

# TB1000 Logistics

SAP Business One, Version 10.0



- SAP Business One
- Collection 0010

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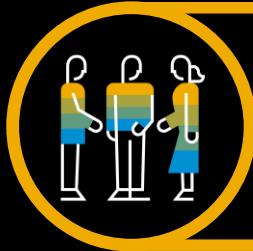
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# Introduction: Introduction to SAP Business One

SAP Business One  
Version 10.0

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THE BEST RUN 

Welcome to the Introduction to SAP Business One topic.

## Objectives



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

- Answer the question: What is SAP Business One?
- List the advantages of the integrated business processes in SAP Business One
- Describe how SAP Business One can be a digital platform for today's technologies

In this topic, we will answer the questions: What is SAP Business One?

We will discuss what's available with SAP Business One and how it meets the needs of today's small businesses. Specifically we look at the advantage of running integrated business processes in SAP Business One and how it can be a digital platform for today's technologies.

## Business Scenario

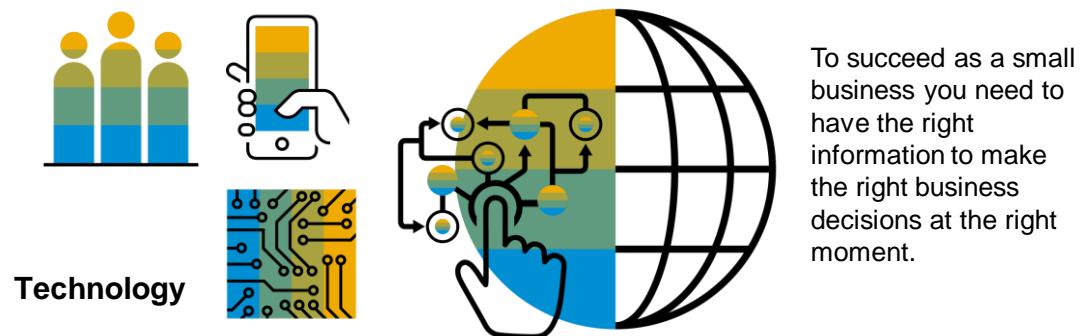


- You are the managing director of a small company and want to implement a new software solution to make your business processes more efficient.
- You need a solution that integrates your business processes and provides a platform for growth in the digital economy
- You would like to learn more about how SAP Business One can help you meet these challenges and how you can use it to effectively run your business processes.

- You are the managing director of a small company and want to implement a new software solution to make your business processes more efficient.
- You need a solution that integrates your business processes and provides a platform for growth in the digital economy
- You would like to learn more about how SAP Business One can help you meet these challenges and how you can use it to effectively run your business processes.

## The Drive for Digital Transformation

More than ever people are hyperconnected through smart devices to each other and to businesses. The technology has matured to the point we are living in a smart world.



To succeed as a small business you need to have the right information to make the right business decisions at the right moment.

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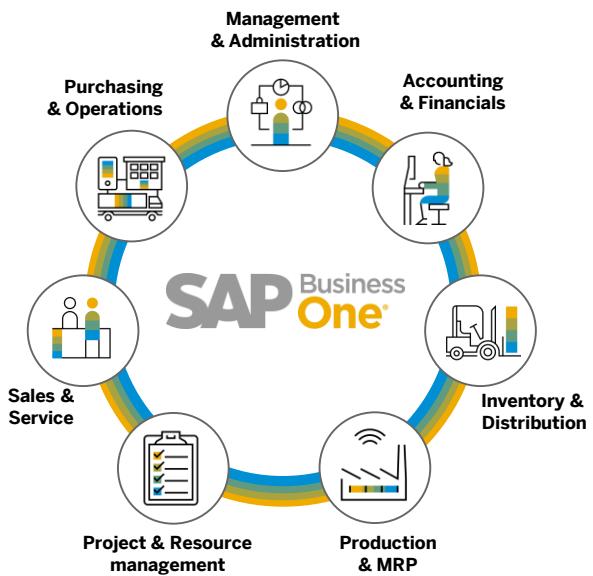
The time is ripe for small enterprises to digitally transform their businesses. More than ever people are hyperconnected through smart devices to each other and to businesses. The technology has matured to the point we are living in a smart world. Businesses need to think not only about internal efficiencies but also how they connect to suppliers, customers and the community at large.

To succeed as a small business you need to have the right information to make the right business decisions at the right moment. SAP Business One provides the tools to do that.

## Business One Facts

The most complete platform for a growing business, trusted by over 70,000 businesses

- Designed for small and midsize businesses
- Capture business information in a single scalable system
- Provides instant access to real-time information through one single system
- Divided into a number of modules each covering a different business function
- With a user-friendly interface that serves as your central access point



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SAP Business One is the most complete platform for a growing business. We are trusted by over 70,000 businesses with over 950,000 users.

SAP Business One is a business management solution designed for small and midsize businesses.

SAP Business One allows you capture business information in a single scalable system.

SAP Business One gives you instant access to real-time information through one single system. The application is divided into a number of modules, each covering a different business function.

SAP Business One has a user-friendly interface that serves as your central access point. Users can also access the system via browsers and mobile devices.

## Platform for Digital Technologies



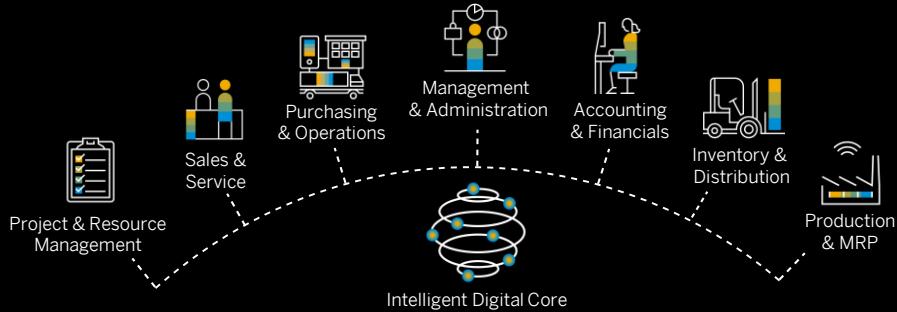
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SAP Business One supports the technologies that drive today's digital economy. SAP Business One has analytics that allow you to access the massive amounts of data in today's economy. You can run your business in the cloud or on premise, and your team can connect via mobile technologies from anywhere in the world. SAP Business One can incorporate the data coming from external sensors and other sources and use innovative technologies to meet today's challenges.

## Intelligent Suite ➔ Digital Core

SAP is providing an intelligent integrated ERP, covering end-to-end processes, combined with market leading technology which provides the ideal framework for your business.



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SAP Business One is specifically designed to meet today's small and mid-size business needs and challenges. It completely removes the problems associated with having disconnected business processes or systems:

It integrates and streamlines all business functions across sales, marketing, customers, financials and operations, all on a single digital platform so your business operates like a seamless one.

It stores all critical business information in one database so you can instantly access without having to get information from different systems that often do not agree with each other.

It provides built-in customer relationship management (CRM) tools that are fully integrated to the back office operations to help you better manage sales and customer services.

It is also a flexible system that can be easily customized and tailor to your own business and industry needs.

Last but not the least, SAP designed and built the product from the ground up, specifically for the small and mid-size businesses like yourself so you can leverage the best experiences and practices that SAP has learned yet don't have to deal with the complexities.

## End-to-End Business Processes



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Let us consider an example from a small business showing how SAP Business One provides integration among business processes:

Customers order custom-built personal computers.

Materials requirement planning (MRP) is run to determine what is needed to meet the customer demands.

From the MRP results, production orders are created to build the computers.

Materials are purchased for the components of the computer using the procurement process: purchase order, goods receipt PO and A/P invoice.

When the materials are received, they are issued as components to the production order.

The computer is built and we report the item as complete and receive it into finished inventory.

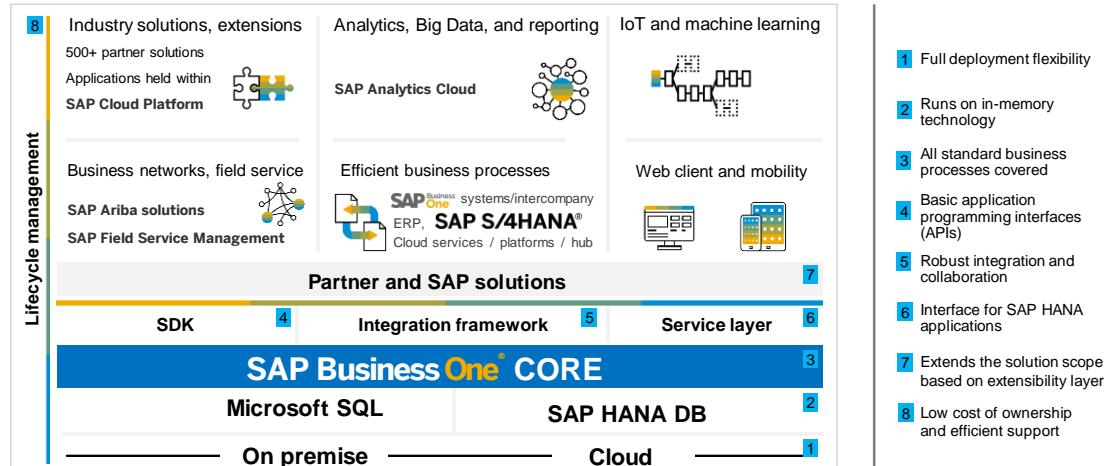
The serialized item is delivered to the customer. When it is issued, the system automatically creates a customer equipment record showing the sale to the customer and a service warranty contract.

If the customer has a future problem, a service call is created.

Based on the service warranty contract, there is a service level agreement for response and resolution time.

## SAP Business One solution stack

Customer needs and the value propositions of the product



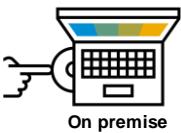
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- The graphic displays SAP Business One's solution stack. The solution stack rests on a solid foundation with its deployment flexibility. SAP Business One can be run on premise or in the cloud. Customers choose from SAP's hosted cloud environment, a partner-hosted cloud or a private cloud.
- SAP Business One runs completely on in-memory technology when you use the SAP HANA database as the underlying platform. However you also have the option to run on Microsoft SQL. Either way, you have flexible deployment options.
- Regardless of the architecture used, end to end business processes are the core of SAP Business One.
- There are many tools that enable partners and customers to build on or integrate to Business One. Functionality can be extended by using three development platforms: Software Development Kit (SDK), the Integration Framework and the SAP Business One Service Layer. There are multiple partner and SAP-provided solutions to that extend the scope to meet companies' needs. In the boxes in the graphics you see many ways you can enhance the solution such as industry solutions, web services, networks, mobility and analytic options.
- Behind it all, there are tools and support for lifecycle management that provide you with a low cost of ownership.

## SAP Business One Deployment Options

On premise and Cloud



### Key Benefits

- Compliance with internal Data Security Policies
- Direct control and access to your data, allowing flexibility in local reporting accesses
- Better ability to customize and extend your business process
- Leverage internal hardware and existing IT infrastructure and resources
- Perpetual licensing, with higher upfront cost but better long-term TCO
- Less dependence on always-connected internet

### Key Benefits

- Easy and affordable deployment
- Secure browser-based access from anywhere, at any time
- Access to the most up-to-date functionality without having to use rely on in-house IT resources to maintain the solution
- Subscription licensing avoiding capital expenditure and allowing for operational expenditure flexibility
- Manage your most critical business functions in your Web browser

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You can choose whether to run on premise or in the cloud.

On Premise Key Benefits include:

- Compliance with internal Data Security Policies
- Direct control and access to your data, allowing flexibility in local reporting accesses
- Better ability to customize and extend your business process
- Leverage internal hardware and existing IT infrastructure and resources
- Perpetual licensing, with higher upfront cost but better long-term TCO
- Less dependence on always-connected internet

Key Benefits of running in the Cloud include:

- Easy and affordable deployment
- Secure browser-based access from anywhere, at any time
- Access to the most up-to-date functionality without having to use rely on in-house IT resources
- Subscription licensing that avoids capital expenditure and gives operational expenditure flexibility
- Manage your most critical business functions in your Web browser

## Integration Options for SAP Business One

Connecting your business networks



### Integration Scenarios

(integral part of the SAP Business One solution)

Integration framework as development environment as well as runtime for predefined integrations, such as

- Dashboards, mobile apps, outsourced payroll, automated request for quotation, SAP Customer Checkout, web services, other SAP and non-SAP applications



### Subsidiary Integration

(dedicated integration solutions out-of-the-box)

Integrates SAP Business One running in subsidiaries\* with SAP Business Suite software in headquarters' location

- Data harmonization, financial consolidation, business process standardization, and supply chain optimization
- Preconfigured scenarios for master data, sales, purchasing, HQ reporting, and finance as well as customer-specific content



### Integration Hub

(ready-made integration scenarios)

Preconfigured templates to integrate cloud-based business applications and services, such as

- Shopify, Magento, Aramex, DHL, FedEx, UPS, Fixer, Mailchimp, SendGrid, Nexmo, Expensify, automated request for quotation



### Intercompany Integration Solution

(dedicated application out-of-the-box)

Integrates different SAP Business One databases in a seamless and easy to consume way

- Streamline and automate intercompany transactions and processes, such as master data distribution and financial consolidation

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\* Including branches or franchises of large enterprises

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SAP Business One has a portfolio of integration products that connect your business networks. These range from standard integration scenarios delivered with SAP Business One and dedicated integration solutions out-of-the-box for subsidiaries and intercompany processes to a development environment where you can build your own non-SAP cloud based extensions.

## Industry-specific Solutions

Extend to meet your specific business and industry challenges

Software solution partners have the industry expertise and customer focus to offer industry-specific and horizontal solutions



### Industry Solutions

- Automotive
- Consumer Products
- Engineering
- Food & Beverage
- Healthcare
- High-tech
- Industrial
- Machinery/Components
- Retail
- Wholesale Distribution



### Horizontal Extensions

Go beyond generic business needs by extending:

- Accounting
- Enhanced CRM
- Payment Processing
- Productivity
- Mobility
- Reporting
- Service

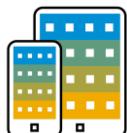
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- SAP's partner ecosystem provides multiple solutions for small businesses to meet business and industry challenges.
- Here is a list of some solutions that have been developed by our software solution partners to extend the functionality of SAP Business One. These solutions help our customers meet the unique challenges for their business by combining the power of industry specific solutions with horizontal extensions that go beyond generic business needs.
- The solutions are fully integrated into SAP Business One and certified by SAP.
- The solutions can be deployed on premise, in the cloud, or for SAP Business One, version for SAP HANA.

## Run your Business with native Apps

Access important business data from any location at any time



Mobile Apps

### Key Benefits

- Instant access for employees who need to view and update data from anywhere
- Integrated analytics enable decisions to be made in real time
- Comprehensive sales and service functions
- Increase productivity of employees on the road



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SAP Business One for iOS and Android devices cover all important business processes so employees who are on the road or in remote locations, like a service technician, can get the information they need to resolve customer issues, capture orders or see information contained in Business One like – customer and supplier contacts and more. It reduces some of the frustrations that can be associated with being away from the office, helping to make people more productive when they're on the road.

Some key points are:

- Instant access for employees who need to view and update data from anywhere
- Integrated analytics enable decisions to be made in real time
- Comprehensive sales and service functions
- Increased productivity of employees on the road

## Analytics

Support your business decisions with accurate information



### Analytics and Reporting

#### ▪ Cockpit

Visualize all analytics in your user specific SAP Business One Desktop

#### ▪ Pervasive Analytics Designer

Customize and create new analytics, amplifying the end user experience

- **Key Performance Indicators (KPIs)**

Track business-critical measures

- **Dashboards and Advanced Dashboards**

Embed across all business forms and functions empowering end users with up-to-the-second information

#### ▪ Excel Report Designer

Create predefined Microsoft Excel reports with a real-time connection to your business data

#### ▪ Interactive Analysis

Create flexible ad-hoc analysis within the familiar Microsoft Excel

#### ▪ Analytical Portal

Run and schedule Crystal Reports and Excel Reports in real time through a web browser

#### ▪ Semantic Layer

Aiding end users to access information freely using common business terms

#### ▪ SAP Crystal Reports

Generate and create feature rich and interactive reports with the embedded software

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The analytics tools support business decisions with accurate information:

The Fiori-style **cockpit** is a role-based personalized work center for analytics, simplifying users' operations in SAP Business One, version for SAP HANA. It is embedded with the SAP Fiori concept and developed using HTML5. The Fiori-style cockpit provides valuable BI analytics information for users' daily operations and decision-making processes.

The **Pervasive Analytics** for SAP Business One, version for SAP HANA enables you to access and visualize your data in a customized way.

The application provides three analytic tools that can accelerate your decision making process, offering immediate and fact-based answers to business questions:

**Key Performance Indicators (KPIs), Pervasive dashboard and Advanced dashboards.**

When you utilize its exclusive functions together with standard Microsoft Excel features, **Excel Report** and **Interactive Analysis** enable you to create reports in an intuitive way based on semantic layers. In addition, by leveraging the SAP in-memory computing technology, it provides real-time computing for your reports, giving you instantaneous access to your data.

The **Analytical Portal** for SAP Business One, version for SAP HANA enables you to run your SAP Crystal Reports and Excel reports in real time through a web browser on your computer, tablet, or mobile device. With this portal, you can also schedule automatic report running and view report running history. It makes SAP Crystal Reports and Excel reports more accessible for the ones who have not installed the SAP Business One client application or Microsoft Excel on their computer.

A **semantic layer** is a set of predefined virtual models that represent a company's data, which are represented in familiar and meaningful terminologies instead of pure technical fields. Having a semantic layer as the reporting tool, business users see the data as a simple collection of familiar business strings organized into a meaningful structure. It becomes a lot easier for users to access, manipulate, organize and analyze the information or data.

SAP Business One marketing documents and reports can be printed with the help of the fully integrated **SAP Crystal Reports** software. When using the SAP Crystal Reports software, the design of a marketing document is referred to as a layout. The design of a report is referred to as a report.

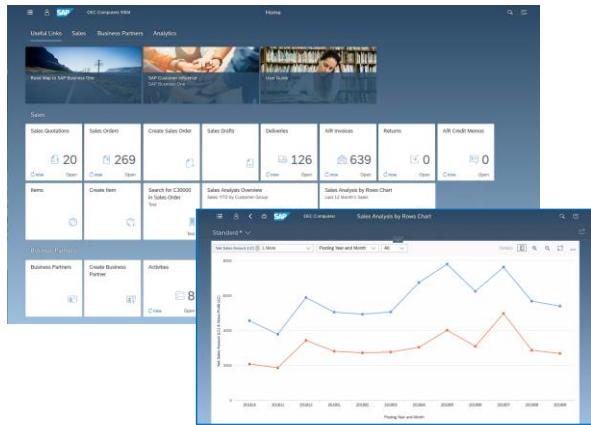
## Launch the Web Client

... and optimize user experience



### The Web Client

- Is based on SAP Fiori design principles encapsulating SAP Business One core processes and business logic
- Focuses on creation, processing, and updating of Sales Quotations, Sales Orders, A/R Deliveries, and A/R Invoices
- Supports creation and update of items, business partners, and activities
- Provides sophisticated analytic charting capabilities
- Can be launched in either a desktop computer or tablet; or directly from the SAP Business One desktop application



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The Web Client is based on SAP Fiori design principles encapsulating SAP Business One core processes and business logic.

