – Display	Logistics • Sales and Distribution • Sales • Inquiry • Display
VA15 – Inquiries List	LOGISTICS • SALES AND DISTRIBUTION • SALES • INFORMATION SYSTEM •INQUIRIES • INQUIRIES LIST
V.03 – Incomplete Inquiries	LOGISTICS • SALES AND DISTRIBUTION • SALES • INFORMATION SYSTEM •INQUIRIES • INCOMPLETE INQUIRIES

Table 3.5 Inquiry Transaction List

The processing screens have the same controls throughout all transactions, so whether you make initial contact with your prospects or create sales orders, you should be able to navigate easily through all of these familiar screens. See Figure 3.3 for an overview of the CHANGE INOURY transaction screen.

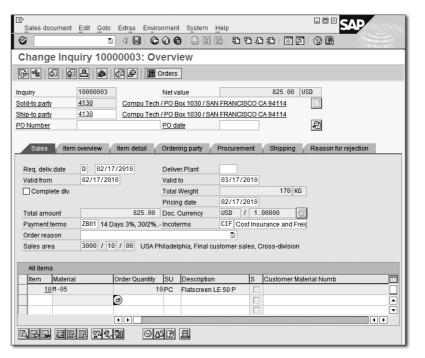


Figure 3.3 Inquiry Change Transaction Sales Screen

#### Create an Inquiry

Let's walk through the example of creating an inquiry. Start by running Transaction VA11 (Create Inquiry), or follow the menu path Logistics • Sales and -Distribution • Sales • Inquiry • Create.

- 1. On the Create Inquiry: Initial Screen, enter the inquiry type and necessary organizational data, and then press [Enter] (see Figure 3.4).
- 2. On the Create Inquiry: Overview screen shown in Figure 3.5, enter the following data:
- ▶ Customer number of the sold-to party and ship-to party if it's different
- ► Inquiry validity dates (start and end date)
- ► Material numbers or text in the Description field if no material number exists
- Order quantity
- Note item categories

Figure 3.4 Create Inquiry – Initial Screen

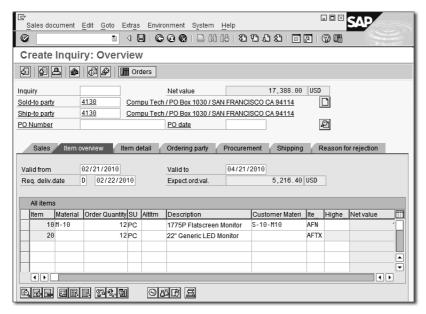


Figure 3.5 Create Inquiry – Overview Screen

# Note

If you used the standard settings for your document types, item categories, and schedule lines, the document won't be subject to delivery or MRP planning because it's just a customer's request for information.

#### Offer Alternative Material

If you want to offer your customer optional alternative material, follow these steps:

- 1. Start with the customer's first choice, and enter it in your inquiry.
- 2. Enter your alternative item directly under the main item to be replaced, and specify the material number.
- 3. Find the alternative item column (ALTITM), and enter the line item number (in our example, it is 10) of the material for which this item is defined as an alternative (the material you entered in the previous step—line item 10).
- 4. If you offer more than one alternative for an item, repeat the steps and enter the main item number as before (i.e., 10) (see Figure 3.6 for example).

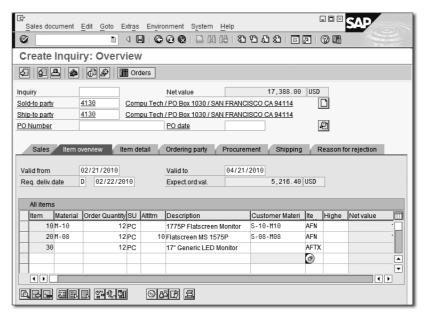


Figure 3.6 Create Inquiry – Overview Entry of Alternative Item

After each entry you make, press Enter to continue, and click on SAVE when you're ready to close and store your document.

#### 3.2.2 Quotation

The next presales transaction, the quotation, can be initiated as a subsequent transaction for the inquiry. Table 3.6 provides a list of quotation transactions for your reference.

Transaction	Menu Path
VA21 – Create	Logistics • Sales and Distribution • Sales • Quotation • Create
VA22 – Change	Logistics • Sales and Distribution • Sales • Quotation • Change
VA23 – Display	Logistics • Sales and Distribution • Sales • Quotation • Display
VA25 – Quotations List	Logistics • Sales and Distribution • Sales • Information System • Quotations • Quotations List
V.03 – Incomplete Quotations	LOGISTICS • SALES AND DISTRIBUTION • SALES • INFORMATION SYSTEM • QUOTATIONS • INCOMPLETE QUOTATIONS

Table 3.6 Quotation Transactions List

You can also create the quotation without a reference if you can immediately assist your customer and if you have all of the data needed to do so. This is a legally binding document that specifies the sold-to and ship-to partners and confirms a delivery of products or services based on conditions that you detail in this document, such as pricing, delivery schedule, incoterms, and so on. The quotation also has a validity period after which this offer expires. As with the inquiry, the look and feel is pretty much the same as that of the other sales document transactions you use when creating sales orders or inquiries.

Let's walk through a scenario of a quotation being created with reference to an inquiry. Start by running Transaction VA21 (Create Quotation), or follow the menu path Logistics • Sales and Distribution • Sales • Quotation • Create.

Here, you're creating a quotation with a reference to an inquiry:

1. On the Create Quotation: Initial Screen, enter the quotation document type and then click the Create with Reference button, as shown in Figure 3.7.

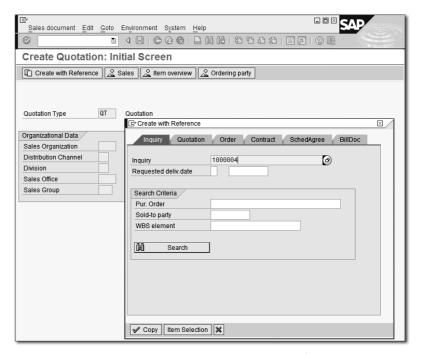


Figure 3.7 Create Quotation: Initial Screen – Create with Reference

- 2. Within the pop-up window, you have to specify the source inquiry document number. If you used the alternative items in your inquiry, click on the ITEM SELECTION button to check which item(s) you'll be quoting in your document. In no selection is made, the system will select main items from the inquiry, including alternative items. If you don't plan on making any item selections, simply click on Copy to continue.
- 3. On the main Create Quotation: Overview screen (Figure 3.8), enter the quotation validity dates (start and end date), and validate the following data:
  - ► Material numbers or text in the Description field if no material number exists
- Quantities
- Note item categories determined
- 4. If you need to make changes to pricing, which is usually the data object maintained the most during this presales activity, you can select the line item and use the ITEM CONDITION icon or the drop-down menus by choosing GoTo ITEM CONDITION, as shown in the item condition screen in Figure 3.9.

3

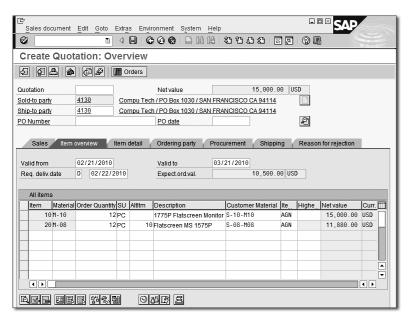


Figure 3.8 Create Quotation: Overview Screen

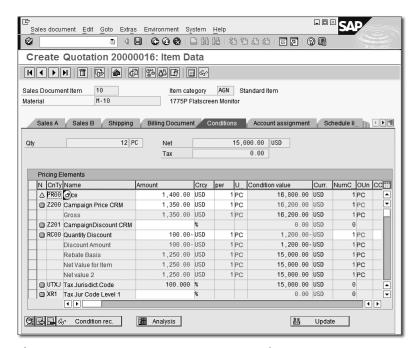


Figure 3.9 Create Quotation Item Data Pricing Conditions

After all of your entries are complete, click on the SAVE button when you're ready to close and store your document. The subsequent output condition can issue a printed or electronic version of your quotation ready to be submitted to your customer.

#### Note

If you're starting the quotation without a reference, you have to specify the document type and sales area data just as you do for an inquiry.

# 3.3 Sales Order

In the previous section, we covered your presales activities. Now, after you've sent the final, revised quotation to your customers, their own purchasing departments will decide if they are ready to purchase the quoted products or services and communicating to you their purchase order. After you get the go ahead from your customers, you can start creating the sale order with reference to the quotation used in the presales steps.

If your process isn't using any of the presales activities and documents, you can start creating your sales order directly without a reference. Your standard order will then follow the process flow discussed in Chapter 1, when we discussed the Sales and Distribution processes. You'll create the delivery document, finish your picking and transportation activities, send the goods on their way to your customer, and finish up with the billing run. Refer to Figure 1.7 in Chapter 1 for a quick process review and reminder.

Some of the standard SAP documents don't have these prerequisites, such as cash, catalog, or rush sales orders. Regardless of whether you're creating an order with or without a reference, you'll start with the same transaction. Table 3.7 provides a list of sales order transactions for your reference.

Transaction	Menu Path
VA01 – Create	Logistics • Sales and Distribution • Sales • Orders • Create
VA02 – Change	Logistics • Sales and Distribution • Sales • Orders • Change

Table 3.7 Sales Order Maintenance Transactions

Transaction	Menu Path
VA03 – Display	Logistics • Sales and Distribution • Sales • Orders • Display
VA05 – List of Sales Orders	LOGISTICS • SALES AND DISTRIBUTION • SALES • INFORMATION SYSTEM • ORDERS • LIST OF SALES ORDERS
V.02 – Incomplete Orders	LOGISTICS • SALES AND DISTRIBUTION • SALES • INFORMATION SYSTEM • ORDERS • INCOMPLETE ORDERS

Table 3.7 Sales Order Maintenance Transactions (Cont.)

For a sales order to be created, you must have either a predecessor document that you'll be using as a reference, or you must provide at the minimum some of the following information that comes from the master data objects covered in detail in Chapter 2, such as the following:

- ► Customer sold-to account number
- ▶ Material or service number sold to the customer
- ▶ Quantities ordered (if the item proposal is maintained or if the sale is being created with reference to a quotation, then the quantities will be copied, otherwise, they need to be entered manually)
- ▶ Pricing condition(s) for your materials or services
- ► Required delivery dates
- ► Shipping data, such as incoterms
- ▶ Billing data required for processing of payment

Also during order processing, you'll be using some of the functions we covered already or will cover in the next chapters. These include the following:

- ► Pricing
- ► Availability check
- ► Transferring requirements to MRP (material requirements planning)
- ► Delivery scheduling
- ► Shipping point and route determination
- ► Checking credit limits

In the next sections, we'll discuss some of the most important variations of sales order processes. Depending on your business scenarios and configuration, you should be able to find a few that will satisfy your business requirements.

Table 3.8 provides a list of a few of the standard predelivered document types you can use.

Document Type	Item Category
BV – Cash Sale	BVN – Cash Sales
	BVNN – Cash Sales Free of Charge
CR – Credit Memo Request	G2N – Request
	G2S – Statistical Request
	G2W – Request
	GFN – Request Billing Plan
	LFN – Request Billing Plan
DR – Debit Memo Request	L2N – Request
	L2S – Statistical Request
	L2W – Request
	GFN – Request Billing Plan
	LFN – Request Billing Plan
FD – Deliv.Free of Charge	KLN – Free of Charge Item
	KLS – F.O.C Non-Stock Item
	KLX – Free-of-Charge Item
KA – Consignment Pick-up	KAN – Consignment Pick-up
KB – Consignment Fill-up	KBN – Consignment Fill-up
KE – Consignment Issue	KEN – Consignment Issue
OR – Standard Order	TAB – Indiv. Purchase Order
	TAC – Config.at Mat.Level
	TAD – Service

Table 3.8 Sales Order Structure

Document Type	Item Category
	TAN – Standard Item
	TANN – Free-of-Charge Item
	TAS – Third-Party Item
	TAX – Non-Stock Item
	TAZ – Empties (Linked)
SO – Rush Order	TAN – Standard Item
	TANN – Free-of-Charge Item
TAM – Delivery Order	TAMA – Delivery Order Item

Table 3.8 Sales Order Structure (Cont.)