### The Web Client:

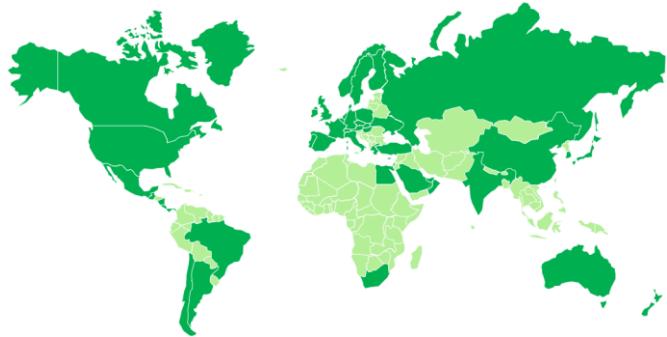
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- Supports creation and update of items, business partners, and activities
- Provides sophisticated analytic charting capabilities, and
- Can be launched in either a desktop computer or tablet; or directly from the SAP Business One desktop application

## SAP Business One used in more than 170 countries

Master the challenge of globalization in your business

### Current localizations (50)

Argentina	Finland	Mexico	Slovakia
Australia	France	Netherlands	South Africa
Austria	Germany	New Zealand	South Korea
Belgium	Greece	Norway	Spain
Brazil	Guatemala	Oman	Sweden
Canada	Hong Kong	Panama	Switzerland
Chile	Hungary	Poland	Turkey
China	India	Portugal	Ukraine
Costa Rica	Ireland	Puerto Rico	United Arab Emirates
Cyprus	Israel	Qatar	
Czech Republic	Italy	Russia	United Kingdom
Denmark	Japan	Saudi Arabia	United States
Egypt	Lebanon	Singapore	



### Countries making use of localizations

Customers in more than 170 countries use localization of other countries, own customization, or partner solution

### Current system languages (28)\*:

Arabic, Chinese (simplified/traditional), Czech, Danish, Dutch, English (UK/U.S.), Finnish, French, German, Greek, Hebrew, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese (Brazil), Portuguese, Russian, Slovak, Spanish (Latin America), Spanish, Swedish, Turkish, and Ukrainian

\*Convenient option to make additional languages available is using a partner solution (for some countries bundled with functional add-ons) or to define customer specific UI terms using the Custom Language Tool as detailed in SAP Note [1757764](#).

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SAP Business One is used by customers in over 170 countries around the world in 28 languages.

While SAP provides 50 localizations for the product, our partners have adapted these localizations to fit the needs of many other countries.

Customers can go global while receiving support by partners that have deep, local knowledge and expertise.

## Information for Customers, Prospects, and Partners on SAP Business One



SAPPartnerEdge Portal (Partner only)



SAP Help Portal



Global YouTube Channel



SAP Business One  
on SAP Learning Hub



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The slide presents the sources of information regarding SAP Business One.

For partners, the global Partner Edge portal is the best starting point. You need to be an SME partner or employee of SAP to access the portal. From here you can navigate to different areas that provide information about Solutions, Solution Development, Service & Support, Partnering with SAP, Marketing & Sales and Education.

- SAPPartnerEdge Portal (Partner only) - <https://partneredge.sap.com/>
- SAP Help Portal -  
[https://help.sap.com/viewer/product/SAP\\_BUSINESS\\_ONE\\_PRODUCT\\_LINE/Overview/en-US](https://help.sap.com/viewer/product/SAP_BUSINESS_ONE_PRODUCT_LINE/Overview/en-US)
- Global YouTube Channel - <https://www.youtube.com/user/businessonesap>
- SAP Business One on SAP Learning Hub - <https://training.sap.com/businessone>
- Public SAP.com Website - <http://www.sap.com/businessone>

## Summary



Here are some key points:

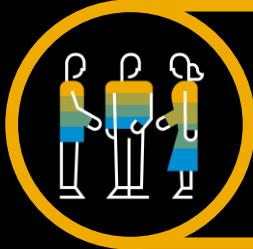
- SAP Business One integrates business functions into one digital platform seamlessly, giving you instant access to real-time information through one single system. The application is divided into a number of modules, each covering a different business function.
- The SAP Business One interface serves as a central access point for all your business needs. Users can also access the system via browsers and mobile devices.
- SAP Business One can run both on premise or in the cloud.
- You have the choice of databases: SAP HANA or Microsoft SQL. With the SAP HANA database, you have access to powerful analytics and apps designed to use the advantages of in-memory computing.
- SAP's partner ecosystem provides add-on solutions to meet business and industry challenges. Additionally, SAP provides a portfolio of integration products that connect your business networks.
- The SAP PartnerEdge portal provides the best source of up-to-date information for partners on SAP Business One.

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Here are some key points:

- SAP Business One integrates business functions into one digital platform seamlessly, giving you instant access to real-time information through one single system. The application is divided into a number of modules, each covering a different business function.
- The user-friendly SAP Business One interface serves as a central access point for all your business needs. Users can also access the system via browsers and mobile devices.
- SAP Business One can run both on premise or in the cloud.
- You have the choice of databases: SAP HANA or Microsoft SQL. With the SAP HANA database, you have access to powerful analytics and apps designed to use the advantages of in-memory computing.
- SAP's partner ecosystem provides add-on solutions to meet business and industry challenges. Additionally, SAP provides a portfolio of integration products that connect your business networks.
- The SAP PartnerEdge portal provides the best source of up-to-date information for partners on SAP Business One.



## Introduction: Getting Started

SAP Business One  
Version 10.0

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THE BEST RUN **SAP**

## Objectives



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

- Log on to SAP Business One
- Navigate in the system
- Personalize a cockpit and save as a template

In this session, we will get started using SAP Business One.

After this session you will be able to log on to and navigate in SAP Business One. You will also be able to set up a personalized cockpit tailored to a role and save it as a template.

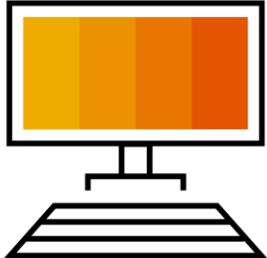
## Business Example



- As a new team member at OEC Computers, you will be cross training in a number of areas.
- You want to set up a SAP Business One cockpit that will make your job easier to do and quicker to get up to speed on new tasks.
- Your first steps will be to log into the system, learn how to navigate and set up a cockpit that will support your needs.

As a new team member at OEC Computers, you will be cross training in a number of areas.  
You want to set up a SAP Business One cockpit that will make your job easier to do and quicker to get up to speed on new tasks.  
Your first steps will be to log into the system, learn how to navigate and set up a cockpit that will support your needs.

## Superusers and End Users



### Superusers

- Access to everything

### End Users

- Restricted due to authorizations
- Typically see a subset of the menu

There are two types of users in SAP Business One: superusers and normal (or end) users.

Superusers have access to everything, therefore, they typically view the full menu.

End users are restricted to certain actions and menu items due to license type and authorizations.

Therefore, end users typically see a subset of the options tailored to their role.

We will look at some ways to tailor the cockpit and menu for users to make working in SAP Business One more efficient and enjoyable.

## Company Databased

In SAP Business One, a company is represented as a database.

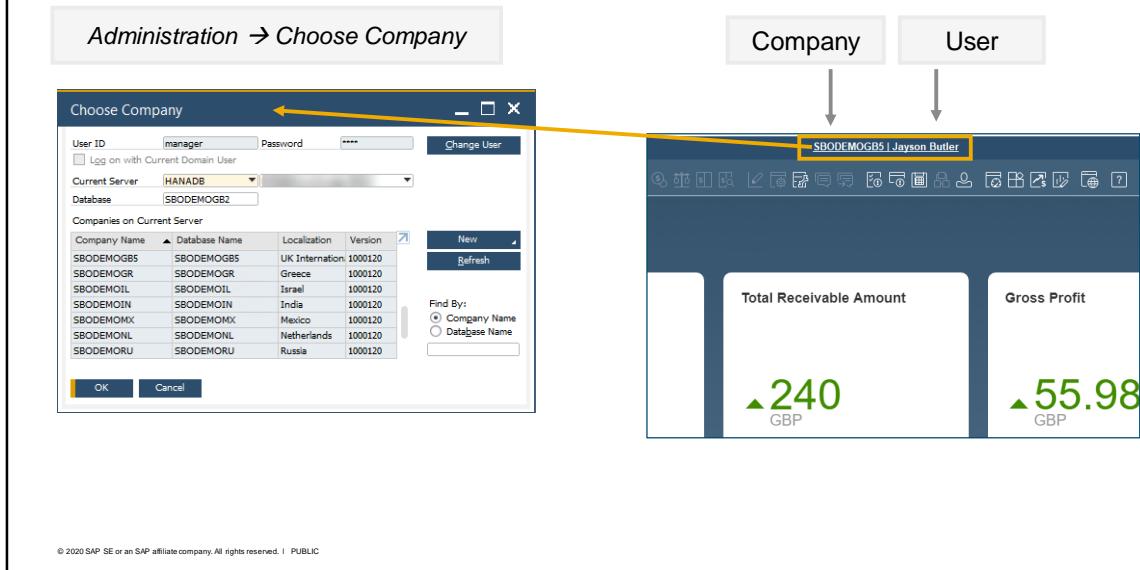


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- In SAP Business One, a company is represented as a database.
- When you log into SAP Business One, you choose the company to log into.
- Why would a small business have more than one company? Perhaps the company has two legal entities within their business, a situation that requires maintaining separate databases.
- Besides specifying the company, you enter a user and a password to log in.
- The next time you log in, you will be directed to the same company database. If you wish to log into a different one, choose *Change Company* in the login window.

## Choose Company

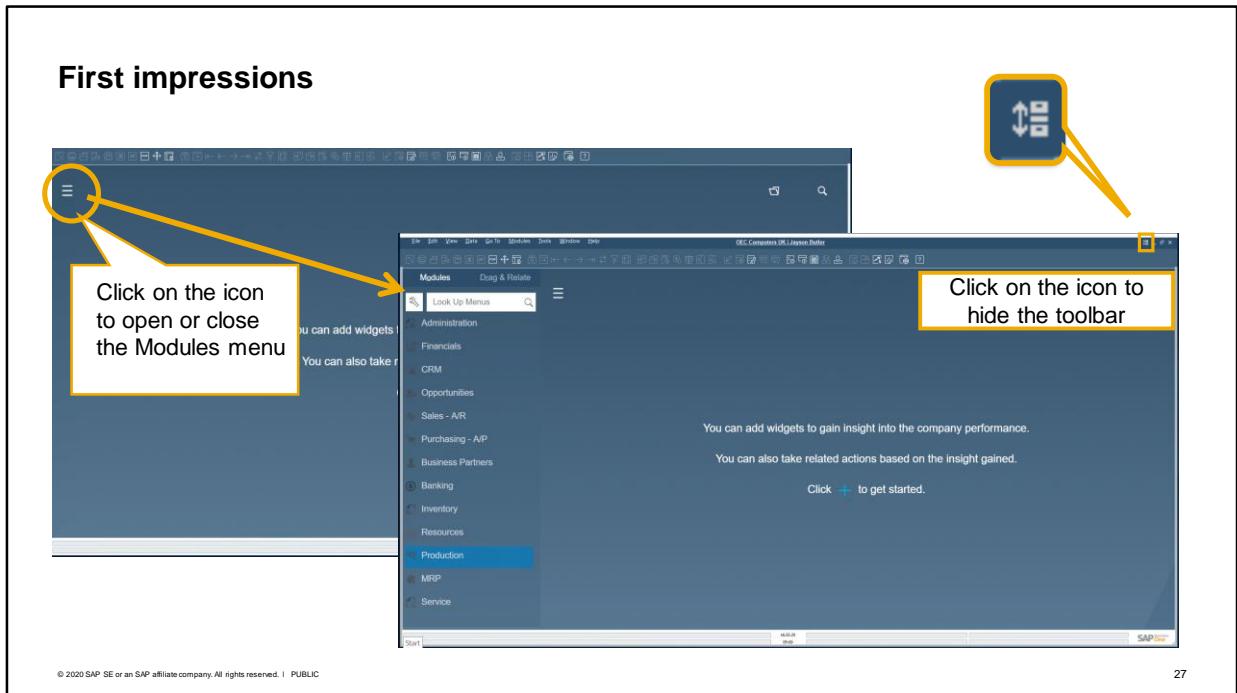


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- After you have logged in, the user name and company appear at the top center of the SAP Business One screen.
- Clicking it opens the Choose Company window directly for changing the user or switching the company.
- You can also access the *Choose Company* window from the *Administration* menu.

## First impressions



When you first log in to SAP Business One, your cockpit will likely be empty and the main menu will be hidden.

Along the top you will see a menu and toolbar.

Instructions in the center of the screen tell you how to add widgets to the cockpit. We will talk about that later.

Before we get to that, let's talk about basic navigation.

To open the main menu, you can use the icon on the top left of the screen. This icon allows you to toggle between opening and closing the menu.

You can hide the toolbar to increase your working area if needed.

## Drill down or Search the Menu

The screenshot shows the SAP Business One menu interface. At the top, there's a search bar labeled "Look Up Menus". Below it, the main menu is displayed under "Modules" and "Drag & Relate". The menu items include Administration, Financials, CRM, Opportunity, Opportunities Reports, Sales - A/R, Purchasing - A/P, Business Partners, Resources, and Production. A large orange callout box points to the "Opportunity" item, which is circled in yellow. Another orange callout box points to the "CRM" item, which is also circled in yellow. A third orange callout box points to the "Sales - A/R" item, which has a dash before it, indicating it's a transaction. A fourth orange callout box points to the "Opportunities Reports" item, which has a folder icon before it, indicating it's a menu with items underneath. A fifth orange callout box points to the "Resources" and "Production" items at the bottom.

**Drill into the menu, or...**

Click on a Module to open it further

A dash indicates a transaction; a folder indicates a menu with items underneath

**...use Menu Search to find transactions**

As you type, the menu item is found.

Click on the menu item to open the window.

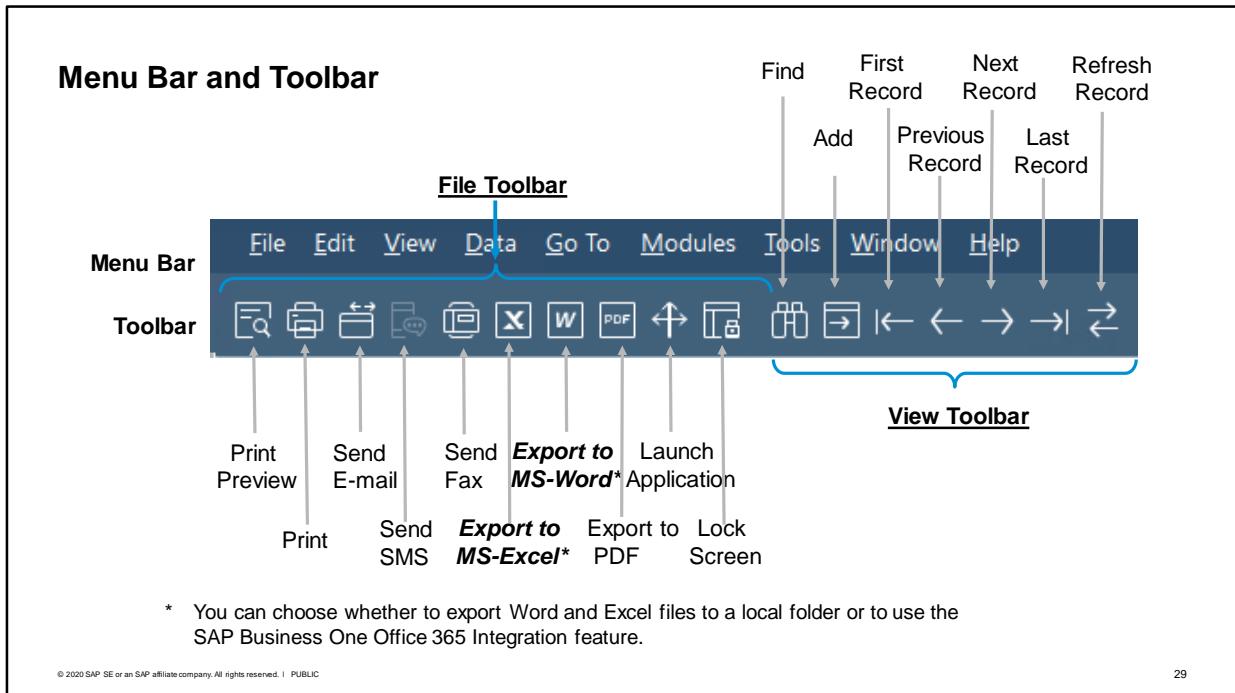
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When the menu is open, you can drill into each menu item. The highest level of the menu lists SAP Business One modules, from there you can drill into submenus and down into the transactions themselves.

Or you can use the menu search field to find menu items quickly.

For example, you could type “item master” to quickly find the Item Master Data transaction in the menu. As you type, the menu item is found. You can then click on the menu item to open it.



Additionally a menu bar displays at the top of the screen. The menu bar contains the Windows standard menu (File, Edit, Window, Help) as well as generic SAP Business One functions.

A row of toolbars displays under the menu bar. Each toolbar is a collection of icon buttons that grant you easy access to commonly-used functions. The functions represented by the buttons are also available in the menu bar.

Active functions for the selected form appear in colour, and inactive functions gray out.

This graphic shows only two of the toolbars available to you. You can choose which toolbars will be displayed or hidden. To hide or show a toolbar, right-click in the toolbar row and check or uncheck the appropriate toolbar.

You can choose whether to export Word and Excel files to a local folder or to use the SAP Business One Office 365 Integration feature.

The Office 365 Integration feature allows you to export documents, reports and queries to Microsoft OneDrive as Word or Excel files, and

view them online. You can also design your own export templates.

For more details refer to the user guide: How to Work with SAP Business One Office 365 Integration.

## Online Help

The screenshot shows two windows from SAP Business One. The top window is a message dialog titled '10000106' with a blue header. It contains sections for 'Message' (Enter due date), 'Diagnosis' (You have attempted to add a sales or purchasing document. This Due Date field is empty.), and 'Procedure' (Do one of the following: Scenario 1 - In the Due Date field, specify a due date.; Scenario 2 - Go to the Administration → System Initialization → General Settings → EP tab.). A yellow arrow points from the 'Help' icon in the top right corner of this window down to the 'Help' column in the System Message Log window below. The bottom window is titled 'System Messages Log (7)' and lists seven messages. The 'Help' column for the fourth message ('Due Date is missing') also has a yellow arrow pointing to it. The log includes columns for #, Message, Help, Context, Date / Time, and Message ID.

#	Message	Help	Context	Date / Time	Message ID
3	Operation completed successfully [Message 200-48]			15/10/2009 15:16:58	-1
4	Due Date is missing	Help	Field: Due Date	15/10/2009 15:16:23	10000443
5	Enter due date	Help	Field: Due Date	15/10/2009 15:10:52	10000106
6	Document total is zero. Continue?	Help	Field: Total	15/10/2009 15:10:50	10000998

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Online help can be accessed several ways. The Context Help icon is found on the right edge of the toolbar. This icon will give you context-sensitive help about the particular screen you are on. Another way to access context-sensitive help is to press the F1 key.

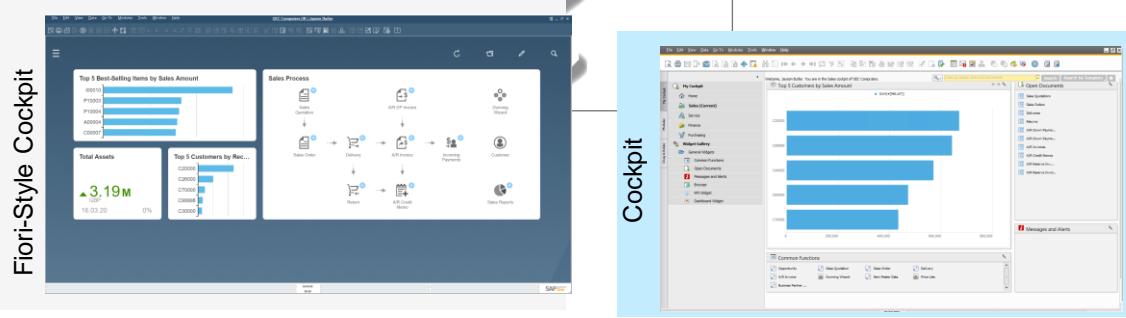
By highlighting a field and pressing Shift + F1, you can get Field Level Help.

The System Messages Log displays up to the last 50 system messages that appeared on the application window for the current user since the last login. The window displays errors, warnings or information messages. This pane appears at the bottom part of SAP Business One application, but you can close it, move it, and re size it as required, like any other application window.

A hyperlink to relevant help files may appear in the row. Click on it to read more detailed information about the message. When available, the system message will display an eight or nine digit unique identifier. You can use this ID as a search key in the online help.

## Cockpit Options

SAP Business One provides cockpits you can personalize to provide valuable information for a user's daily operations and decision-making.



To choose cockpit type:

*Administration > System Initialization > General Settings > Cockpit tab*

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SAP Business One provides cockpits you can personalize to provide valuable information for a user's daily operations and decision-making.

If you are running SAP Business One, version for HANA, you have the option to use the Fiori cockpit with an HTML5 graphical user interface as well as the older style cockpit.

With MS SQL you do not have the option of running the Fiori interface.

You also have the option with both platforms to turn off the cockpit.

You can choose the desired cockpit style for a company database on the *Cockpit* tab in the *General Settings* transaction.

A individual user cannot choose which type of cockpit to use, however, they do have the option to turn off their own cockpit. Their decision will not affect other users. This is done in the *Cockpit* window in the *Tools* menu.

## Personalizing the Fiori-style Cockpit

You can personalize the cockpit to streamline your work environment. Move, add or delete widgets.



### Use this icon to edit the cockpit

- The cockpit widgets will gray out
- You can drag unwanted widgets to the trash can
- You can rearrange the widgets



### Use this icon to open the Widgets Gallery

- Choose widgets by clicking on the plus symbol below each widget
- Then return to the cockpit by using the arrow



### Use this icon to finish editing



You can personalize your cockpit to better organize your work environment so that essential analytics and daily functions are organized in an immediate and visualized way.

In this course we focus on how to personalize the Fiori-style cockpit.

You change the widgets in your cockpit at any time. You can move, add or delete widgets.

Choose the pencil-shaped icon and the cockpit grays out allowing you to edit. You can drag unwanted widgets to the trash can or rearrange the widgets on the screen.

The plus-shaped icon will appear once you have begun to edit the cockpit. Choose this icon to open the Widgets Gallery. The Widgets Gallery contains all your available widgets. Find the widget you want then click on the plus symbol below the widget to add it to your cockpit.

When you finish editing choose the checkmark.

## Widget Gallery

The screenshot shows the Widget Gallery interface. At the top, there's a header with the text "Narrow the selection of widgets by type" and a "Widget Gallery" button. Below the header is a search bar with the placeholder "Search in Tile Catalog...". On the left, there's a dropdown menu with options: All, Dashboard, Key Performance Indicator, Business Object Count, Workbench, Browser, and Others. The "All" option is selected. A yellow circle highlights the back arrow icon in the top-left corner of the screen. A yellow box highlights the dropdown menu, with a yellow arrow pointing from the text "Use the back arrow to return to the cockpit after editing" to the arrow icon. Another yellow box highlights the search bar, with a yellow arrow pointing from the text "Search for a widget by name" to the search icon. A yellow circle highlights the plus sign icon at the bottom-right of a widget card, with a yellow arrow pointing from the text "Choose a widget by clicking on the plus sign" to it. At the bottom of the screen, there are footer links: "© 2020 SAP SE or an SAP affiliate company. All rights reserved. | PUBLIC" and the number "33".

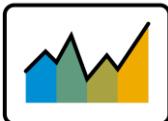
In the Widget Gallery, the default is to show all available widgets. You can narrow down the selection with the dropdown. Options are to show only dashboards, key performance indicators, count widgets, workbenches or the recent updates widget.

You also have the option to find a widget by name using the search field.

Once you find a widget you want, choose the plus icon below the widget. After you have chosen all the widgets you want, use the back arrow to return to your cockpit.

Let's look at the types of widgets available to you in the Fiori-style cockpit.

## Cockpit Widget Types



### Operational Widgets

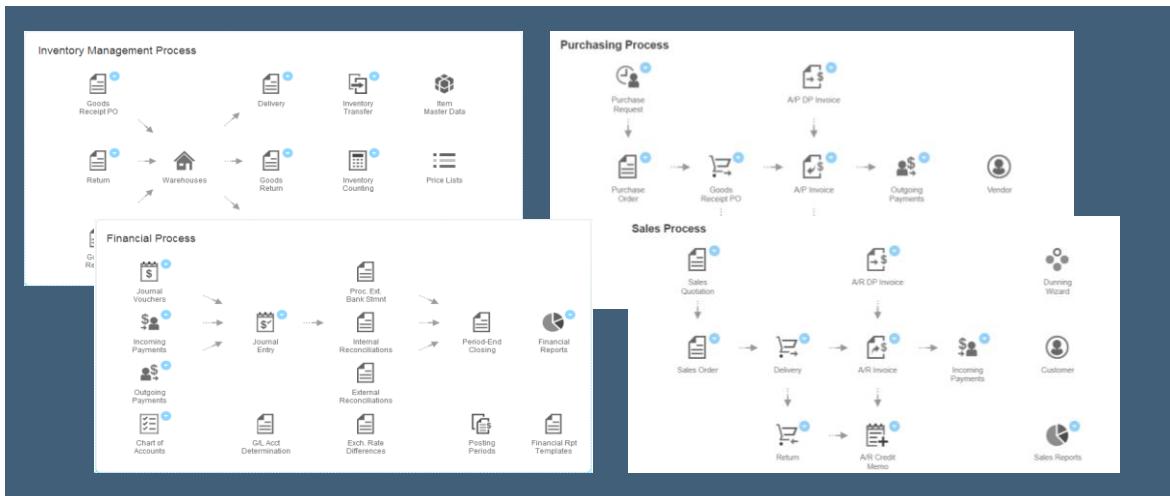
- **Workbenches**
- **Common Functions**
- **Messages and Alerts**
- **My Recent Updates**
- **Business Object Count**

### Analytic Widgets

- **Dashboards**
- **Key Performance Indicators (KPIs)**

- There are 5 styles of operational widgets and 2 styles of analytic widgets.
- The Workbench widget is designed to cover 80% of daily operations for a user's role. Users can click on icons depicting frequently used transactions for a business process. This widget can simplify onboarding new users.
- For additional transactions a user needs on a daily basis, you can use the Common Function widget which allows you add a list of transactions that can be opened with a click.
- The My Recent Updates widget displays a user's most recent transactions, so a user can easily see and quickly access recently saved documents or master data.
- The Messages and Alerts widget shows any messages or alerts directed to that user.
- The Business Object Count widget shows the number of items returned from a query. For example, a count might display the number of high value customers who contributed to at least 10% of the profit in the prior year.
- A user can add multiple Dashboard widgets to a cockpit. Users have the choice of a great many pre-delivered dashboards but you can also add dashboards created specifically for your company.
- The KPI widget allows you to quickly spot whether or not you have achieved your target for a key performance indicator, such as sales targets or gross profit margin. The value shown in large type, the color and the up/down arrow make it easy to see if a target is reached and how the values are trending. A user can have multiple KPIs in a cockpit.
- In the following we will go through more details on some of these widget types. Then see how you might combine them in a cockpit.

## Four Standard Workbench Widgets



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SAP delivers four standard workbench widgets for business process roles in inventory management, purchasing, financials and sales.

Each widget has a visual outline of the majority of transactions needed for a user in that business process role. For example, the financial workbench focuses on the transactions a financial user needs: payment processing, journal entries, accessing accounts, internal and external reconciliation, the posting periods process and financial reports.

In addition to the business process transactions, each workbench also enables a user to take actions right away without having to switch among functions or modules. Context menu options are available for each visual transaction with a blue dot. For example, from the sales quotation in the Sales Process workbench, you can view the open items list, open a list of draft documents, and view price reports or inventory status.

The workbenches are also customizable to meet the needs of your business.

In our new role on the team, we will begin by adding the Sales Process Workbench.

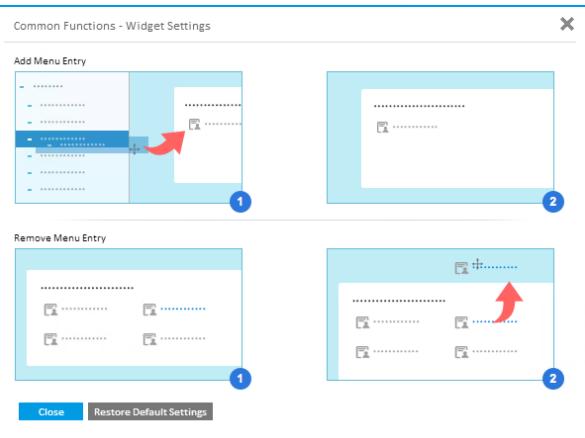
## Common Functions

Common Functions widget allows you to open transactions with a click.

Common Functions

- Purchase Order     Goods Receipt PO     Goods Return
- A/P Down Payment I...     A/P Invoice     Purchase Analysis
- Item Master Data     Business Partner M...     Inventory in Wareho...

*Wrench* icon opens visual instructions on adding or removing transactions from the widget.



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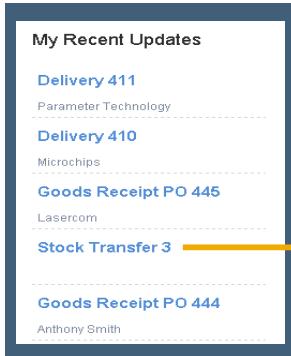
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For some common transactions that we plan to use that are not covered by the Sales Workbench, we will add the Common Functions widget. The Common Functions widget allows you to open transactions with just one click.

Once you add the widget, you can choose which transactions to add. Just click on a desired menu item and drag it into the widget. To remove transactions just drag them off the widget. The *Wrench* icon opens visual instructions on adding or removing transactions.

For our business example, we will add the following transactions to the widget: Item Master Data, Purchase Order, Good Receipt PO, and A/P Invoice.

## Recently Updated Objects Widget



- Widget gives a list of a user's recent transactions
- Includes marketing documents, master data, accounts and more

Click on an item on the list to view the transaction

The screenshot shows the 'Inventory Transfer' transaction detail screen. The transaction details are as follows:

Business Partner	C70000
Name	Aquarius Systems
Contact Person	John Brown
Ship To	Hollywood Ave San Jose CA 95112 USA
Number	2
Series	Primary
Posting Date	16.03
Document Date	16.03
Referenced Document	[...]

The 'Contents' section shows three items being transferred:

#	Item No.	Item Description	To Ware...	From...	From Bin Loc...	First To-Bin-L...	To Bin...
1	A00001	J.B. Officeprint 1420	04	04	01		
2	A00002	J.B. Officeprint 1111	04	04	01		
3			04	04	01		

Other fields include Sales Employee (Brad Thompson), Journal Remarks (Inventory Transfers - C70000), and Remarks. Buttons for Add, Cancel, and Copy From are at the bottom.

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We will also add the My Recently Updated widget so that we can easily pull up objects that we are working with. This widget will display new and updated master data, marketing documents, chart of accounts and many more types of information.

As you perform your daily work, the recent updates widget captures your recent transactions. You can click on the a document to open the transaction to view it and make changes if needed.

## Business Object Count Widget

Document...	Document...	Customer ...	Customer ...
→ 342	→ 342	→ C23900	Parameter Tec
→ 345	→ 345	→ C23900	Parameter Tec
→ 341	→ 341	→ C23900	Parameter Tec
→ 343	→ 343	→ C23900	Parameter Tec
→ 352	→ 352	→ C40000	Earthshaker Ci

- Displays the number of results from a query
- Predefined widgets exist to count:
  - Sales Orders Not Delivered
  - Open A/R or A/P Invoices
  - Purchase Orders Not Received
  - Open Inventory Transfer Requests
- You can create your own count widgets.
- From the widget you can open the query results.

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A business object count widget displays the number of results from a query. Predefined widgets exist to count Sales Orders not delivered, open A/R Invoices, Purchase Orders not received, open A/P Invoices, and open Inventory Transfer requests.

Additionally, you can create your own count widgets. From the count widget you can open the detailed results of the query to see more details. In this case we can see the number of open A/R invoices in the company and we can dive in to the document or master data by choosing the orange link arrow.

## Dashboards



SAP provides a large number of pervasive dashboards.

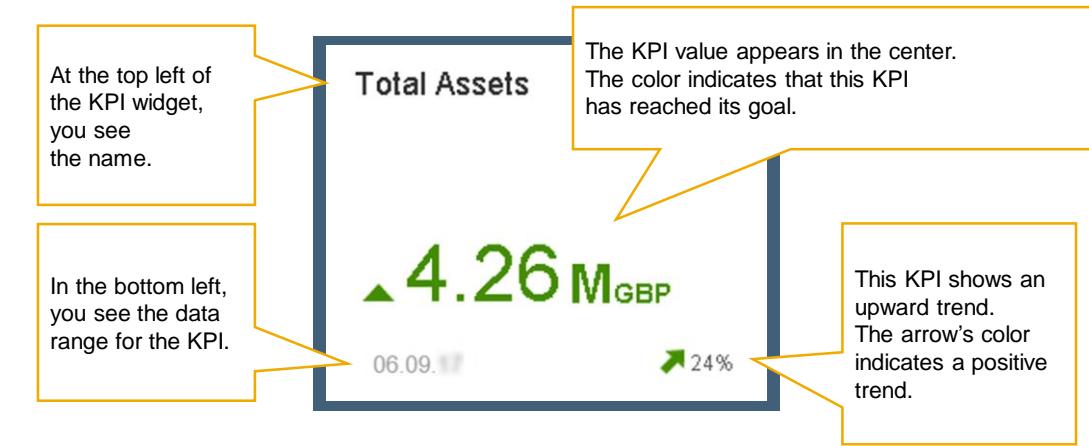
Authorized users can create their own dashboards and add them to the widgets gallery

Additional actions can be added to dashboards so that users can take immediate action based on analytic insights.

SAP provides a large number of pervasive dashboards with commonly needed business analytics. Authorized users can create their own pervasive dashboards in the Pervasive Analytics Designer. Additionally, Crystal dashboards can be developed and made available to cockpit users. Additional actions can be added to pervasive dashboards so that users can take immediate action based on analytic insights. These actions include the ability to open an advanced dashboard with related analytics, open a document or master data window and start a related search of the database. Instructions on how to create pervasive dashboards and add actions can be found in the course topic on *Analytics*.

For our cockpit we will add two pervasive dashboards: Top 5 Customers by Sales Amount and Top 5 Best Selling Items.

## Key Performance Indicators (KPIs)



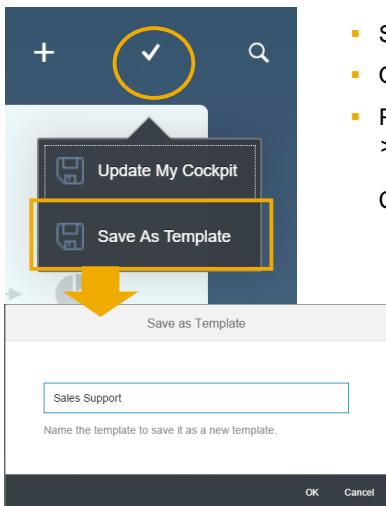
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Several predefined KPI widgets are available for tracking performance objectives. There are two main benefits to using KPIs. KPIs allow you to easily and quickly check progress towards achieving your company's strategic goals and objectives.

As with pervasive dashboards, authorized users can build new KPIs in the Pervasive Analytics Designer.

## Saving a Cockpit



- Save your cockpit design for your own use
- Or if authorized, save as a template
- Publish a cockpit template for others to use: *Tools > Cockpit > Cockpit Management*

Choose *Publish* in the *Cockpit Management –Setup* window

The screenshot shows the 'Cockpit Management - Setup' window. It displays a table of published templates. The table has columns for #, Name, Description, Create Date, Published By, Publication Date, and Provider. There are six rows in the table. The fifth row, which is highlighted with a yellow box and a large yellow arrow pointing from the previous screenshot, contains the following data:

#	Name	Description	Create Date	Published By	Publication Date	Provider
1	Finance			SYSTEM		SAP
2	Sales			SYSTEM		SAP
3	Purchase			SYSTEM		SAP
4	Inventory			SYSTEM		SAP
5	Support		16.03.2020			
6						

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Once you have designed a cockpit layout, you can save the cockpit for your own use.

Authorized users can save the cockpit as a template for other users.

If you are authorized you will see two choices when you save the template: "Update My Cockpit" and "Save as Template".

If you save it as a template, you can publish the template and then assign it to a user group.

## Pre-defined Role Based Cockpits

- Four predefined cockpit are available: Sales, Purchasing, Finance and Inventory
- The authorization for the cockpit widgets corresponds with the authorizations for an authorization user group with the same name.



- The predefined cockpits can be modified. You can also create new templates or modify existing templates and save them with a different name.

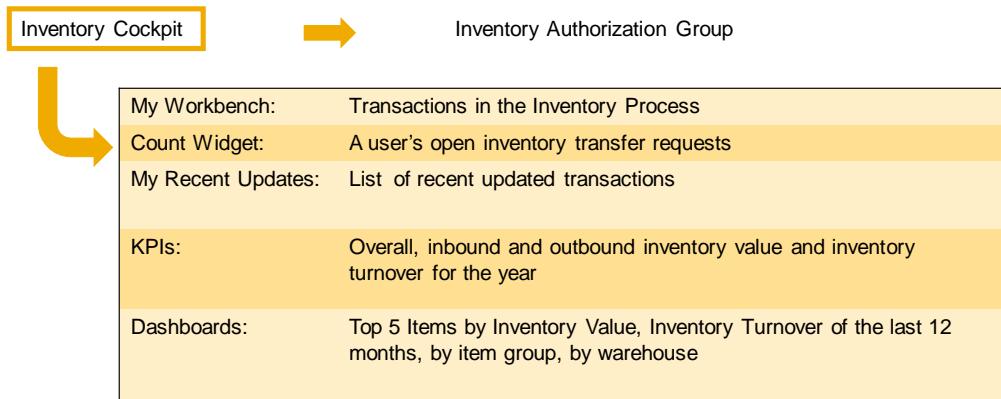
In addition to cockpit templates that you create, there are four predefined cockpit templates have been created for sales, purchasing, finance and inventory. These cockpits can also be modified by an authorized user.

These four cockpits are mapped directly to four predefined authorization groups.

Once a user is assigned to a authorization group, he has authorization for the widgets associated with the cockpit associated with that group.

A user may have the ability to access and use other widgets based on authorizations in general authorizations that are given to that specific user.

## Assigning Users to Roles and Cockpits



By default, the inventory authorization group gives authorization for the inventory cockpits widgets.

For example, the OEC Computers warehouse manager wants his team members to use the inventory cockpit. Therefore, he asks the IT manager to assign the inventory permission group to each user on his team. When the authorization group is assigned, each user can access the widgets associated with that cockpit.

The inventory cockpit includes a workbench widget with everyday inventory transactions, a count widget for each user's own open inventory transfer requests and a list of recent updated transactions. By default, the authorization group for inventory gives full authorization for key performance indicators displaying overall, inbound and outbound inventory values as well as inventory turnover for the year. It also gives access to dashboards that display top items in terms of inventory value and inventory turnover by time, items and warehouse

## Assign Role Authorization and Cockpits to a User

The screenshot shows the SAP User Groups window. At the top, there are fields for Name (Inventory), Description (Inventory), Group Type (Authorization), Active From, To, and Cockpit Template (Inventory). Below these are tabs for Group Type (Authorization) and Users. The Group Type tab shows a list of groups: Finance, Sales, Purchase, and Inventory (which is selected and highlighted with a yellow box). The Users tab shows a table with columns: User Code, User Name, Department, From, and To. It lists two users: Kora (User Code 1, User Name Kora Dean, Department General) and Vicky (User Code 2, User Name Vicky Purchat, Department General). At the bottom are Update and Cancel buttons.