You can see now that most of the order behavior and follow-on functions will be dependent on the order type and item category definitions. With that in mind, we'll walk through some of the most commonly used document type examples and refer to some of the master data objects discussed in Chapter 2.

# 3.3.1 Creating a Standard Order

Let's walk through a scenario of a sales order being created with reference to a quotation. Start by running Transaction VA01 (Create Sales Order), or follow the menu path Logistics • Sales AND DISTRIBUTION • SALES • ORDERS • CREATE.

#### Note

If starting your order without a reference, you have to specify the document type and sales area data just as you did while working on the inquiry and quotation.

- 1. On the Create Sales Order: Initial Screen, enter the sales order document type you'll be creating and then click the Create with Reference button.
- 2. On the pop-up window, you have to specify the source quotation document number (see Figure 3.10). If you used alternative items (for example, in your source quotation), we suggest you click the ITEM SELECTION button to check which item(s) you'll be using in your sales order. If you don't plan on making any item selections, simply click the COPY button to continue.

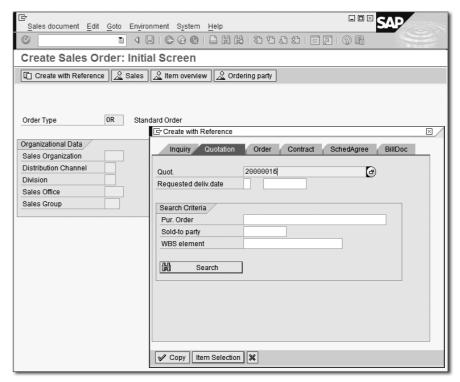


Figure 3.10 Create Sale Order with Reference Initial Screen

#### Note

The SAP system will reference a main item from the quotation without the alternative items. If you choose to provide your customer with the alternative items, you must select the correct item on the Selection List for Reference Document screen (Figure 3.11).

- 3. On the main Standard Order: Overview screen, verify the data that was copied from your source quotation, including the following:
  - ► Material numbers or text in the Description Field if no material number exists
  - Quantities
  - Note item categories determined
- 4. If you need to make changes to pricing, just as with quotations, you can select the line item and use the ITEM CONDITION icon or use the pull-down menu GoTo ITEM CONDITION.

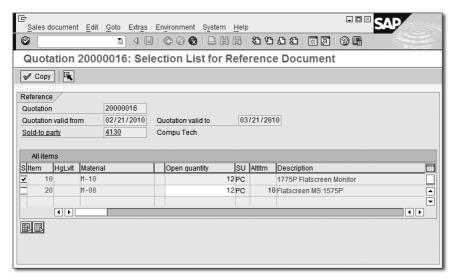


Figure 3.11 Selection List for Reference Document – Alternative Item

5. When you're ready to complete the process, click the SAVE button, the subsequent output condition can be issued, and a printed or electronic version of your order confirmation will be ready for your customer.

# 3.3.2 Using an Item Proposal in Sales Orders

In Chapter 2, we covered the master data definition procedure for an item proposal. Now you should be able to use your item proposal functionality in the sales order. Let's create a sales order without a reference, so you can see how it works. Let's start with running Transaction VAO1 (Create Order), or you can follow the menu path Logistics • Sales and Distribution • Sales • Orders • Create.

- 1. On the Create Sales Order: Initial Screen, enter the sales order document type (i.e., OR Standard Order), fill in your sales organization data, and press <a href="Enter">[Enter]</a>. See Figure 3.12 for an example.
  - Refer to Chapter 2 to revisit the example on how to create an item proposal.
- 2. Enter the number for the customer sold-to that you've maintained in your item proposal, as shown in Figure 3.13, and press Enter to determine other partners.

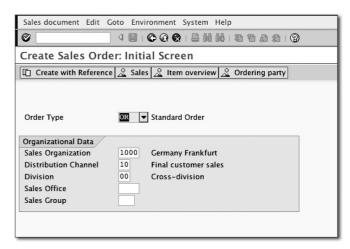


Figure 3.12 Create Sales Order: Initial Screen – Item Proposal Sample

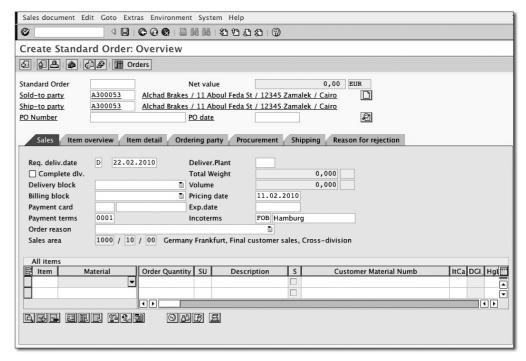


Figure 3.13 Create Standard Order – Overview Screen

3. To initiate the item proposal function, go to EDIT • ADDITIONAL FUNCTIONS • PROPOSE ITEMS, as shown in Figure 3.14.

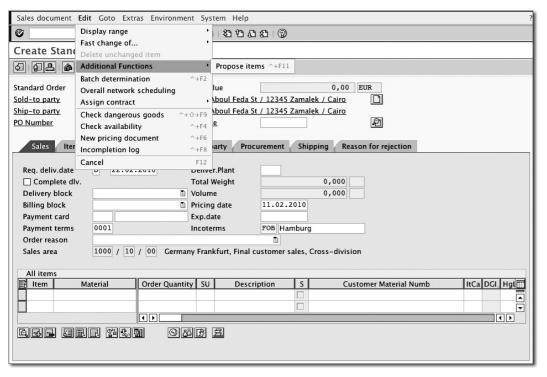


Figure 3.14 Create Standard Order: Overview Screen – Item Proposal Menu

4. Finally, you'll be prompted to confirm the proposal number. Here, you can select between proposing items with or without quantity. For this example, select the Default with Quantity button, as shown in Figure 3.15.

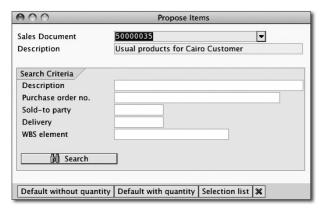


Figure 3.15 Propose Item Selection Window

The result is that the items you included in the item proposal are brought over to the sales order, as you can see in Figure 3.16 (both items came from the example that we set up in Chapter 2).