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1. Open the *Users Group* window  
*Administration > Setup > General > User Groups*
2. Choose an authorization group for the role
3. Assign the appropriate cockpit for the role
4. Assign users to the authorization user group
5. Optionally enter date ranges for the user group or users as desired

In the User Groups window, the warehouse manager chooses the authorization group that contains the authorizations for the role. In this case, the Inventory authorization group. He ensures the Inventory cockpit template is assigned as the default. Then the warehouse manager assigns two members of his team Kora and Vicky to the inventory authorization group.

Users can personalize their cockpits once the template is assigned. A user may have the ability to access and use other widgets based on authorizations in general authorizations that are given to that specific user.

If you are superuser, you can create new authorization groups if needed for your new templates. Remember that new groups will need to have the appropriate authorizations for the objects and data in the template you assign.

How to set up authorizations is covered later in the e-learning course on General Authorizations.

## Alternate Way to Assign Users to an Authorization Group and Cockpit

**1**

**2**

The screenshot illustrates a two-step process for assigning a user to an authorization group and cockpit:

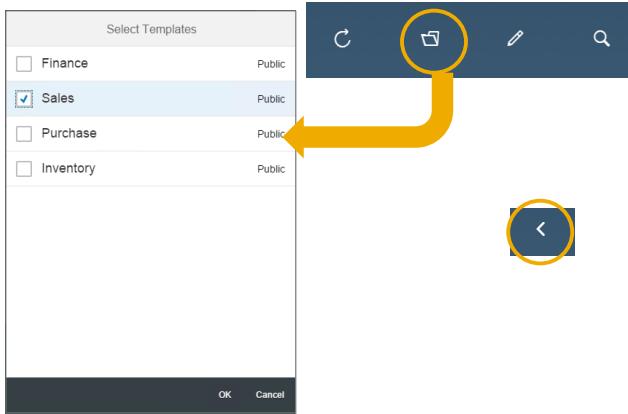
- Step 1: Users - Setup**  
The 'Users - Setup' window is open. A user named 'Mary Heske' is being configured. In the 'Groups' field, the 'Inventory' checkbox is selected and highlighted with a yellow box. An orange arrow points from this selection to the 'User Groups' window.
- Step 2: User Groups**  
The 'User Groups' window is open, showing a list of groups. The 'Inventory' group is selected and highlighted with a yellow box. This group is then assigned to a cockpit template. The 'Cockpit Template' window is shown, listing the 'Inventory' group. In the 'Users' section, the 'mary' user is listed under the 'Inventory' group, also highlighted with a yellow box.

Another way to assign users to a cockpit template is to open the *Users-Setup* window and add the user to an authorization group that has an associated template.

Then the user will appear in the *User Groups* window as assigned to the group.

You can only assign one default template for a user group, but a user can belong to multiple user groups and thereby be authorized for multiple templates.

## Switching Between Available Cockpit Templates



- Users can switch between available cockpit templates
- To choose a template, click on the *Folder* icon and select from a list.
- To switch to a different template, choose the back arrow in the top left corner of the cockpit.
- This action returns a user to a blank cockpit and the *Folder* icon reappears.

Users have the option to switch between available cockpit templates for which they are authorized. To choose a cockpit template, click on the *Folder* icon and select from a list of templates. To switch to a different template, choose the back arrow in the top corner of the cockpit. This action returns a user to blank cockpit and the *Folder* icon reappears. Users can also modify available cockpit templates for their own user or publish them as cockpits that can be shared by other users.

## Personalized Display Settings

Users can make their own display settings in the *Users – Setup* window on the *Display* tab.

- Skin style
- Colors
- Language
- Font style and size

Use the icon on the toolbar



The screenshot shows the SAP Fiori User Setup window titled "Users - Setup". The "Display" tab is selected. In the "Skin Style" section, "Color" is set to "Custom". Under "Font", "Font" is set to "Arial" and "Font Size" is set to "12". A preview window shows the text "AaBbYyZz - abcd" in the chosen font and color. The "Background" section has a preview window showing a light gray background. At the bottom, the "Image Display" dropdown is set to "Centralized" and the "Ext. Image Processing" dropdown is set to "Partial". Buttons at the bottom include "Add", "Cancel", "Copy Form Settings", and "Restore Defaults".

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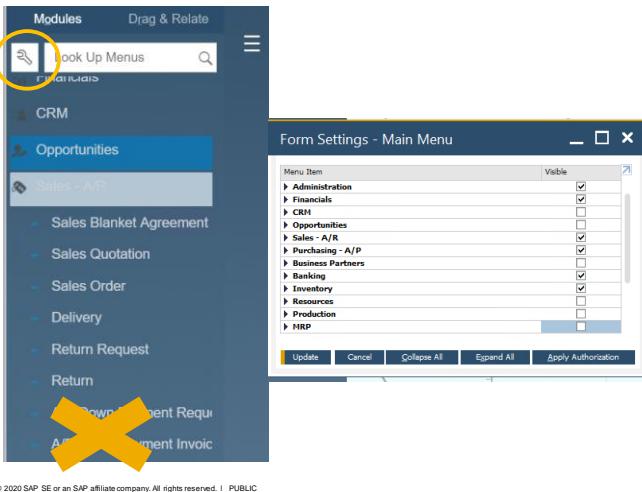
Some settings in the *User-Setup* window can be maintained by individual users.

For example, users can personalize their own display settings on the *Display* tab. Settings include those for the skin style, colors, language, font style and size.

Users can open their own user settings by using the *My Personal Settings* icon (as shown on the graphic).

## Simplifying the main menu

A user can hide or display entries in the main menu using the *Form Settings – Main Menu* window



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Another way to tailor SAP Business One to a user is to simplify the main (Modules) menu.

Most users are limited in the functions they can perform. To avoid frustrations, users can hide menu functions that they do not or cannot use.

Like a personalized cockpit, this can speed up access time to open a regularly used transactions.

The tool to control what is hidden and what is display is called *Form Settings*.

To access the form settings for the main menu, select the *Wrench* icon of the left of the *Menu Search* field.

You will see a list with all the menu items. You can choose to hide or display a whole menu or selected menu items.

In the *Form Settings - Main Menu* window, choose the *Apply Authorization* button. This restores to the menu to its original state.

To save the changes, choose the *Update* button.

In the example the user has removed some entries under the Sales - A/R menu.

## Summary



- A company is represented as a database inside SAP Business One.
- There are two types of users: superusers and normal (end) users.
- A horizontal menu bar displays at the top of the screen and the main Modules menu is on the left.
- Commonly-used menu bar functions are represented as icons in a toolbar.
- A menu search allows you to quickly find items in the Modules menu.
- Users can personalize a cockpit to suit their needs. Users can rearrange, delete or add widgets from a widget gallery.
- Using authorization groups with an assigned cockpit template is an easy way to assign role based cockpits. Authorized users can modify or create new cockpit templates and authorization groups.
- Users can change their display settings opening My Personal Settings.
- Users can hide menus and items in the Modules menu by using Form Settings.

A company is represented as a database inside SAP Business One. When you log into SAP Business One, you choose the company to log into.

There are two types of users: superusers and normal (or end) users. Superusers have access everything. End user are restricted by authorizations to functions related to their jobs.

There are two menus. A horizontal menu bar displays at the top of the screen and the main Modules menu is on the left.

Commonly-used menu bar functions are also represented as icons in a toolbar. The toolbar appears under the menu bar.

A menu search allows you to quickly find items in the Modules menu.

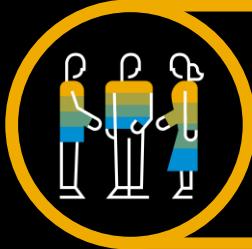
Users can personalize their cockpit to suit their needs. Users can rearrange, delete or add widgets from a widget gallery.

Using authorization groups with an assigned cockpit template is an easy way to assign role based cockpits. Four delivered role-based cockpit templates that map to four authorization groups provide widgets tailored to a user's daily operations and analytic needs.

Authorized users can modify or create new cockpit templates and authorization groups.

Users can change their display settings opening My Personal Settings.

Additionally users can hide menus and items in the Modules menu by using Form Settings.



## Introduction: Master Data and Documents

SAP Business One  
Version 10.0

PUBLIC

THE BEST RUN **SAP**

Welcome to the master Data and Documents topic.

## Objectives



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

- View a customer record
- Explain the concept of master data
- Create and change a document

In this topic, we will look at master data in SAP Business One.

After this session you will be able to view a customer record to explain the concept of master data. Then we explore how to create and change documents in SAP Business One.

## Master Data Concept



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SAP Business One tracks business activities using documents such as purchase orders, invoices, production orders, sales orders, and so on.

Each of these documents is constructed from smaller reusable chunks of data called master data.

Master data refers to the key information that describes your customers, vendors, and leads as well as items that your company buys and sells.

Creating documents from master data increases productivity, ensures data consistency, and reduces errors.

### 3 Types of Business Partners



**Customers – used in sales process**

**Vendors – used in purchasing process**

**Leads – used in sales process to represent prospects.**

**All three represented by a business partner master data record**

- There are three types of business partners used in purchasing and sales documents: customers, vendors and leads.
- Leads are used in the sales process to represent sales prospects.
- Once a sale is made, you can convert a lead to a customer.
- Vendors are used in the purchasing process.
- Each lead, customer or vendor is represented in SAP Business One by a business partner master data record.
- One transaction is used to access all three types of business partners. However, the forms for each type differ slightly so that they can hold the appropriate data for each.

## Finding Master Data



The screenshot shows the SAP Sales Order interface. A yellow arrow points from the 'Customer' field to a selection list titled 'List of Business Partners'. Another yellow arrow points from the 'Item No.' field to a selection list titled 'List of Items'. The 'List of Business Partners' window displays a table with columns for BP Code and BP Name, showing entries like C230000 (Max-Tec) and C250000 (Paramec Technology). The 'List of Items' window displays a table with columns for Item Group, Item No., Item Description, and In Stock, showing various computer components.

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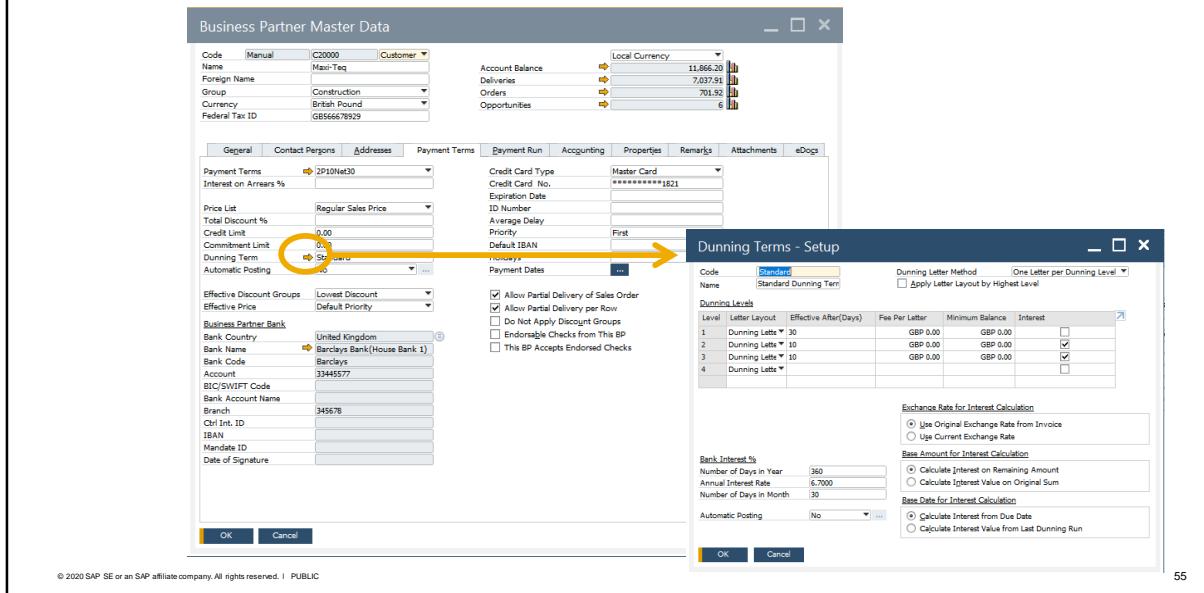
It is easy to look up business partner and item information while you are entering sales and purchasing documents. A selection list icon is available in the business partner and item number fields in marketing documents.

The selection list icon is invisible until you click into a field. When you click into the field, the field highlights and the icon appears.

Use the selection list icon to make a selection list open.

You can scroll through the list or use characters with wildcards to search.

## Configuration Data



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Some of the information that appears in master data comes from configuration. For example, payment terms are set up in advance of setting up customers. Choosing the link arrow in the business partner window for payment terms, I can navigate to the configuration data. Some fields with a dropdown menu such as the payment terms, will let authorized users define new options if there are none appropriate. This type of direct configuration is typical in SAP Business One. The purpose of configuration data and master data is to make creating documents for business transactions easier. Now let us look at how we create documents to capture the information about a business activity in sales or purchasing.

## Marketing Documents

The screenshot shows the SAP Marketing Document interface. On the left, there are three boxes: 'General Document Data', 'Document Content', and 'General Information (Footer)'. The main area is titled 'Document Type' and contains four tabs: 'Contents', 'Logistics', 'Accounting', and 'Attachments'. The 'Contents' tab is active, showing fields for 'Item/Service' (with rows 1 and 2 selected), 'Ship to', 'Pay to', 'Shipping Type', and '...'. The 'Logistics' tab shows 'Buyer/Sales Person' and 'Remarks'. The 'Accounting' tab shows 'Total Before Disc.', '% Discount', and '...'. The 'Attachments' tab shows 'Journal Remark', 'Payment Terms', 'Tax Information', and '...'. At the bottom right is a 'Print' button.

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All the documents in purchasing and in sales share a similar structure. The documents for sales and purchasing are also often called Marketing Documents.

In general the document is divided into:

- the upper part (header) with the general information,
- the middle part with the information on different tab pages and the item specific data,
- and the lower part (footer) with more general information.

The middle part contains 4 tabs:

- The *Contents* tab is where all the specific information about the ordered items or services is entered, such as quantity, price, item number, and description. You can access more item specific data in the line details by double-clicking a row.
- The *Logistics* tab contains the details about where the items or services and payments are to be sent. Shipping method is also specified here. Most of the data is pulled from preconfigured master company details and vendor data.
- The *Accounting* tab contains the relevant general ledger (G/L) account information for the purchase pulled from the financial accounting master data.
- The *Attachments* tab allows you attach supplementary files to your documents.
- Much of the data appearing in these tabs defaults from the master data. The values can be changed while working in the documents. These changes will affect the document, but do not change the master data records.

## Row Type in Marketing Documents

**Select**

**Form Settings Table Format**

**Contents**

Type	Item No.	Item Description	Quantity	Price	Total (LC)
	A1005	Color Printer	1	214,76	214,76
	A1006	Ink Jet Printer	1	99,99	99,95
T	The item A1006 will sell out soon!				
Σ	Subtotal Printers				
	A1001	Black Cartridge	10	7,50	75,00
	A1006	Color Cartridge	10	9,10	91,00
Σ	Subtotal Cartridges				
					166,00

In the Sales and Purchasing documents, you can choose a row type.

Total before Discount      480,71

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In marketing documents, you can choose the row's *type* on the *Contents* tab page.

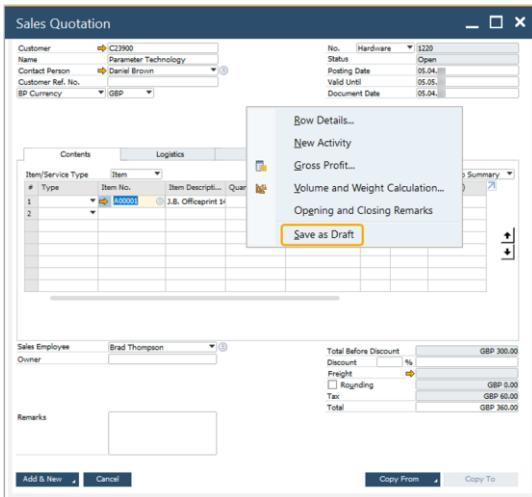
The default view of the system is without the type column, but you can easily add it in the *Form Settings* window. Form Settings are available for windows in SAP Business One and control the visibility of optional fields.

The options for the row types are:

- **Blank**: for a regular item row this field is empty
- **T**: for a text row
- **Σ**: for a subtotal row
- **A**: If the document is a sales quotation, the option A is available for an alternative item row. An alternative item is not taken into account on sum calculations. When the document is copied to a target document, a user can decide if the alternative item should remain or be deleted.

You can change the format of any row in the *Contents* tab of any SAP Business One purchasing document to insert text or a subtotal of the preceding row. Simply click on the drop-down list in the *Type* field and select **T** (for text) or **Σ** (for subtotal). When you select **T**, the *Text Editor* pop-up window appears. From here, insert predefined text from the drop-down list or insert your own text. This is especially helpful when you want to convey specific instructions to your vendor about how items should be manufactured, handled, or shipped.

## Draft Documents



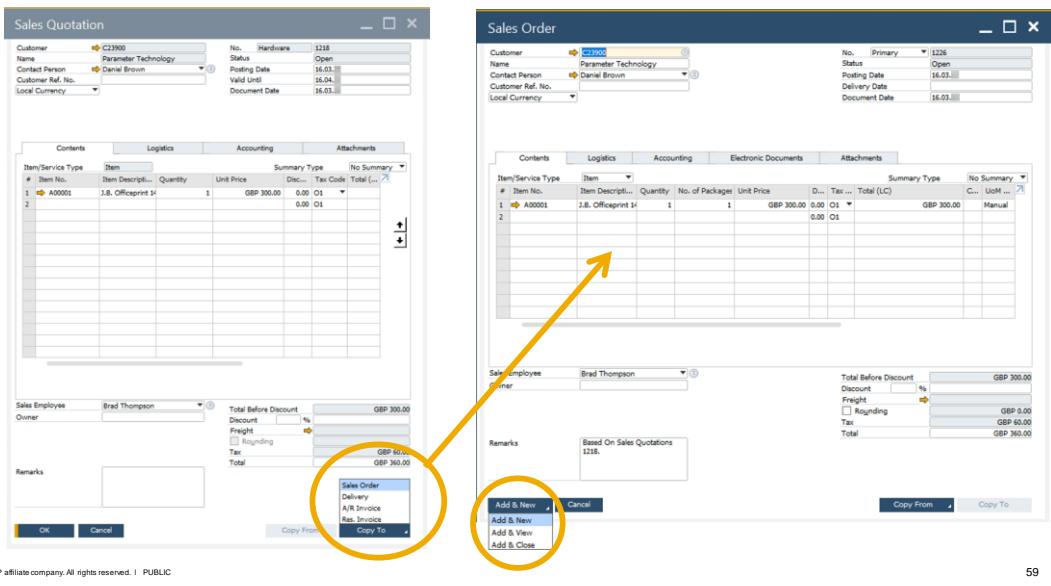
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- Save documents as a draft before adding to database.
- You can make changes or enter missing information before adding as regular document.
- Drafts can be used as templates.
- You can display a list of drafts for processing.

- You can save most documents as a draft in SAP Business One. This lets you make changes or enter missing information before adding them to the database as regular documents.
- For example, perhaps you check some information before offering a particular discount to a customer in a sales quotation. You can create the document, enter the items the customer wishes to purchase along with the discount, then save a draft of the sales quotation by right-clicking the header or footer of the document.
- Document drafts can also be used as templates for documents you frequently create.
- You can display a list of draft documents. Using selection criteria, you can find and process specific documents. When you open a draft document, you can make any needed changes and then add the document as a regular document to the database.