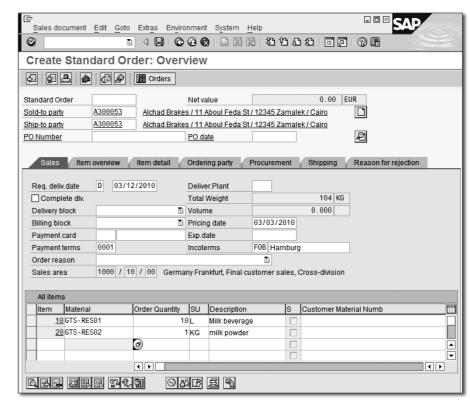


Figure 3.16 Create Standard Order – Item Proposal Completed

#### 3.3.3 Material Determination in Sales Orders

Another piece of master data we've covered in Chapter 2 was material determination, and now you should be able to use it during sales order creation. To see how this works, let's create a sales order by using Transaction VA01 (Create Order) or by following the menu path Logistics • Sales and Distribution • Sales • Orders • Create. Then follow these steps:

1. On the Create Sales Order: Initial Screen, enter the sales order document type (e.g., OR – Standard Order), fill in your sales organization data, and press <code>Enter</code>.

- 2. Enter the number for the customer sold-to that you've maintained in your material determination master data, as you can see in Figure 3.17, and press Enter to determine the other partners.
- 3. In the line item MATERIAL column, type the material determination record name text. Figure 3.17 provides an example of how we use this record (for more details on material determination records, revisit Chapter 2). The system will determine the pricing for the item.

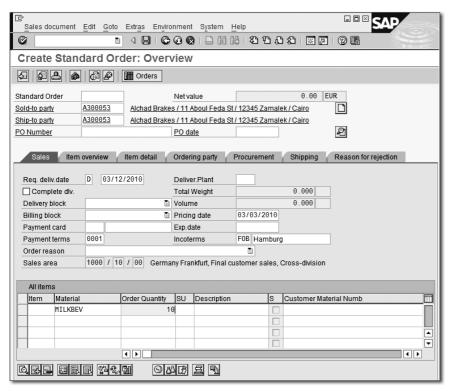


Figure 3.17 Create Standard Order Overview – Material Determination Entry

4. Press [Enter] to continue. It's important to note that the material determination will substitute the description text you've entered with the valid SAP material number, as you can see in Figure 3.18.

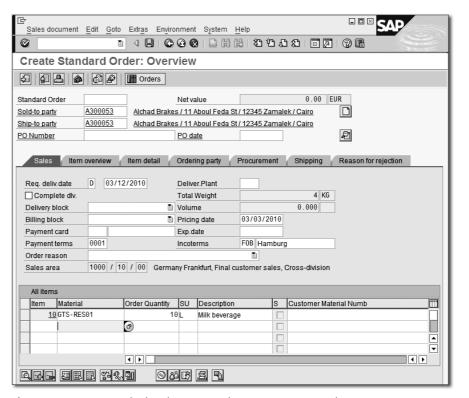


Figure 3.18 Create Standard Order – Material Determination Completion

# 3.3.4 Cross Selling in Sales

Cross selling, which we discussed in Chapter 2, can now be demonstrated during the sales order creation. To see how it comes together, create a sales order starting again with Transaction VA01 (Create Order) or by following the menu path Logistics • Sales and Distribution • Sales • Orders • Create. Follow these steps:

- 1. On the Create Sales Order: Initial Screen, enter the sales order document type, such as OR - Standard Order, fill in your sales organization data, and press Enter
- 2. Enter the number for the customer sold-to that you've maintained in your item proposal, as shown earlier in Figure 3.13, and press [Enter] to determine the other partners.

3. Enter the material number for the main product, and then click on the Cross SALES icon at the bottom right of the screen, as highlighted in Figure 3.19.

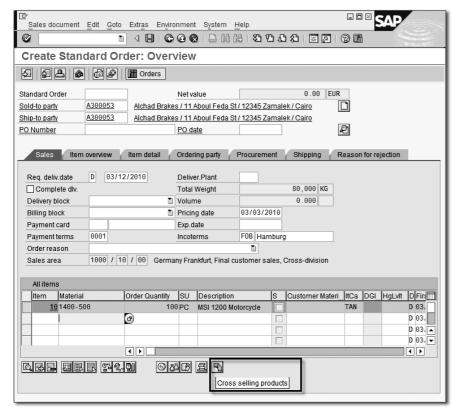


Figure 3.19 Create Standard Order – Using Cross Selling Products

4. You'll now see the Cross SALES pop-up window (Figure 3.20), which lists all of the materials that can be sold with the main material. If the customer wants them, you have to enter the quantity and click on the Copy button.

The copy function transfers the suggested cross-selling material to your sales order and adds a new line item with the quantities you've entered in the Cross Selling Materials Overview screen, as shown in Figure 3.21.

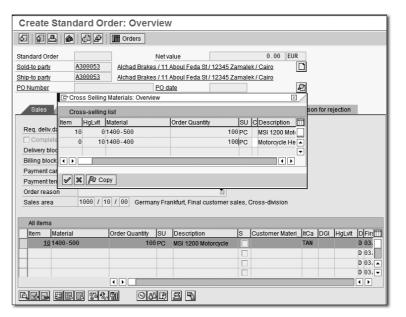


Figure 3.20 Create Standard Order with Cross Selling

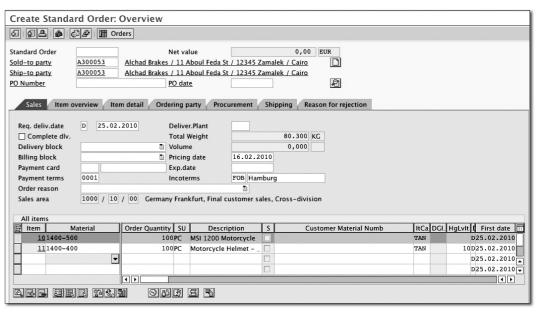


Figure 3.21 Create Standard Order: Overview – Cross Selling Item Complete

# 3.3.5 Listings and Exclusions in Sales

The last piece of master data that we'll demonstrate by creating a sales order is the record for listings and exclusions. As you remember from Chapter 2, this piece of data will prevent or restrict you from accidentally selling an item to a customer due to geographic, political, or physical restrictions (such as different electrical power standards in voltage).

To see how this works, let's create a sales order starting again with Transaction VA01 (Create Order), or by following the menu path Logistics • Sales and Distribution • Sales • Orders • Create. Follow these steps:

1. On the Create Sales Order: Initial Screen, enter the sales order document type, such as OR – Standard Order, fill in your sales organization data, and press [Enter].

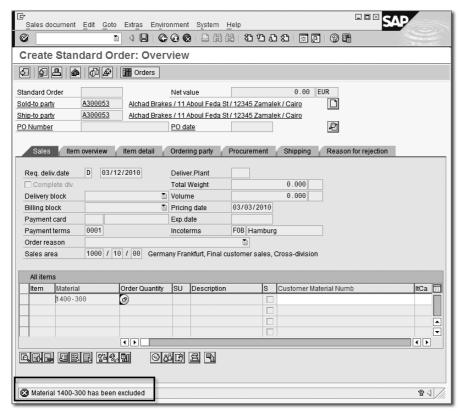


Figure 3.22 Create Standard Order – Exclusion Error

- 2. On the Create Sales Order: Overview Screen, enter the number for the customer sold-to that you've maintained in your listing and exclusion record, and press [Enter] to determine the other partners.
- 3. On the line item, enter the material included in your listing and exclusion record, and press [Enter].
- 4. You'll run into a "hard stop" error message, which tells you that the material can't be sold to this customer, as shown in Figure 3.22.

# 3.3.6 Special Orders

So far, we've covered different variations of influencing factors while creating a standard sales order, where the delivery is created upon goods availability date, and the invoice is created after the goods are shipped to your customer.

In addition to the standard sales order, there are also special order types, such as rush order and cash sales, which we'll discuss in the following subsections.

#### Cash Sale

In cash sales, the goods are paid for immediately when your customer receives them, and the delivery document is created at save. You can define your delivery to be picking relevant or not depending on your business requirements, so you may need to confirm your picks and then post goods issue. Also, when the order is saved, the output condition is triggered to generate the paper invoice as a receipt for your customer.

#### Note

The invoice output based on the sales order is defined as condition RD03 and triggered automatically by the output determination procedure for sales order type BV.

The subsequent billing document is created at the time of your next billing job in the background with reference to the sales order. You have no account receivables transactions to process because the invoice amount is posted directly to a cash account.

Let's walk through the scenario of creating the cash order, starting again with Transaction VA01 (Create Order), or by following the menu path Logistics • Sales AND DISTRIBUTION • SALES • ORDERS • CREATE. Follow these steps:

- 1. On the Create Sales Order: Initial Screen, enter the sales order document type "BV Cash Sale", fill in your sales organization data, and press [Enter].
- 2. On the Create Sales Order: Overview Screen, enter the number for the customer sold-to account, and press Enter to determine the other partners.
- 3. On the line item, enter the material and quantity.
- 4. Enter the price if the pricing conditions aren't maintained, and save your order.

Upon saving, the delivery document type BV is immediately created using the current system date for the delivery, and the billing dates and system issues output prints an invoice document as a receipt for your customer, as shown in Figure 3.23. You can see the sample of document flow showing order and delivery that was automatically created upon saving.

5. The cash sale is completed with the creation of the billing document BV, created when the billing due list is processed, but an invoice output isn't processed.

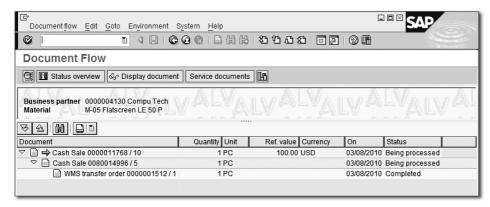


Figure 3.23 Cash Sale - Document Flow with Delivery and Transfer Order

## Note

Consider changes to the standard configuration, for example:

- ► DELIVERY NOT RELEVANT FOR PICKING: If your customer received the goods.
- ► DELIVERY RELEVANT FOR PICKING: If your process requires the customer to pick up the goods from the warehouse or if you have to send the goods.

### **Rush Order**

In a rush order, your customer picks up the goods, or you deliver them the same day the order is placed, but you invoice the customer later.

In the standard SAP system, you define the sales document type SO for rush orders. The subsequent delivery document type LF is created immediately at order save. You then execute picking, removing goods from storage, and posting goods issue. The goods are delivered to or picked up by your customer. Then, the billing documents are created most likely during your standard billing run batch processing, and invoices are printed and sent to your customer.

We'll start the rush order, again with Transaction VA01 (Create Order), or by following the menu path Logistics • Sales and Distribution • Sales • Orders • Create. Follow these steps:

- 1. On the Create Sales Order: Initial Screen, enter the sales order document type SO Rush Order, fill in your sales organization data, and press Enter.
- 2. On the Create Sales Order: Overview Screen, enter the number for the customer sold-to account, and press <a href="Enter">Enter</a> to determine the other partners.
- 3. Add the material, quantity data for the line item, and price if no pricing conditions are maintained, and save your order.
- 4. Upon save, delivery document type LF is immediately created using the default system date for the delivery and billing dates.

Now that we've walked you through the use of a variety of master data objects described in earlier chapters, let's get to another group of sales documents: scheduling agreements.

## 3.4 Scheduling Agreements

If you're providing your customers with goods at pre-negotiated time intervals, you're probably using scheduling agreements in the form of an outline agreement that contains delivery dates and preset quantities. Once ready for delivery, you'll transfer these delivery schedule lines into the delivery document on the due date.

# You can create scheduling agreements without schedule lines. You can always maintain them later.

Table 3.9 provides a list of a standard scheduling agreement document types you can use out-of-the-box.

Document Type	Item Category
LK – Sched.Agreement ExAg	LKN – SchedAgr w.ExtAgent
	KEN – Consignment Issue
LP – Scheduling Agreement	LPN – Sched.Agreement Item
LZ – SchedAg. w/ del.schd	LZN – Sched.Agreement Item
LZM – SchedAgrt w/Dlv Ord.	LZMA – Dlv. SchedAgree item
LZS – SA:Self-Bill w/Inv.	LZSN – SAIt-SelfBill w/Inv.