## Creating related documents

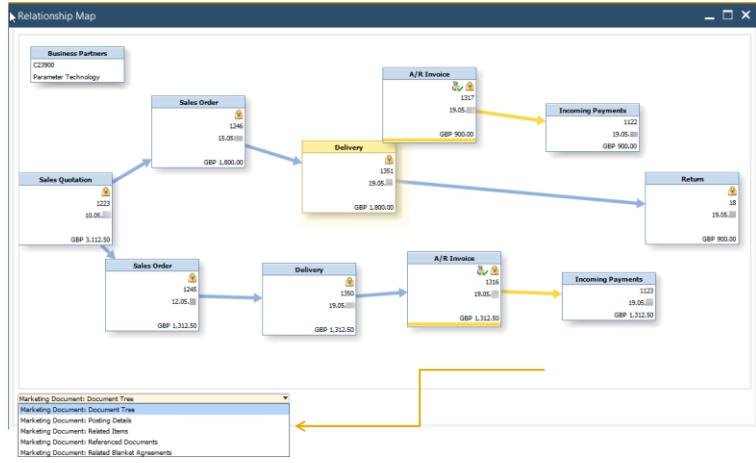


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- When doing business you often have a need to copy information from one document to another. For example, you have created a sales quotation for a customer and now you would like to create a sales order from the quotation.
- In these cases you can easily copy the sales quotation to a sales order.
- When adding a sales or purchasing document, you have the following options:
  - Add & New - adds a document and opens a new window for you to create another document.
  - Add & View - adds a document and displays it.
  - Add & Close - adds a document and closes the window. Your last choice will be remembered the next time you open the window of the given document.

## Relationship Map

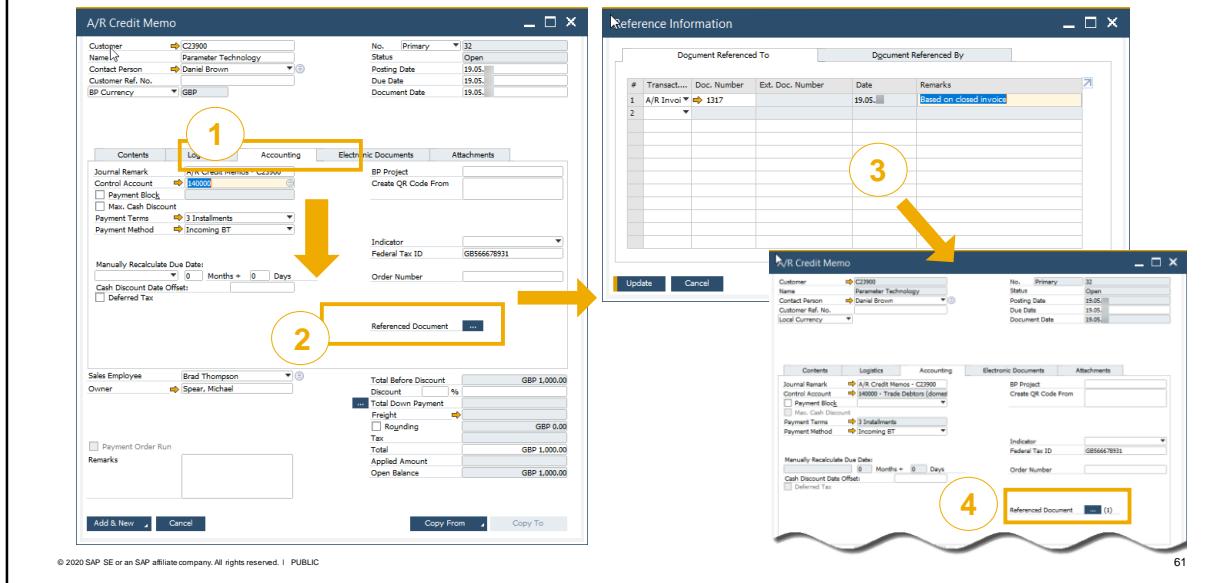


- View relationships between documents in the relationship map.
- The entry point to the relationship map has a yellow title background.
- Double-click on any icon to open a document.
- Different views can be selected in the selection box.

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- Once you create a related document, you can view the relationship between documents. One way is to use the relationship map. Right click the document header or footer and choose the *Relationship Map* option.
- In the graphic, the user has opened the relationship map from a delivery. The delivery is yellow because it is the entry point to the relationship map.
- This delivery is based on a sales order which was based on a sales quotation. The closing point for this chain, in this case, is an incoming payment.
- From the relationship map, you can double-click on any icon to open a document within the chain to see the document details, addresses, payment terms and so on.
- Different views can be selected in the selection box. You can view the documents, related journal entry postings, or items from the rows of the documents.

## Reference an unrelated document



You also have the option to create a relationship in the relationship map by referencing an unrelated document.

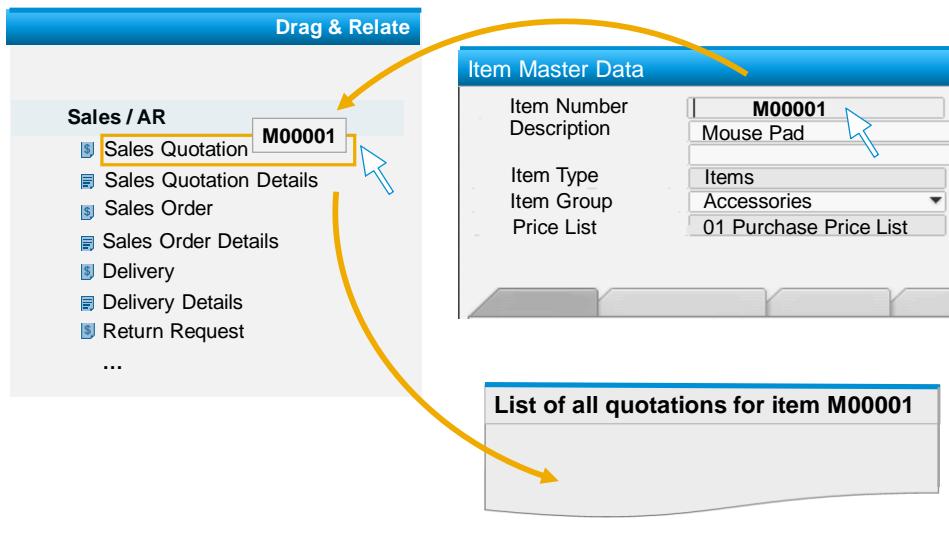
For example, you create a credit memo to refund a customer for a item that breaks after they've paid for it. Because the credit memo was not made as a follow-on document to the invoice, there is no relationship appearing in the relationship map. Later you would like to link the two documents so it is clear why the credit was paid. In this case, you can use the *Reference Document* button on the *Accounting* tab of either document.

This opens the *Reference Information* window where you can choose an existing document to reference. Note that you can reference multiple documents.

After adding the document, the credit memo in our example, an indication of the number of referenced documents appears.

In the *Relationship Map*, choose *Referenced Documents* in the dropdown to view the relationship you have created.

## Drag & Relate



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Drag & Relate is a particularly effective means of linking two business objects to create an ad hoc query. The image on the right shows the data in an item master record. If you want to find out which quotations have been made for this item, for example, you simply drag the Item Number field to the Quotations entry in the navigation Drag & Relate tree. The system then displays a list of all the quotations for the item. If this list is too long, you can filter the list to display just the results that you are interested in. You can limit the authorizations per user for using the reports in the general authorizations transaction in the Administration menu.

## Summary



Here are some key points:

- Creating documents from master data increases productivity, ensures data consistency, and reduces errors
- Three types of business partner master data: vendor, lead and customer.
- Marketing documents share a common structure.
- Marketing documents can be saved as drafts.
- You can easily copy the information in a marketing document to another document.
- Copied documents are linked and their connections can be viewed in a relationship map.
- Drag & Relate is a quick way to create ad hoc reports.

Here are some key points to remember:

- Creating documents from master data increases productivity, ensures data consistency, and reduces errors
- The three types of business partner master data are vendor, lead and customer.
- Marketing documents share a common structure.
- Marketing documents can be saved as drafts.
- You can easily copy the information in one marketing document to another. Copied documents are linked and their connections can be viewed in a relationship map.
- Drag & Relate is a quick way to create ad hoc reports.



# Purchasing: Basics

SAP Business One  
Version 10.0

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Welcome to the course on Purchasing Basics.

## Objectives



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

- List the basic process steps for procurement
- Use a streamlined procurement process

In this session, we will look at an overview of the procurement process. At the end, you will be able to list the steps in the procurement process and purchase an item using a streamlined procurement process.

## Business Example



- Your company purchases items from external vendors.
- Normally you use the full procurement process
- However, sometimes, you submit your order by phone and the vendor delivers the items immediately.

- Imagine that your company purchases items from external vendors. Normally you use the full procurement process.
- However, sometimes, you need items right away. You submit your order by phone and the vendor delivers the items immediately. For the expedited process you do not use the full purchasing process, instead you use just one purchasing document to keep the process as simple and quick as possible.

## Procurement Process Overview

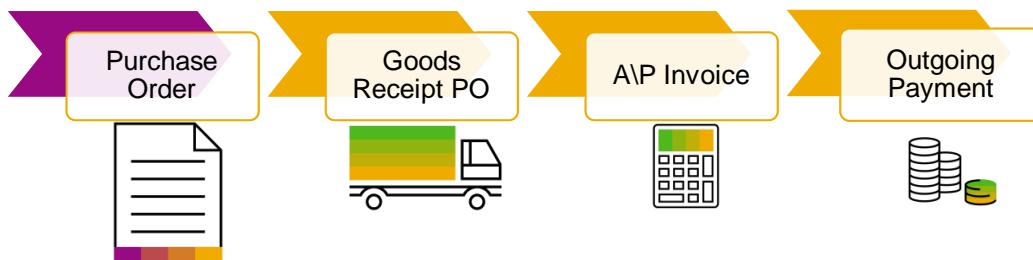


The basic four-part process of ordering, receiving, and paying for goods or services

Purchasing is not just about ordering and paying for pencils and paper clips. Rather, purchasing is the process of ensuring that a steady stream of required materials is on the way to your company when and where you need them. As a fully integrated, end-to-end business management application, SAP Business One helps you run the purchasing process, starting with the purchase order and continuing with the rest of the purchasing documents. SAP Business One automatically captures information at each step so you always know what is on hand in inventory as well as the up-to-the-minute financial state of your business. The real-time view helps you identify potential shortages before they happen. Precise historical information keeps track of which vendors come through for you consistently.

The graphic shows the basic four-part process of ordering, receiving, and paying for goods or services.

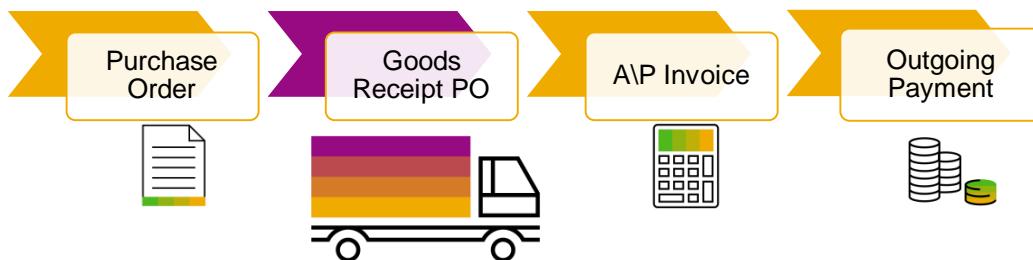
## Purchasing Items: Process Overview



- Purchase Order (PO) is the document you provide to a vendor specifying items or services you want to purchase.
- It represents your commitment to the vendor.

The purchase order (PO) is the document you provide to the vendor specifying the items or services you want to purchase, including agreed-to quantities and prices. It represents your commitment to the vendor to purchase the items.

## Purchasing Items: Process Overview



- Goods Receipt PO (GRPO) is the document that denotes the delivery of the goods from a vendor.
- It is used to update inventory quantity and prices.

The goods receipt PO is the document that denotes the delivery of goods from a vendor to a company. It is used to update the inventory quantities and values.

## Purchasing Items: Process Overview



- A/P invoice is the document into which Accounts Payable enters the vendor's request for payment.

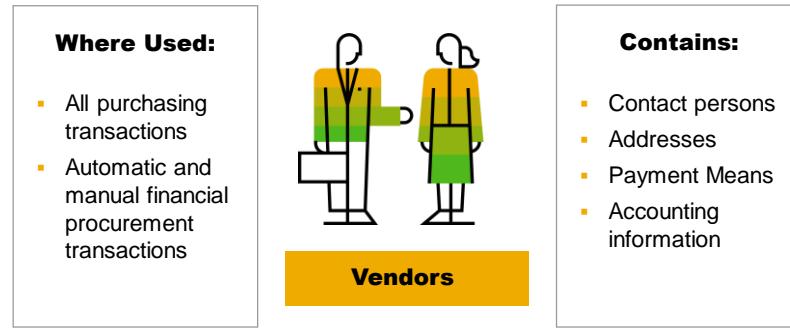
## Purchasing Items: Process Overview



- Outgoing Payment is the document which initiates a payment to the vendor account.
- Functionality and reporting for processing payments belong to the Banking module.

The outgoing payment is the document which initiates a payment to the vendor account. There are, generally speaking, four ways of sending outgoing payments: cash, checks, credit cards, and bank transfers. There are also some additional country-specific payment methods. In SAP Business One, the functionality and reporting associated with processing payments are accessed through the Banking module.

## Key Master Data in Purchasing: Vendor



Now let us look at key master data information needed for the purchase order. The first required piece of master data is the vendor.

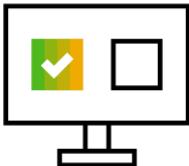
The vendor is one of the three types of business partner master data maintained in SAP Business One. Vendor data identifies who is supplying the goods and services.

You use vendor master records in all purchasing transactions. The vendor is also used in automatic and manual financial procurement transactions.

The vendor master contains: contact person details, addresses, payment means, and other accounting information.

You can search for the appropriate vendor in any purchasing document. If you are authorized, you can also enter new vendor information while creating a purchasing document.

## Key Master Data in Purchasing: Items



Item master fields useful in purchasing

- Preferred Vendors
- Manufacturer Catalog Number
- Purchasing Unit of Measure
- Item dimensions
- Tax information
- Customs group for imported items
- Link to Purchasing Analysis

Another key piece of master data in the purchasing process is item master data. Item master data identifies what is being purchased.

Frequently the same items are purchased, inventoried, and sold. The information is the same; it is just used differently. This is the advantage of using an item master record which can be copied into any document in the purchasing, sales, production, MRP, inventory, and service modules.

The header of the item master data record contains general information about the item, including a unique ID number assigned by the user, a description (including a description in a foreign language), and settings to determine the type of the item, the group it belongs to, the price in the selected price list.

Checkboxes on the right indicate whether the item is kept in inventory and whether it is offered for sale or purchase (in many cases both apply).

The General tab of the Item Master Data window holds information about the manufacturer of the item, additional identifiers, shipping methods, and issue method.

The Purchasing Data tab indicates the usual vendors who sell the item, how to identify the item in a catalog, the units of measurement used for the item for purchasing purposes, and the dimensions of the physical item. Information is also available on taxes and on customs groups for imported information. For items with a purchasing history, you can click on the chart icon on the left of the tab to display a graphical purchase analysis.

## Inventory and Accounting Effects



No Posting

Stock Acc.	Allocation Acc.
100	100

Allocation Acc.	Vendor
100	100

Now let us take a look at the procurement process and its effect on inventory and accounting.

When a purchase order is created, there are no postings in inventory and accounting.

The first posting will be made when a goods receipt PO is entered. The GRPO creates a journal entry that posts the value of the received goods to the debit side of the stock account and to the credit side of an allocation cost account.

The stock account and the allocation cost account are retrieved from the Inventory Account field and the Allocation Account field on the Inventory Data tab of the item master record.

The allocation cost account is a transfer account used to check if goods receipt POs and the A/P invoices match.

The allocation account's total balance represents the value of all open goods receipts POs that are not yet copied to an A/P invoice.

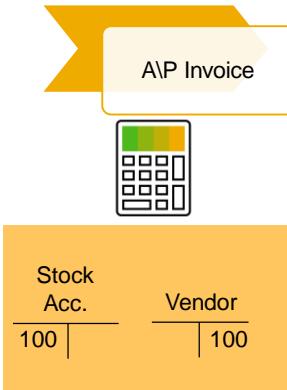
Later, when the A/P invoice is posted, the goods receipt PO is closed.

At that point, the A/P invoice creates a journal entry that posts the invoiced amount to the debit side of the allocation costs account and to the credit side of the vendor account.

In this way, the amount in the Allocation Cost account from the goods receipt PO is cleared and the system records the amount owed to the vendor.

## Streamlined Procurement Process

- You can streamline the purchasing process using a standalone A/P invoice.
- For urgent orders, skip the purchase order and GRPO.
- The A/P invoice will:
  - Increase stock
  - Show what is owed to the vendor



Sometimes, you may need to streamline, or simplify, the purchasing process to make it more efficient. Perhaps you need to get an item immediately. So you call the vendor and ask them to deliver the item today. Because of the hurry, you skip the purchase order.

When the item is delivered, the vendor invoice is also delivered.

So rather than creating a goods receipt PO, you enter an A/P invoice to process both the receipt of the items into inventory and the obligation to pay the vendor.

In this case, when you directly post the A/P invoice without first creating a goods receipt PO, the postings to the allocation costs account are omitted. The posting debits the stock account to show the increase in inventory and credits the vendor account to show the need to pay the vendor.

Because an A/P invoice that does not reference a goods receipt PO will increase inventory, it is important to make sure there is no prior goods receipt if you create an A/P invoice without reference.

## Summary



Here are some key points:

- The four basic steps of the procurement process are: the purchase order, the goods receipt PO, the A/P invoice and the outgoing payment.
- Two key types of master data in purchasing are vendor master data and item master data.
- In a streamlined purchasing process, the only mandatory document is the A/P invoice.
- The A/P invoice is designed to increase inventory when the invoice does not reference a goods receipt PO as a base document.

- The four basic steps of the procurement process are: the purchase order, the goods receipt PO, the A/P invoice and the outgoing payment.
- Two key types of master data in purchasing are vendor master data and item master data.
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## Purchasing: Purchasing Items

SAP Business One  
Version 10.0

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Welcome to the Purchasing Items topic.

## Objectives



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

- Perform the basic process steps for purchasing items
- Explain the consequences of each step on inventory and accounting

In this topic, we will perform the basic steps for purchasing items. As we go through the process, we will explain the consequences of each process step on inventory and accounting.

## Business Scenario



- Your company purchases items for resale.
- You maintain a minimum inventory level for some of the items.
- When the stock is low, you reorder the items using a procurement process with 4 steps:
  - Purchase orders
  - Goods Receipt POs
  - A/P invoices
  - Outgoing payments

In our business example, we ask you to imagine that your company purchases items for resale. You maintain a minimum inventory level for some of these items, such as printers. When the stock is low on those items, you reorder the items using a procurement process with 4 steps: purchase orders, goods receipt POs, A/P invoices, and outgoing payments to the vendor.

## Process Overview



- A minimum inventory of 15 printers is needed to fulfill regular customer orders.
- When the stock dips too low, purchase orders are used to begin the purchasing process.
- When the vendor delivers the printers, a goods receipt PO is created.
- After the items are inspected, an A/P invoice can be created.
- The A/P invoice triggers an outgoing payment to the vendor.