 Table 3.9 Scheduling Agreements — Document Types and Item Categories

Scheduling agreements are very frequently used in the component supplier industry (e.g., automotive) with heavy use of EDI to communicate with customers. Some of the requirements include the following:

- ▶ EDI communication
- ► Forecasted or just-in-time (JIT) delivery schedule
- ► Packing instructions

Transaction	Menu Path
VA31 – Create	LOGISTICS • SALES AND DISTRIBUTION • SALES • SCHEDULING AGREEMENT • CREATE
VA32 – Change	LOGISTICS • SALES AND DISTRIBUTION • SALES • SCHEDULING AGREEMENT • CHANGE
VA33 – Display	LOGISTICS • SALES AND DISTRIBUTION • SALES • SCHEDULING AGREEMENT •DISPLAY

Table 3.10 Scheduling Agreements Transactions and Menu Path

You can create a scheduling agreement by executing Transaction VA31 or by following the menu paths listed in Table 3.10. Follow these steps:

- 1. On the Create Scheduling Agreement: Initial Screen, enter the document type LP Scheduling Agreement, fill in your sales organization data, and press <code>Enter</code>.
- 2. On the Create Scheduling Agreement: Overview Screen, enter the number for the customer sold-to account, and press <code>Enter</code> to determine other partners.
- 3. Add the customer purchase order number if required.
- 4. Specify the agreement validity dates.
- 5. Add the material, quantity data for the line item, and price if no pricing conditions exist.
- 6. To enter the delivery dates, you have to access the schedule line details screen by using the Schedule Line icon, as highlighted in Figure 3.24, or by going to GOTO ITEM SCHEDULE LINES.

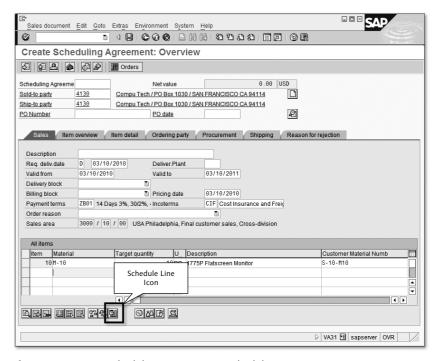
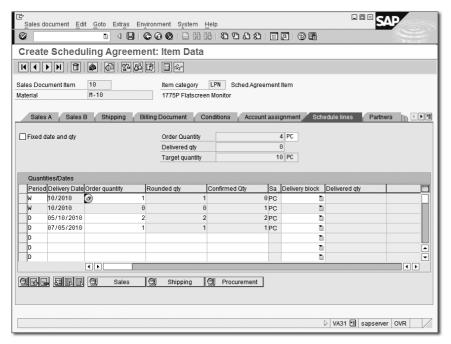


Figure 3.24 Create Scheduling Agreement – Schedule Line Icon

3.5

7. Enter the necessary schedule lines, and specify the delivery periods (in days, months, weeks, etc.) and the dates and expected quantities, as shown in Figure 3.25.



**Figure 3.25** Create Scheduling Agreement — Maintain Schedule Lines

- 8. To return to the overview screen, click the BACK button or press [F3].
- 9. To maintain packing information for your agreement, which will copy into your deliveries, you can select from the menu path Extras • Packing Pro-POSAL.
- 10. Save your document.

Now that you've completed the scheduling agreements, you're ready to move on to the contracts.

## Contracts

We've already covered the definition and use of contracts as part of the master data objects. You can go back to Chapter 2 and review the functional use for contracts and how they fit into the sales processes. In this section, we'll walk you through an example of contract document creation.

Table 3.11 lists the contract document types you can use as delivered and available in the standard SAP system.

Document Type	Item Category
GK – Global Contract	n/a
CQ – Quantity Contract	KMN – Qty Contract Item
MV – Rental Contract	MVN – Lease Item
WK1 – Value Contract Gen	WKN - Value Contract Item
WK2 – Matl-Rel Value Contract	WKC – ValContrItem-Config.
WV - Service and Main-	WVC – Service Contr – conf.
tenance	WVN – Maint.Contract Item
	TAN – Standard Item

Table 3.11 Contract Document Types and Item Categories

You can create a contract by using Transaction VA41 or by following the menu paths listed in Table 3.12.

Transaction	Menu Path
VA41 – Create	Logistics • Sales and Distribution • Sales • Contracts • Create
VA42 – Change	Logistics • Sales and Distribution • Sales • Contracts • Change
VA43 – Display	Logistics • Sales and Distribution • Sales • Contracts • Display

Table 3.12 Contracts - Maintenance Transactions

1. On the Create Quantity Contract Initial screen, enter the document type CQ - Quantity Contract, fill in your sales organization data, and press Enter.

- 2. On the Create Quantity Contract Overview screen, enter your customer soldto account, and press [Enter]. The system will determine the other partners.
- 3. Add the customer purchase order number if required.
- 4. Specify the contract validity date range.
- 5. Add the material and quantity data for the line item, enter the price if no pricing conditions exist, and save your document.

Now that you've created a contract document, let's move on to backorders.

## **Backorders**

Backorder processing allows you to change the committed quantities and overwrite already promised assignment of stock quantities on sales documents and deliveries. This functionality gives you the flexibility in the situation when you receive an order from an important customer for a material, but the entire quantity has already been committed to another customer. Backorder processing will help you change the commitment and assign part or an entire quantity of stock to the sales order placed by a priority customer.

### Note

You can process backorders only for materials for which the availability check is set to INDIVIDUAL REQUIREMENTS (usually 02 is standard systems). You can maintain this field in the material master transaction on the SALES GENERAL PLANT view or MRP 3 view.

Your backorder processing transactions use configuration objects such as checking rule and scope of check, which control which documents and requirements are taken into account during the availability check. We'll talk about availability check in detail in later chapters.

You can perform backorder processing in a couple of ways: via manual backorder processing and in automated mass mode using rescheduling functions.

#### **Backorder Processing** 3.6.1

You can initiate manual backorder process by using a couple of transaction; each transaction is designed to look at the same commitment issue using different selection criteria. Table 3.13 provides a reference list of the transactions and menu paths.

Transaction	Menu Path
V_RA – SD Documents	LOGISTICS • SALES AND DISTRIBUTION • SALES • BACKORDERS • BACKORDER PROCESSING • SD DOCUMENTS
CO06 – Material	LOGISTICS • SALES AND DISTRIBUTION • SALES • BACKORDERS • BACKORDER PROCESSING • MATERIAL

Table 3.13 Backorder Transactions List

To process backorders with a selection of SD documents, start by using Transaction V\_RA or by following the menu path Logistics • Sales and Distribution • SALES • BACKORDERS • BACKORDER PROCESSING • SD DOCUMENTS. Follow these steps:

1. On the initial screen, specify material or the material number range you want to review. You can also specify the plant or range of plants, as shown in Figure 3.26.

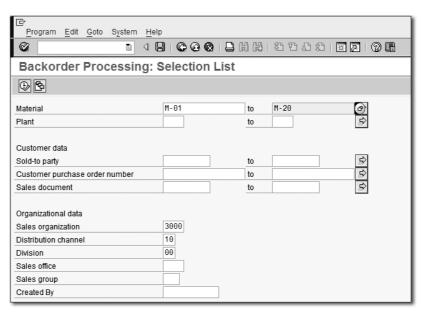


Figure 3.26 Backorder Processing Selection Screen

- 2. To narrow down your selection, fill in the Customer Data section of the screen (it's not mandatory).
- 3. Your Organizational Data section may also limit the number of records returned for processing, so fill in the SALES AREA data whenever possible.
- 4. Once ready, click the Execute button or press [F8].
- 5. On the BACKORDER PROCESSING SELECTION LIST screen, you'll see a list of the materials that meet your selection criteria. Each line includes the material number and all of the relevant information, including sales document, first delivery date, order quantity, confirmed quantity, and open quantity, as shown in Figure 3.27.

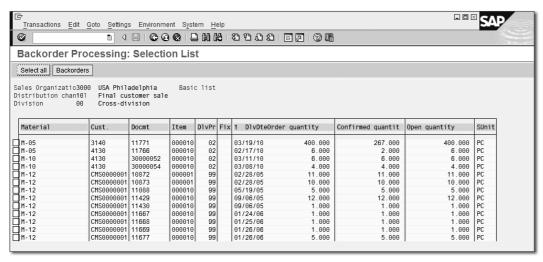


Figure 3.27 Backorder Processing Selection List

- 6. Here, you can drill into the individual sales documents displaying the order details by double-clicking on the line. You'll access these orders in change mode, for example, running Transaction VA02 (Order Change).
- 7. You can also access different features by using pull-down menus:
  - ▶ Sales document change: Environment Document
- ▶ Display document status: Environment Document status
- ▶ Display document flow: Environment Document flow
- ▶ Display changes: Environment Document changes

8. After you select the line for processing, click the BACKORDER button or press [F8], and the BACKORDER PROCESSING OVERVIEW appears (Figure 3.28).

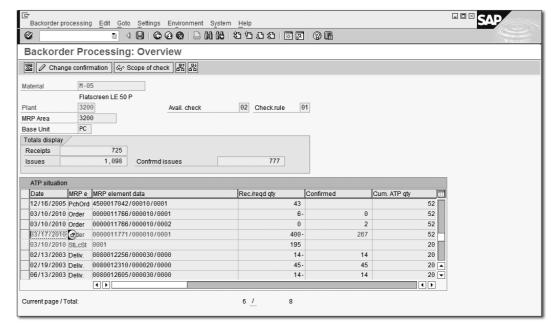


Figure 3.28 Backorder Processing Overview

This overview displays all requirements and relevant dates, purchase orders and production orders, received quantities, the quantities confirmed for the sales order, and deliveries. Your sales order will be highlighted, and this will be the only element that you'll be allowed to change or update.

- 9. Select the element you want to update (make sure you're selecting the highlighted order line), and click the Change Confirmation button or press [F2].
- 10. Deliveries, purchase orders, and MRP elements other than the sales order relevant for change can't be processed as backorders, so the overview doesn't contain any confirmed quantities for them. However, the system does take the size of the delivery, purchase order, and production order quantities into account when calculating the ATP quantity.
- 11. When you're satisfied with the updated committed quantities (Figure 3.29), press [Enter], and you'll be returned to the BACKORDER OVERVIEW screen.
- 12. Save your changes.

3

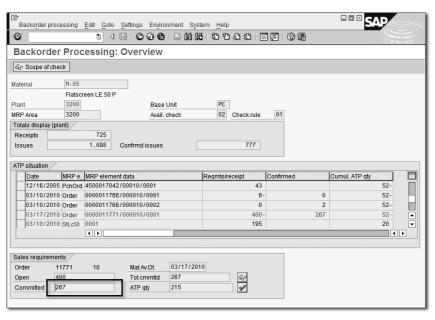


Figure 3.29 Backorder Processing Committed Quantity Change

## 3.6.2 Rescheduling

Another form of backorder processing is rescheduling. This automated method is based on the delivery priority settings proposed from the customer master record. The system sorts the orders based on the delivery priority by reshuffling committed quantities to orders of a higher priority. It's recommended that you run this job in background mode because it can dramatically affect the system performance. See Table 3.14 for the list of available rescheduling transactions.

Transaction	Menu Path
V_V2 – Execute	Logistics • Sales and Distribution • Sales • Backorders • Rescheduling • Execute
V_R2 – Evaluate	Logistics • Sales and Distribution • Sales • Backorder • Rescheduling • Evaluate

 Table 3.14 Rescheduling Transactions

When you execute rescheduling Transaction V\_V2, you'll get to the initial selection screen when you set your criteria. When running this as a background job,

you set a variant that will be executed at the scheduled time. As an example, you can set your criteria on the initial screen of the rescheduling transaction and run it in the foreground, as shown in Figure 3.30. Let's walk through an example of rescheduling in the foreground mode.