Let us look at the process steps in our business example with a concrete example. A minimum inventory of 15 printers is needed to fulfill regular customer orders quickly. When the stock dips too low, purchase orders are used to begin the purchasing process. When the vendor delivers the printers, a goods receipt PO is created. After the items are inspected, an A/P invoice can be created. The A/P invoice triggers an outgoing payment to the vendor.

## Purchase Order (PO)



- Purchase Order represents a commercial document between buyer and seller
- It contains agreed-on quantities and prices
- PO data is copied to later documents automatically
- No value-based accounting changes occur
- Order quantities appear in inventory reports

Now let us take a detailed look at the first step in the purchasing process: the purchase order. A purchase order is a commercial document issued by a buyer to a seller specifying the items or services that the seller will provide the buyer. The purchase order includes the agreed-to quantities and price for the products listed.

How is the information stored in the purchase order used? Normally, when goods are received, purchase orders are matched with packing slips and vendor invoices before the invoices are paid. In SAP Business One, this process is automated: the purchase order can be linked to the goods receipt PO (which shows information from the packing slip), which then can be linked to the A/P invoice (which contains the information from the vendor's invoice). This automation allows information to be consistent and retained throughout the process. You never have to enter data twice.

When a purchase order is added in SAP Business One, no value-based accounting changes occur. However, the order quantities are listed in inventory management. You can view items and quantities on order in various reports and windows, such as the inventory status report and the Item Master Data window. Obviously, having such real-time access to this information can play a key role in optimizing a company's purchasing and inventory management business processes.

## Effect of a Purchase Order

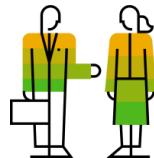
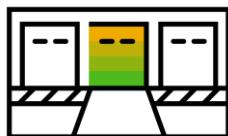


- 10 printers are in stock
- We order 5 more from our vendor
- Five appear on the inventory reports as ordered
- 15 will be available to promise
- Only 10 are physically in stock

So back to our business example for our purchasing process:

- Currently, we have 10 printers in stock
- We create a purchase order to buy 5 more from our vendor
- After the purchase order is saved, a quantity of five appear on the inventory reports as ordered
- Since we have 10 printers in stock and 5 on order, 15 will be available to promise to our customers, although only 10 are physically in stock

## Addresses in the Purchase Order



**Company / Warehouse**

**Vendor**



**Purchase Order**

*Logistics tab*

**Ship to Address**

**Pay to Address**

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Two important addresses are entered in the purchase order, the Ship-to and Pay-to addresses, so it is important to understand how they are used in the purchasing process.

The ship-to address indicates the address where you would like the vendor to ship your purchased items. The ship-to address can default in from two places, depending on your settings.

For item-type purchasing documents, you can set the system to either default in the company address or the address of the warehouse in the first row of the document.

To set the default to be the warehouse address, you need to flag the checkbox “use warehouse address” in Document Settings. If the box is not flagged, the default address will be the company address.

For service rows, no warehouse is selected. Therefore, the company ship-to address will always default into service-type purchasing documents.

The other important address in the purchase order is the pay-to address. The pay to address is displayed under the Logistics tab and defaults from the vendor business partner master data record.

Always make sure the pay-to address is the correct one for a given purchase since this information prints on the check when payment is issued.

Of course, addresses can be overwritten inside a purchasing document as needed.

## Goods Receipt PO



- Create GRPO when receiving goods
- Create directly or build from an existing purchase order
- Match GRPO data to vendor's shipping documents
- GRPO triggers inventory and accounting transactions

You create a goods receipt PO when you receive goods from a vendor. In most companies, the person in the warehouse or the office responsible for taking delivery of shipments executes the goods receipt PO. If a Goods Receipt PO is used when purchasing services, the person for whom the services are rendered usually issues the document.

A goods receipt PO can be created directly by selecting the document name in the module menu, or it can be built from an existing purchase order. If you are basing your goods receipt PO on an existing PO, you may copy all the data contained in the PO or use the draw document wizard to select the data to copy from one or more existing Purchase orders. Even if you copy all data from an existing PO you can still adjust quantities and prices—as well as dates, vendor, and item information—before you post (add) the document.

Regardless of how you create your goods receipt PO, there should be no differences between the data in the goods receipt PO and the vendor's shipping document (packing slip) sent with the items, because the details in the vendor's document are legally binding. If there are any discrepancies between the base PO data and the vendor's shipping document, you should resolve them with the vendor before you post your goods receipt PO.

It is essential that the quantities and prices in your goods receipt PO match the vendor's shipping document. Unlike a purchase order, a goods receipt PO cannot be amended after it has been added to SAP Business One because it triggers both inventory and (when using perpetual inventory) accounting transactions. Your only option for fixing an incorrect goods receipt PO is to cancel the document and create a new goods receipt PO.

## Goods Receipt PO



- 10 printers are currently in stock
- We ordered 5 more from our vendor
- The vendor delivers 5
- After goods receipt, 15 are in stock

Now let us look at the effect of the goods receipt PO in a business case:

- 10 printers are currently in stock
- We ordered 5 more from our vendor
- Our vendor has just delivered 5
- After we enter the goods receipt PO, 15 are in stock
- When our purchase order was created, 5 showed as ordered. Now the ordered quantity has returned to 0.

## Copy to / Copy from



Purchasing documents build on each other. Often, a purchase order becomes a goods receipt PO that records the vendor's delivery and finally an A/P invoice when the vendor's bill is received.

## Copy to / Copy from



### Copy to

- Open saved document to copy
- All items copied to new document
- No options available on how items are copied
- However, you can delete items and adjust quantities after copying

You can quickly copy a document to the next document in the sequence using the Copy To button. The original document is called a base document; the document you create from it is called a target document. Building one document from another saves time and effort. It also reduces the possibility of errors.

When you use the Copy to function, all items are copied to the new document.

No options are available on how items are copied.

However you can delete items and adjust quantities after copying.

## Copy to / Copy from



### Copy to

- Open saved document to copy
- All items copied to new document
- No options available on how items are copied
- However, you can delete items and adjust quantities after copying

### Copy from

- Enter business partner in a new document
- Choose one or multiple documents from a list
- Draw document wizard allows you to:
  - customize rows copied
  - select the exchange rate

The other method for copying a document is Copy from. The Copy From button allows you to select a base document or documents from which to create a new document. Clicking Copy From starts the draw document wizard.

To use the Copy from function, you open a new document and enter a business partner.

After choosing the Copy from button, you can choose one or multiple documents from a list.

The Draw Document wizard allows you to customize the rows and quantities copied into the target document, as well as select which exchange rate to use.

Regardless of the method you use Copy To or Copy From, when you save a target document that contains all of a base documents items and quantities, the base document will be closed and you will not be able to copy it again to another document.

## Open Items List



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### Open Items List:

- Open purchase orders
- Open goods receipt POs
- Open A/P invoices
- ...

The Open Items List is an excellent report for monitoring and managing open marketing documents, such as open purchase orders open goods receipt PO's and so on.

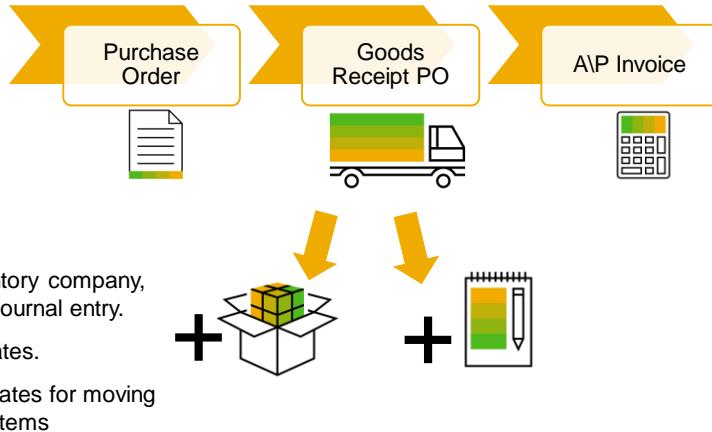
Just choose the type of document you would like to view. You can choose not only open purchasing and sales documents, but also open production orders, inventory transfer requests and inventory counting documents.

This. Often the first step in building one document from another is locating the report can be very useful for finding documents for processing base document you want to use. For example, goods may be delivered to a warehouse and a goods receipt PO needs to be entered. How do you find the relevant purchase order? The open items list can be used for locating documents quickly.

You can then choose the relevant purchase order, for example, and create a goods receipt PO with a single click on the Copy To button. When one document is built from another in this fashion, all the relevant information is copied from the base document to the new document, reducing both data entry time and errors.

## Effects of the Goods Receipt PO

- Items gray out when copied.
- Purchase order cannot be changed once fully copied
- When all items received, purchase order closes



Once the Goods Receipt PO is added to the system it has the following consequences:

- Items that have been partially or completely delivered appear in light gray in the purchase order document.
- The purchase order (base document) cannot be changed once the document has been fully copied.
- When all items are received, the purchase order status changes to Closed.
- If you are running perpetual inventory, the goods receipt PO creates a journal entry to increase inventory value.
- The system updates the stock quantity in inventory and the unit cost gets updated based on the purchase price used in the document for items controlled by moving average or FIFO valuation methods.

## Stock Changes in Purchasing

Model Report: *Inventory Status*

	Transaction	In Stock	- Committed	+ Ordered	= Available
	Purchase order			+	+
	Goods receipt PO	+		-	
	A/P invoice for goods receipt PO				

+ Indicates increase in quantity  
- Indicates decrease in quantity

You can use the report Inventory Status to analyze the inventory situation for one or more selected items. You can also see the inventory status in the item master on the Inventory Data tab page.

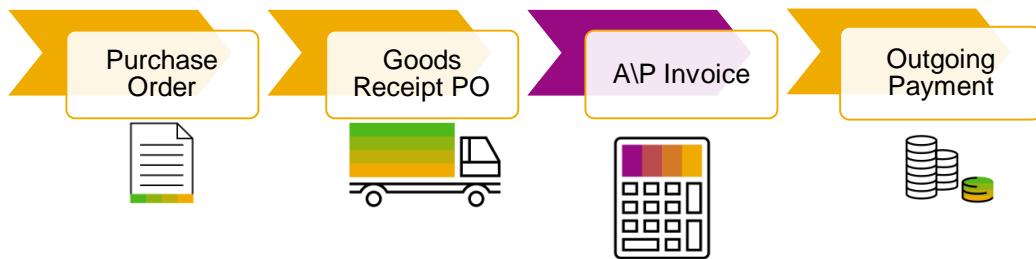
- The In Stock column displays the current stock level of the item.
- The Committed column displays the item stock that is reserved for customers and for internal use. The stock that is reserved for internal use is the quantity of the item for that will be used for a finished product based on the bills of material for existing production orders.
- The Ordered column displays the quantity ordered from external vendors plus the quantity that is being produced and that will enter the warehouse by a certain date.
- The available quantity of an item represents the In Stock quantity - Committed + Ordered.

As you can see in the chart, a purchase order increases the quantity on order and therefore the quantity available to the customer.

When a goods receipt PO is created referencing the purchase order, it increases the quantity in stock and reduces the quantity on order.

As long as an A/P invoice references a goods receipt PO, it will not affect stock levels.

## A/P Invoice



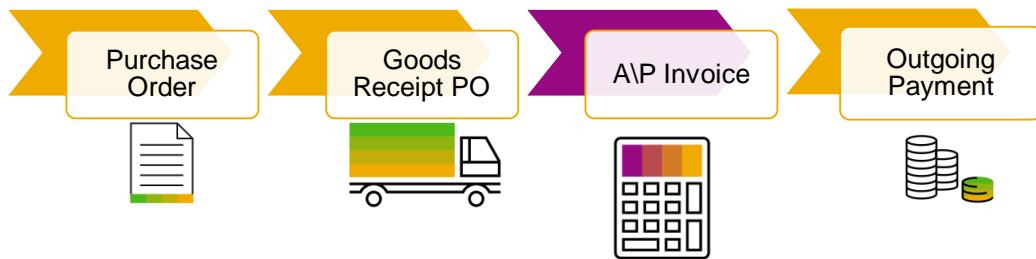
- An A/P invoice triggers a payment to the vendor
- The posted A/P invoice generates entries in the general ledger and updates the vendor account with the amount owed to the vendor

An A/P invoice is entered into SAP Business One when you receive an invoice from the vendor. The document will be used to trigger a payment to the vendor.

You can create an A/P invoice new by selecting the document name in the module menu or by basing it on one or more POs or goods receipt POs. If you are basing your A/P invoice on one or more existing purchasing documents, you may copy all the data contained in the base document or use the draw document wizard to select the data to copy from one or more existing POs or goods receipt POs. Even if you copy all data from existing purchasing document(s), you can still adjust quantities and prices—as well as other information—before you post the document.

The posted A/P invoice generates entries in the general ledger and updates the vendor account with the amount owed to the vendor.

## A/P Invoice



### Business Example:

- You receive an invoice from the vendor for the 5 printers
- You enter an A/P invoice to reflect the vendor invoice
- The A/P invoice is the basis for payment to the vendor

Let us return to our business example:

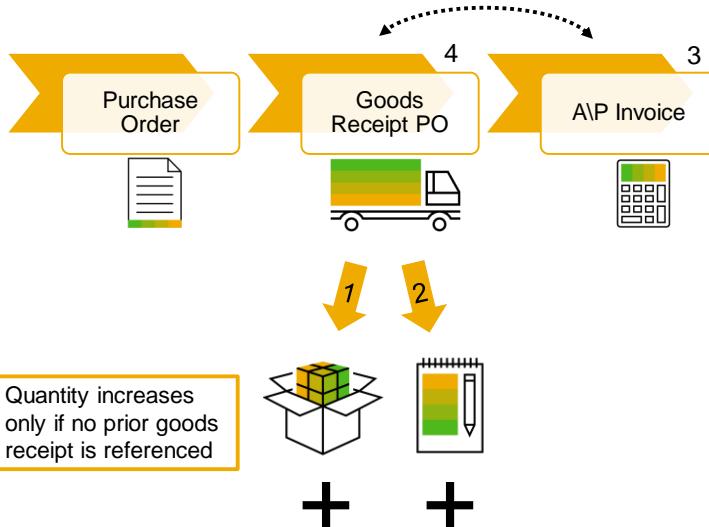
We previously ordered and received 5 printers from our vendor.

Now we receive an invoice from the vendor for the 5 printers.

We enter an A/P invoice to reflect the vendor invoice.

The A/P invoice in SAP Business One becomes the basis for the payment to the vendor.

## Effects of the A/P Invoice



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Once the A/P Invoice is created in the system it can have the following consequences:

- 1) The Goods Receipt PO increased the stock value earlier. Only if there is no goods receipt PO are the stock values updated when an A/P invoice is entered.
- 2) The A/P invoice creates a journal entry to update the vendor's balance to show the amount due.
- 3) You cannot change anything in the A/P invoice that would affect the journal entry once the invoice is added to the system.
- 4) On the goods receipt PO, items that have already been partially or completely invoiced display in light gray. If the invoice is for the full quantity on the goods receipt PO, then the goods receipt PO status changes to Closed.

## Payment Processing



- The final step in the Purchasing-A/P process is to trigger the payment to the vendor.
- Payment can be created for cash, check, credit card, bank transfer or (in some localizations) bill of exchange.
- Once the payment is added, a journal entry is posted to reduce the vendor's balance
- Internal reconciliation automatically takes place

After you have entered an A/P invoice, the final step in the Purchasing-A/P process is to trigger the payment to the vendor.

The outgoing payment document can be created for the following payment means: cash, check, credit card, bank transfer or (in some localizations) bill of exchange.

Once the outgoing payment is added, an appropriate journal entry is created. The journal entry reduces the vendor's balance.

When creating an outgoing payment to fully or partially clear a specific document or transaction, an internal reconciliation automatically takes place.

Multiple outgoing payments can be created together by the Payment Wizard. Payment wizard runs process A/P and A/R documents and transactions that are not fully paid, credited, or reconciled, as well as unreconciled/allocated payments on account.

When creating outgoing payments, either individually or with the Payment Wizard, you can also partially pay invoices.

Payment processing is considered to be part of the Banking Module in SAP Business One.

## Payment Processing



- We owe the vendor for 5 printers
- An A/P invoice has been entered for the amount owed
- You create an Outgoing Payment according to payment terms
- The journal entry:
  - Reduces cash (credit)
  - Decreases the amount owed to the vendor

Let us return to our business case.

We owe our vendor for the 5 printers that we ordered and received.

When we received the vendor's invoice, we entered an A/P invoice for the amount owed.

Now it is time to create an outgoing payment based on the payment terms for the vendor.

When the payment is entered, the system triggers the payment to the vendor and creates a journal entry to record the payment.

The journal entry reduces cash and decreases the amount that we owe to the vendor.

## Purchasing Review



Now we will review the effect of first three steps in the procurement process for items

Now that we have finished the first three steps in the procurement process for items, we will review what happens when each document is added.

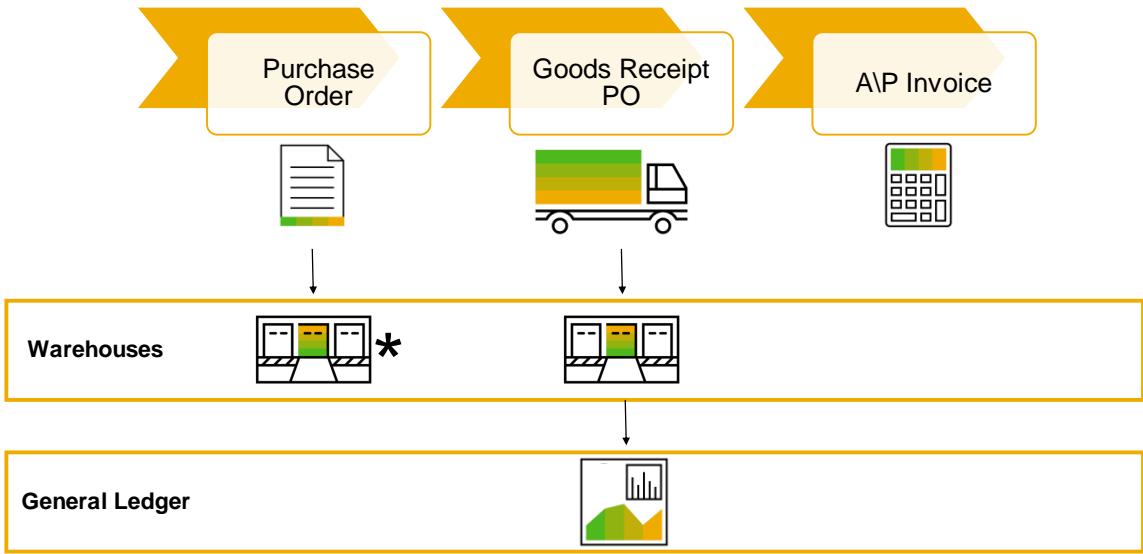
## Purchasing Review



- ★ No value based changes in Accounting.  
Order quantities are listed in inventory management

- 1) Purchase Order: When you enter a purchase order, no value-based changes are posted in Accounting. However, the order quantities are listed in inventory management. You can view the ordered quantities in various reports and windows such as the inventory status report and the item master data window.

## Purchasing Review

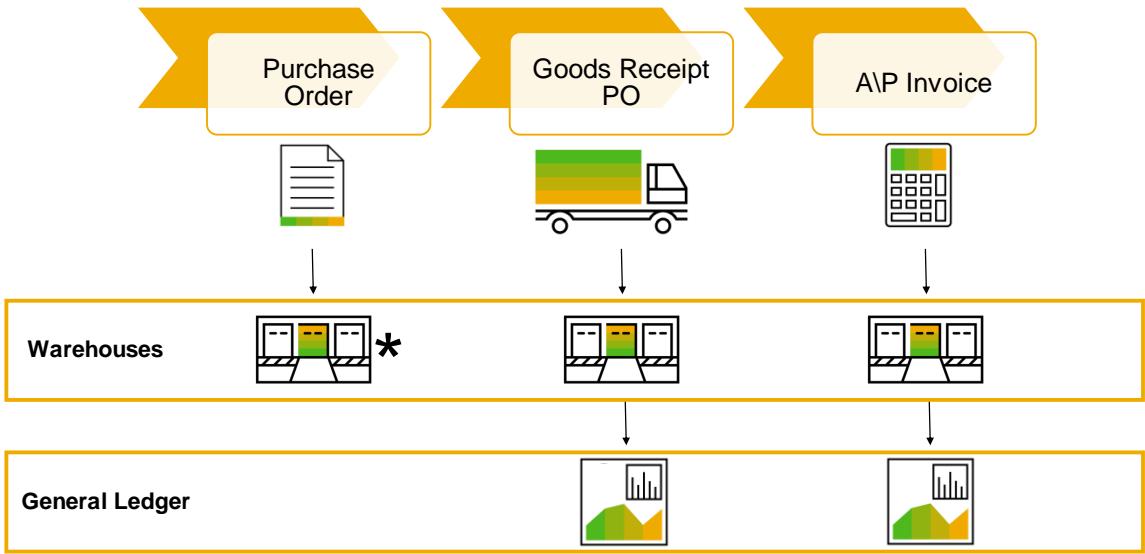


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- 2) Goods Receipt Purchase Order: When you enter a goods receipt PO, the goods are accepted into the warehouse and the quantities are updated. If your company runs a perpetual inventory system, SAP Business One creates the relevant postings to update the stock values as well.

## Purchasing Review



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- 3) Accounts Payable Invoice: When an incoming invoice is posted, the vendor account is updated in Accounting. If a goods receipt PO is not referenced by the A/P invoice, the stocks also increase when the invoice is posted.

## Summary



Here are some key points:

- The purchase order (PO) specifies to the vendor which items or services you want to purchase with agreed-to quantities and prices.
- No value-based changes are posted in Accounting for a PO. However, the order quantities are listed in inventory management.
- The goods receipt PO denotes the delivery of goods from a vendor.
- When you enter a goods receipt PO, the goods are accepted into the warehouse and the quantities are updated. If your company runs a perpetual inventory system, SAP Business One creates the relevant postings for stock.
- The A/P invoice contains the vendor's invoice information and sets up the payment. When an incoming invoice is posted, the vendor account is updated in Accounting.
- The final step of the purchasing process is the outgoing payment.

- The purchase order (PO) specifies to the vendor which items or services you want to purchase, including agreed-to quantities and prices. It represents your commitment to the vendor to purchase the items.
- No value-based changes are posted in accounting for a purchase order. However, the order quantities are listed in inventory management. You can view the ordered quantities in reports and the item master data.
- The goods receipt PO denotes the delivery of goods from a vendor to a company. It is used to update the inventory quantities and values.
- When you enter a goods receipt PO the goods are accepted into the warehouse and the quantities are updated. If your company runs a perpetual inventory system, SAP Business one creates the relevant postings to update the stock values.
- The A/P invoice contains the vendor's invoice information and sets up the payment. When an incoming invoice is posted, the vendor account is updated in Accounting.
- The final step of the purchasing process is the outgoing payment. This function is done in the accounting module.



## Purchasing: Issues with Goods Receipt POs

SAP Business One  
Version 10.0

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THE BEST RUN **SAP**

Welcome to the course on Issues with Goods Receipt POs.

## Objectives

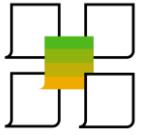


At the end of this topic, you will be able to:

- Describe the options available for receiving incorrect deliveries from a vendor.

In this topic, we will explore how to receive incorrect shipments from a vendor in a goods receipt PO document.

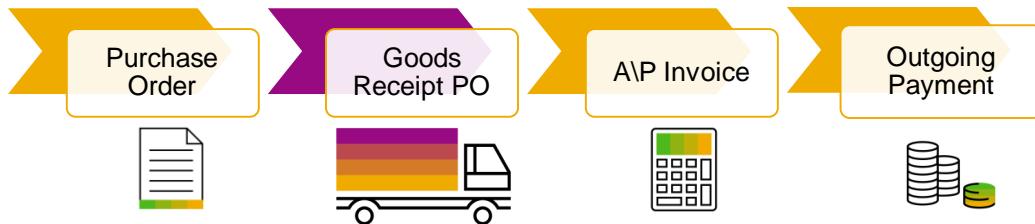
## Business Scenario



- Sometimes your supplier only delivers a partial order.
- Other times the supplier delivers too much of an item.
- In either case, you track the amount delivered to ensure you receive a correct invoice.

Sometimes your supplier only delivers a partial order, other times the supplier delivers too much of an item. In either case, you track the amount delivered to ensure you receive a correct invoice.

## Goods Receipt Issues



- Too little quantity
- Too large a quantity
- Substituted Items
- Too little quantity
- Too large a quantity
- Substituted Items

Sometimes vendors deliver too little or too great a quantity for an item. A vendor might send a different item than was originally ordered. In these circumstances you can adjust the goods receipt PO accordingly to reflect the actual amount received.

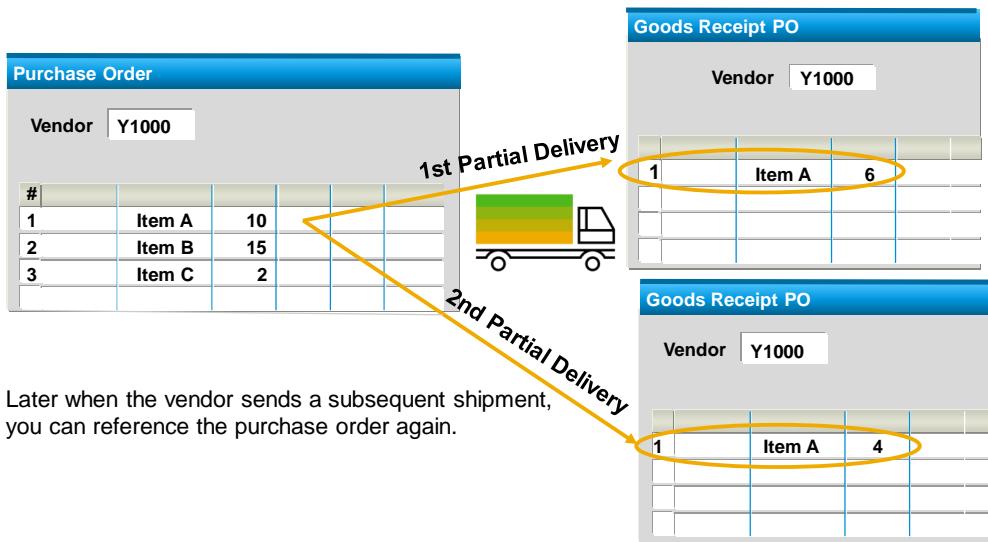
We will examine the options available in SAP Business One for resolving issues that arise at goods receipt.

First, we will see how you can handle too little quantity by creating a goods receipt PO for a partial quantity.

Second, we will see how you can increase quantity on a goods receipt PO when you receive too large a quantity.

Third, we will look at how you can add new items when you receive substitutions.

## Partial Deliveries



Later when the vendor sends a subsequent shipment,  
you can reference the purchase order again.

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Later on, when the vendor sends a subsequent shipment, you can reference the purchase order a second time.

- You can reference a purchase order as many times as needed, as long as the status is Open.

## Partial Deliveries

Purchase Order			
Vendor Y1000			
#	Item	Quantity	
1	Item A	10	
2	Item B	15	
3	Item C	2	



Goods Receipt PO			
Vendor Y1000			
#	Item	Quantity	
1	Item A	6	
2			
3			

Goods Receipt PO			
Vendor Y1000			
#	Item	Quantity	
1	Item A	4	
2			
3			

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If you do not expect to receive any additional deliveries for a quantity of items not yet received, then you should close the purchase order so that the open purchase order quantity is reduced. The Status of the purchase order will change to Closed.

A purchase order is automatically closed by the system when all goods are received. If the purchase order has been partially received or not received, you can manually close it. The purchase order is not deleted so you can still display or duplicate the document, but it is no longer available for copying to another document, such as a goods receipt, goods return or A/P invoice.

Another option is to cancel a purchase order. This option is generally used when no items on a purchase order will ever be received.

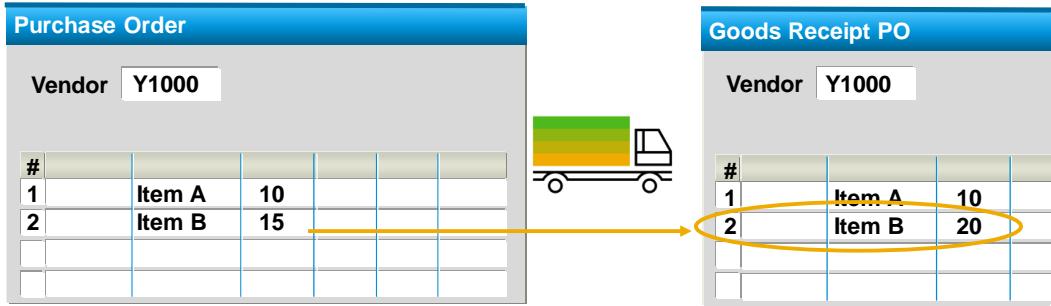
You can cancel a purchase order that has never been copied. As with the status Closed, a Canceled purchase order is not deleted. You can still display or duplicate the document, but it cannot be copied to another document.

A canceled purchase order does not appear in the purchase analysis report, whereas a closed one will appear.

You can also choose to close a particular row rather than the entire document.

## Delivery of a Larger Quantity

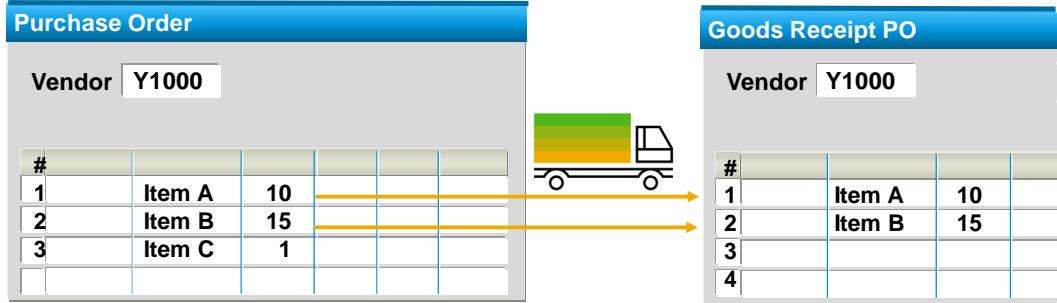
You can increase copied quantities to reflect the actual delivered quantity.



Sometimes vendors deliver too great a quantity for an item.

When you refer to a purchase order document while entering a goods receipt, you can increase the copied quantity to reflect the actual delivered quantity.

## Substitute Items

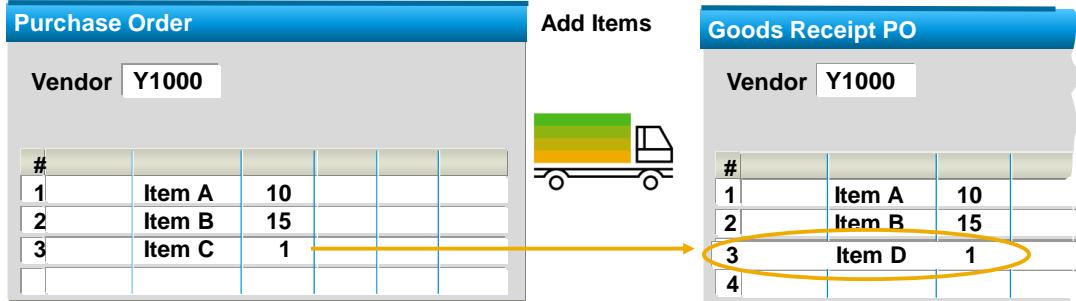


Two items received, but third item not delivered.

A vendor might send a different item than was originally ordered, perhaps to substitute for an out-of-stock item.

In the graphic, two of three items ordered were delivered by the vendor. Those two items were copied from the purchase order to the goods receipt PO. However, the third item was not delivered.

## Substitute Items



Instead vendor sent a substitute item.

If the original item will never be delivered,  
close the purchase order.

Add the additional item to the  
Goods Receipt PO.

Instead, the vendor sent a substitute item.

When this occurs, you can add the additional item to the Goods Receipt PO.

If the originally ordered item will never be delivered, you should close the original purchase order so that this undeliverable item does not continue to appear on purchasing reports as an open item.

## Summary



Here are some key points:

- When creating a goods receipt PO with reference to a purchase order, you can copy all or some of the rows and adjust quantities for each row.
- You can reference an open purchase order as many times as needed.
- A purchase order is automatically closed by the system when all rows are fully referenced.
- If the document is partially received, you can manually close the document or close individual rows.
- If no items on a purchase order will ever be received, you can cancel the document.
- A canceled purchase order does not appear on the purchase analysis report, unlike a closed one.

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Here are some key points:

- When creating a goods receipt PO with reference to a purchase order, you can copy all or some of the rows and adjust quantities for each row.
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## Purchasing: Goods Returns and Credit Memos

SAP Business One  
Version 10.0

THE BEST RUN **SAP**

Welcome to the topic on goods returns and A/P credit memos.

## Objectives



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

- Describe how and when to create a goods return or credit memo for purchases
- Use a Goods Return Request to streamline the process of returning items or receiving credit from a vendor

In this topic, we will look at the process for returning items and receiving credit from a vendor. We will discuss how and when you create a goods return or credit memo for purchases, and we use a Goods Return Request to streamline the process for returning items or receiving credit from a vendor.

## Business Scenario



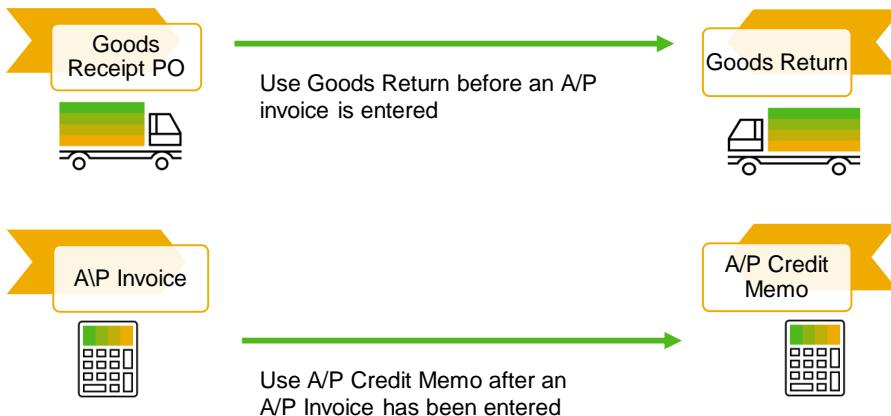
- Even when you receive everything exactly as ordered from a vendor you can discover that delivered goods do not meet your quality standards or were damaged in transit.
- You return these items to the vendor for credit either before or after you receive the invoice.
- Sometimes the shipment is correct and high quality but the invoice has an error. In those cases, you request a credit from the vendor.

Even when you receive everything exactly as ordered from a vendor you can discover that delivered goods do not meet your quality standards or were damaged in transit. You return these items to the vendor for credit either before or after you receive the invoice.

Sometimes the shipment is correct and high quality but the invoice has an error. In those cases, you request a credit from the vendor.

We will examine the options available in SAP Business One for returning poor quality items or damaged goods and for correcting a vendor's invoice.

## Goods return and credit memo



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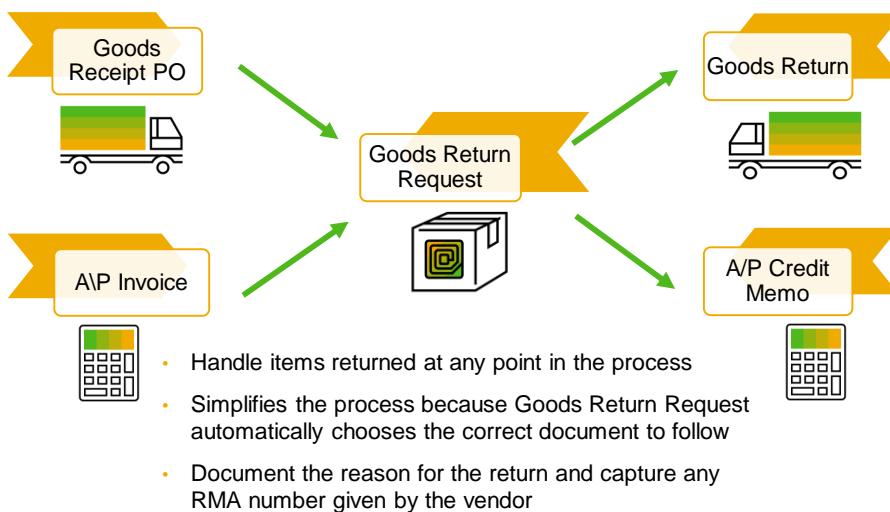
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There are two main documents in SAP Business One that are designed to remove an item from inventory and give a credit in the general ledger.

The first is the Goods Return. The Goods Return is used when the issue is discovered after the goods are received into inventory but before an A/P invoice has been entered.

The second document is the A/P Credit Memo. The credit memo is used once an A/P invoice has been entered.

## Simplify the process with the Goods Return Request



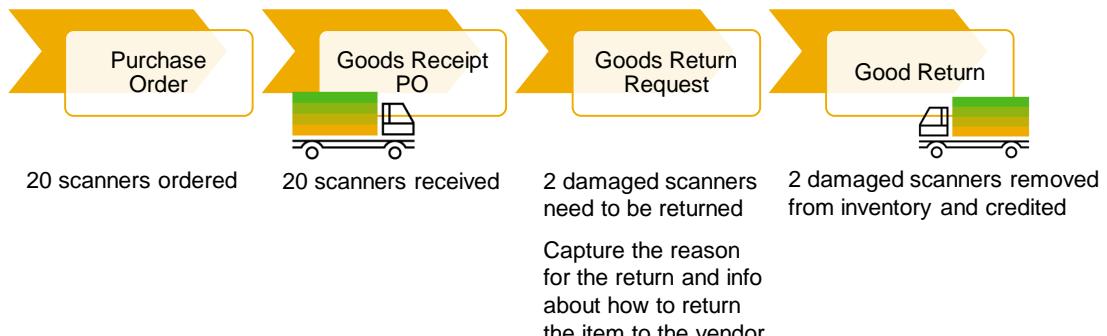
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The Goods Return Request can help simplify the process for your employees. It is designed to handle items returned at any point in the purchasing process. A Goods Return Request can be created based on either a Goods Receipt PO or an A/P invoice.

Employees will not need to research the status of purchase to determine whether an A/P invoice has been entered. The Goods Return Request automatically chooses the correct document for posting the inventory movement and credit.

This optional document also allows you document the reason for the return or credit. If a vendor provides you with a return material authorization (RMA) number, you can record it here.

## Goods Returns



Imagine that we ordered 20 scanners.