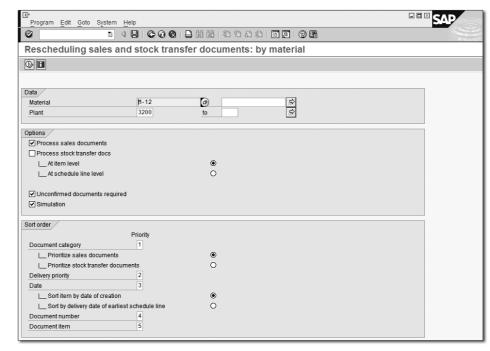


Figure 3.30 Rescheduling Execution Transaction Initial Screen

#### Tip

Rescheduling should not be done frequently due to the huge consumption of processing power this transaction uses. Narrow down your selection criteria, and run in the time intervals that are outside the normal business hours.

- 1. In the DATA section of the screen, select your material or range of materials and plant(s) you're processing the rescheduling for.
- 2. In the Options section, select what kind of documents you're rescheduling. Select Process Sales Orders, as shown in Figure 3.30. If you want to include stock transfer documents, you also need to specify if the line item or a schedule line detail will be taken into consideration.

3.6

- 3. If you select unconfirmed documents required, you'll be carrying out rescheduling for documents with at least one unconfirmed transaction. If you choose to make this selection, you'll increase the number of records for processing.
- 4. If you choose Simulation, you'll be able to review the proposed changes. When ready, simply deselect this option before the true execution takes place and updates your documents.
- 5. In the SORT ORDER part of the screen, you can define the priority for processing your items. The items and schedule lines found in the selection are sorted according to these criteria: document category, delivery priority, date (i.e., creation date of the item or earliest schedule line date), document number, and document item. Priority 1 is highest priority and priority 5 is the lowest. If you don't want the specific criteria to be used in processing at all, simply enter "0" into the Priority field.
- 6. When you're ready to execute your simulation, click the EXECUTE button or use F8]. You'll get the list of the proposed changes for your review, as shown in Figure 3.31.

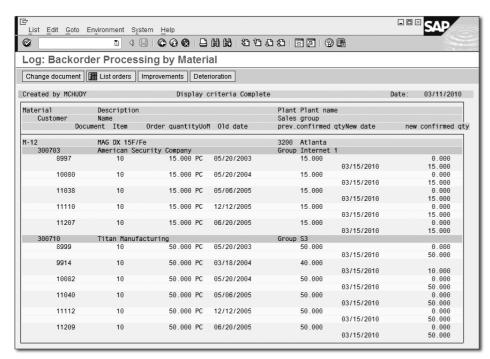


Figure 3.31 Backorder Processing by Material - Simulation Mode

Behind the scenes, checking rule A is used as a basis for rescheduling sales orders. Exceptions are rush orders (which use checking rule B) and orders with individual customer stock (which use checking rule AE).

- ▶ A list of proposed changes will be presented for you that shows materials, customer account numbers, documents, order quantities, and old and new confirmed dates.
- ► You can also drill into any of the orders displayed—opening them in change mode allows you to make changes as needed on the fly-by clicking on the listed sales orders or selecting the Change Document button.
- ► If you noticed any errors that occurred during processing, you can review the log by using the pull-down menu Edit • Error log.
- ▶ You can also change the scope of the list by clicking on the Improvements or DETERIORATION buttons.
- ► You can use the List Orders button to link directly to Transaction VA05 (Order List).

If you want to review your rescheduling simulation results again, you can run Transaction V\_RA (Evaluation), which specifies the criteria you've used for the simulated rescheduling (shown in Figure 3.32).

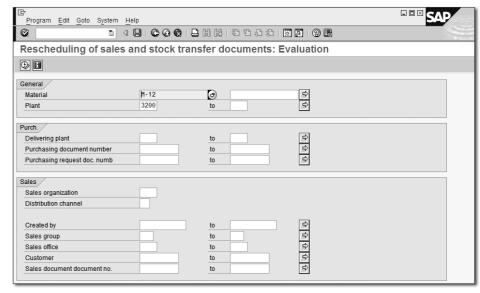


Figure 3.32 Rescheduling – Evaluation Selection Screen

If you like the results of the proposed changes, you can go back to the initial rescheduling Transaction V\_V2. Execute it with the original selection criteria, deselect the Simulation flag, and run the update.

#### **Credit Management** 3.7

SAP Credit Management in conjunction with SAP Risk Management enables you to minimize the risk of delivering your goods to customers that won't be able to pay for them. Maintaining credit limits helps you mitigate those risks. It's defined in the SAP enterprise structures as a credit control area and is assigned to the sales area. You can refresh your memory be going back to Chapter 1, where we covered these structures.

## Note

In this section, we won't cover configuration behind SAP Credit Management and SAP Risk Management, which is a part of Financial Accounting Accounts Receivable in SAP ERP Financials. We won't cover the configuration settings that make this functionality applicable and integrated with Sales and Distribution. This functionality is normally maintained and customized by FI team (or system analysts), and is therefore way out of our jurisdiction.

This functionality is very useful if you're dealing with financially difficult customers, or if you do business in the multicurrency markets and countries that have political and financial instabilities. With the available functions of SAP Credit Management, you can define your customer credit limits and apply automatic credit control configuration settings in related business transactions. These controls may result in blocking processing of sales documents in sales and shipping.

In the sales process, you can use the credit status to block the following functions during order processing when creating these documents:

- ► Material reservations
- ► Purchase requisitions
- ► Production orders/planned orders
- ► Output
- ▶ Deliveries

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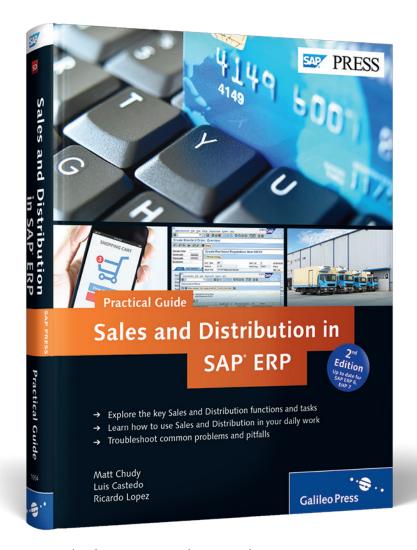
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