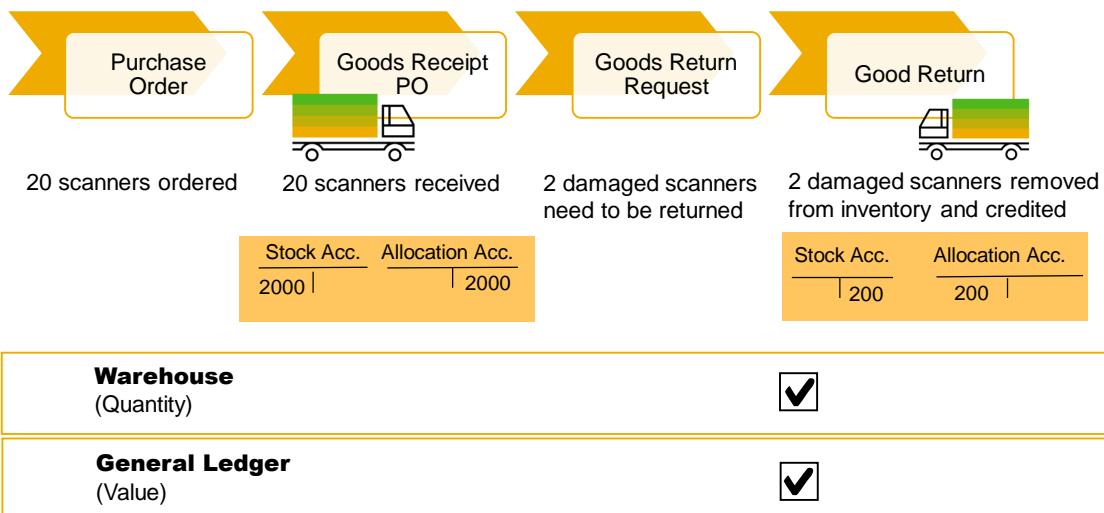
The vendor delivered all 20 and we received them on a Goods Receipt PO.

Then we discover that 2 were damaged in transit.

The receiving clerk can create a Goods Return Request to document the need to return the scanners to the vendor for credit. He can put in the reason we need to return the items. The clerk can contact the vendor and get instructions on how to send the item back to the vendor, perhaps including a return materials authorization (RMA) number to use when mailing back the item to the vendor.

Later when the item is removed from stock to be sent to the vendor, he copies the items to a Goods Return to record the removal of the scanners from inventory and to post the credit expected from the vendor.

## Goods Return Effect



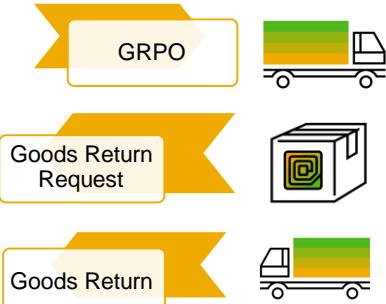
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Think of the Goods Return as the clearing document for a Goods Receipt PO. When you enter a goods returns, the goods are issued from the warehouse and the quantities are reduced. If your company runs perpetual inventory, SAP Business One creates the relevant accounting postings to update the stock values as well. If you return goods to a vendor to exchange and later receive a shipment, you can either enter a goods receipt PO without a reference to a purchase order in the system or duplicate one of the preceding documents. It is possible to open the purchase order when a return is made. This allows you to base the new delivery on the original purchase order. Note that when a Goods Return is created without being based on a previous document, the value of a moving average item is the current item cost calculated for the item and not the unit price entered in the goods return document.

## Inventory Effect for Goods Return Request and Goods Returns

Before the goods receipt PO, there were 0 in stock.



\* If there were a preceding purchase order and the configuration setting allowed reopening the purchase order, a quantity of 2 would be added to the Ordered column and the Available quantity would be increased by 2.

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Let's look at an example of a Goods Receipt PO (without a preceding purchase order) for the 20 scanners. Before the Goods Receipt PO we had zero in stock.

Once the Goods Receipt PO for 20 scanners was made we have 20 in stock and 20 available.

When the Goods Return Request is added, 2 scanners are added to Committed and subtracted from the Available stock. The Goods Return Request does not have any effect on accounting.

When the Goods Return Request is copied to a Goods Return, the 2 scanners are removed from stock and a posting is made that reverses the Goods Receipt PO posting.

If there had been a preceding purchase order and the setting was made to allow reopening the purchase order, a quantity of 2 would have been added to the Ordered column and the Available column would have been increased by 2.

## Credit Memo for Purchasing



50 headphones boxes were ordered and received into inventory

We enter the A/P invoice before we discover that 5 boxes are defective

Use the Goods Return Request to begin the return process

We use the credit memo to return the 5 boxes for credit because an A/P Invoice exists

Now let us imagine another scenario. We ordered 50 headphones boxes. The vendor delivered the items and the invoice.

After we entered the A/P invoice into SAP Business One but had not yet paid the vendor, we discovered that 5 boxes were defective.

We use the Goods Return Request to begin the return process. Here we enter the reason for the return and any information from the vendor about how to return the product.

Since the invoice had already been created, the system creates an A/P Credit Memo from the Goods Return Request.

We cannot create a Goods Return with reference to the Goods Receipt PO since an A/P invoice already exists.

## Credit Memo for Purchasing

Goods Receipt PO



50 headphones boxes were ordered and received into inventory

Stock Acc.	Allocation Costs Acc.
100	100

A/P Invoice

Goods Return Request

A/P Credit Memo



We enter the A/P invoice before we discover that 5 boxes are defective

Allocation Costs Acc.	Vendor
100	100

Use the Goods Return Request to begin the return process

We use the credit memo to return the 5 boxes for credit because an A/P Invoice exists

Stock Acc.	Vendor
10	10

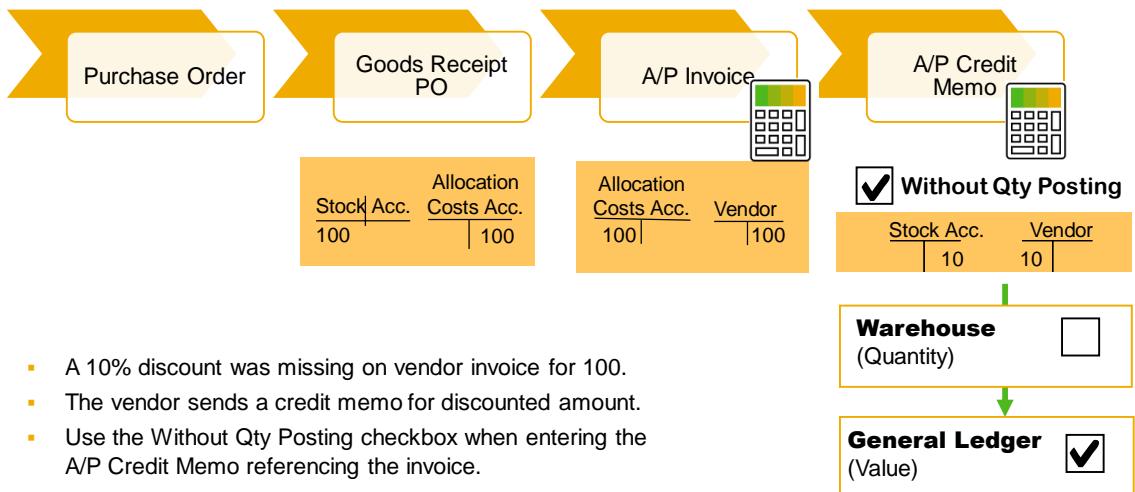
The A/P Credit Memo has the same effect as a Goods Return.

The credit memo updates the stock quantities and corrects the values in accounting.

Since in this case, we were able to create the credit memo by copying the items from Goods Request Return to the A/P Invoice, the system finds the same accounts that were used to post the invoice and posts a negative value to them.

However, in some cases, it may not be appropriate to copy items to a credit memo from an invoice. For example, if the credit was for a price difference rather than for returning items or if the credit referred to an A/P invoice that we had already paid.

## Credit Memo without reducing stock



There are also options to create a credit memo without reducing stock accounts.

Perhaps your vendor is giving you credit for a missing discount on an item or refunding your purchase price.

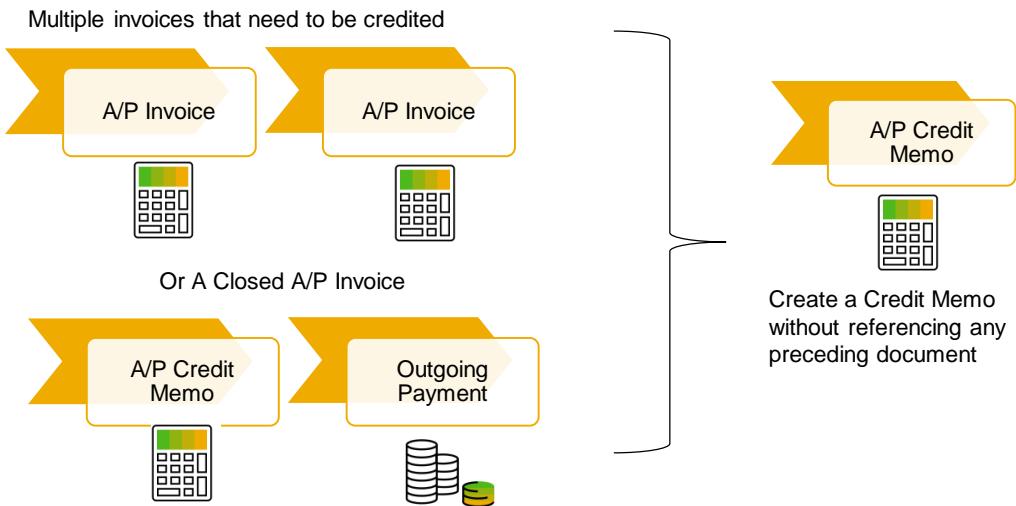
In those cases, you can select the checkbox "Without Qty Posting". This indicator allows you to create an item-type credit memo that affects only the price.

In the example in the graphic, a 10% discount was missing on the vendor invoice for 100, so an A/P invoice was created for 100 and a payment was made for the full amount.

When the issue is discovered, the vendor sends a credit memo for the discounted amount of 10.

The Without Qty Posting checkbox is used to create a credit memo in SAP Business One that does not reduce stock quantity but records the monetary change in the General Ledger.

## Creating a credit memo without reference



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Sometimes a vendor is giving you a credit that relates to multiple invoices. Or you may need to create a credit for a closed invoice when you return items after you have paid for them.

In those situations, you create an A/P credit memo without reference.

As always, you can create a credit memo for a full amount or partial amount.

When you create a credit memo without copying from the original invoice, the credit memo reduces the total balance due to the vendor. The values in a journal entry created by an A/P credit memo created without a reference are based on the current value calculated for the returned items. This is why it is best to copy an invoice whenever possible.

## Cancellation

- A goods receipt PO is incorrectly entered.
- The user cancels the GRPO.
- A cancellation document is created automatically.
- The purchase order is reopened and used as a base document for a new GRPO.



Another option besides creating Goods Returns or Credit Memo documents is to cancel the original document.

Business One gives you the ability to cancel marketing documents such as a Goods Receipt PO or A/P invoice.

When you cancel a marketing document, a new 'cancellation' document is created during each cancellation procedure. Both the reversing and reversed documents are closed automatically and fully reconciled.

For example, a goods receipt PO is incorrectly entered. The user cancels the goods receipt PO and a cancellation document is created automatically.

The purchase order is re-opened after cancellation, and can be used as a base document to create a new goods receipt PO.

## Summary of options for returns and credit

Issues	Suggested Solutions
<b>Incorrect entry of Goods Receipt PO</b>	Cancel Goods Receipt PO Purchase Order reopens to create new GRPO
<b>Need to return item(s) received on a Goods Receipt PO but not yet invoiced</b>	Copy item(s) from GRPO to a Goods Return Request Then copy to Goods Return
<b>Need to return or credit item(s) invoiced on an A/P Invoice but yet not paid</b>	Copy item(s) to a Goods Return Request Then copy to an A/P Credit Memo If no stock movement is desired use <i>Without Qty posting</i>
<b>Need to return items that have already been invoiced and paid</b>	Create A/P Credit Memo without reference
<b>Need to return or credit items from multiple A/P invoices</b>	Create A/P Credit Memo without reference If no stock movement is desired use <i>Without Qty posting</i>

Here's a summary of options for returns and credits in purchasing.

- For incorrect entry of a Goods Receipt PO, you can cancel the document. The related purchasing order will reopen so you can create a new GRPO. The same is true if you incorrectly enter an invoice, you can cancel and reissue the invoice from the GRPO.
- If you need to return item(s) received on a Goods Receipt PO that is not yet invoiced, it is useful to copy to a Goods Return Request. The system will automatically suggest copying to a Goods Return.
- If you need to return item(s) that have been invoiced but not yet paid, it is useful to copy to a Goods Return Request. The system will automatically suggest copying to an A/P Credit Memo.
- Once an invoice has been paid, you can no longer reference it to create a Goods Return Request or A/P Credit Memo.
- Similarly, you cannot copy from multiple invoices to create a credit memo.

## Summary



Here are some key points:

- A Goods Return is used to return items received on a Goods Receipt PO.
- If you need to fully or partially reverse an A/P invoice, then use an A/P credit memo.
- To simplify the process, use a Goods Return Request. The system will automatically determine the appropriate correction document to use.
- A/P credit memos and goods return documents correct both quantities and values.
- To give a credit without an effect on inventory use the *Qty. Without Posting* checkbox.
- Whenever possible reference the original Goods Receipt PO or A/P invoice when correcting the problem.
- If the related A/P Invoice is closed or if the credit is related to multiple invoices, then create a credit memo without referencing a base document.

Here are some key points to take away:

- A Goods Return is used to return items received on a Goods Receipt PO.
- If you need to fully or partially reverse an A/P invoice, then use an A/P credit memo.
- To simplify the process, use a Goods Return Request. The system will automatically determine the appropriate correction document to use.
- A/P Credit Memos and Goods Return documents correct both quantities and values.
- To give a credit without an effect on inventory use the *Qty. Without Posting* checkbox.
- Whenever possible reference the original Goods Receipt PO or A/P Invoice when correcting the problem.
- If the related invoice is closed or if the credit is related to multiple invoices, then you must create a credit memo without referencing a base document.

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## Sales - A/R: Overview of the Sales Process

SAP Business One  
Version 10.0

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Welcome to the sales process overview topic.

## Objectives



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

- List the basic steps of the sales process
- Use a streamlined sales process

In this topic, we introduce the sales process. We list the basic steps and key data in the sales process, then show how you can streamline the sales process so that only one document is needed.

## Business Scenario



- Your company has set customer satisfaction as the top priority
- You review the basic steps in the sales process and decide to use a streamlined process for rush orders to ensure customer demands can be met as quickly as possible.

Imagine that your company has set customer satisfaction as its top priority. You review the basic steps in the sales process and decide to use a streamlined process for rush orders to ensure that customer demands can be met as quickly as possible.

## Sales Process



The Sales-A/R process moves from selling goods (and services) to delivering those goods, invoicing the customer and to receiving incoming payment.

The Sales-A/R process moves from selling the goods (and services) to delivering those goods to invoicing the customer for their purchases, to the last step in accounting of receiving the incoming payment.

Each step in the sales process involves a document, such as a sales order, delivery, or A/R invoice. SAP Business One efficiently moves all relevant information from one document to the next in the document flow. According to the business needs, you can choose which documents to include as your process steps. The only mandatory document in sales is the A/R invoice.

Sales documents carry much of the same information throughout the sales process. This topic helps you recognize what is the same in each document so that you can quickly focus on just the information you need.

Note that you also have the option to use a sales quotation to start the sales process. The sales quotation is not covered in this e-learning.

## Sales Process



- Sales order is a commitment from a customer or lead to buy (at agreed-to quantities and price) a product or service from you.

The sales order is a commitment from a customer or lead to buy—at agreed-to quantities and price—a product or service from you.

## Sales Process



- The delivery indicates that the shipment of goods has occurred.

The delivery indicates that the shipment of goods has occurred.

## Sales Process



- The A\R invoice is the only mandatory document in the sales process.
- It is the request for payment and records revenue in the profit-and-loss statement.

The A\R invoice is the only document that must be created in the sales process. It is the request for payment and records the revenue in the profit-and-loss statement.

## Sales Process



- Incoming payment receives the payment from the customer and clears the customer account.
- Incoming payments are done in the Banking module.

The incoming payment receives the payment from the customer and clears the customer account.  
Internal reconciliation takes place automatically.

Incoming payments are done in the Banking module.

As part of a streamlined sales process, it is possible to post a payment while creating the invoice. To do this, you choose the payment means icon when you create an invoice and enter the payment amount. This will create an incoming payment due amount that is applied to the invoice you just created.

## Key Data: Business Partners

- Every document in the sales process must have a business partner assigned.
- Business partners used in the sales process:
  - Leads
  - Customers
- Facts about leads vs. customers:
  1. A lead can easily convert a customer.
  2. Sales orders can have either a lead or customer assigned.
  3. Once you move to a delivery, you must have a customer.

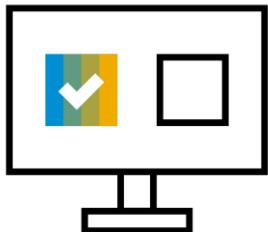


Every document in the sales process must have a business partner assigned. The business partners used in the sales process are leads and customers. A lead can easily convert to a customer.

A sales order can have either a lead or a customer assigned. Once you move to a delivery, you must have a customer.

Customer master data describes people and organizations to whom your company sells products and services. Customer master data records are used as the foundation for documents related to processing and fulfilling orders for customers and for the wizard for dunning customers.

## Key Data: Items



- Items represent products to be sold
- Items can be for either goods or services
- Item information is stored in the item master record



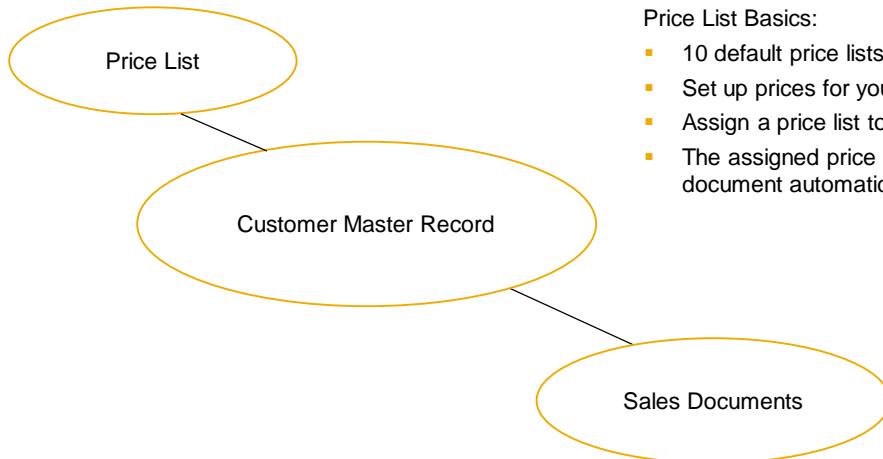
Besides the business partner, another key piece of data entered in the sales order is item data.

Items represent products to be sold: either goods or services.

Like customer master data, item information is stored in master data records.

Services you sell can also be set up as item master data records. If the services are defined as items, they can be entered into a sales order along with physical items. Alternatively, you can use the Item/Service type field to switch to a service type document where descriptions of services can be entered along with prices.

## Using Price Lists



### Price List Basics:

- 10 default price lists are provided.
- Set up prices for your items in the price lists.
- Assign a price list to each customer.
- The assigned price list defaults into a sales document automatically.

When you enter an item into a sales document, a price is automatically found. How does this work? SAP Business One provides 10 default price lists. You then set up prices for each price list for your items. Of course, you do not have to use all ten price lists, but they are provided to you so that you can offer different prices to different groups of customers.

You assign a price list to each customer via default payment terms. Of course, the price list can be changed in the customer master.

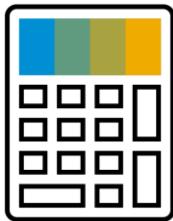
When you enter the customer in a sales document, the assigned price list defaults to the sales document automatically.

The system will then use that price list to price the items in the order.

Of course, more complex pricing can be used such as special prices, discount groups, and pricing hierarchies. These are discussed in the e-learning topics for pricing.

Prices can also be changed in the sales order by authorized users. For example, a salesperson might give a 5% discount to a particular item or to a whole sales order.

## A/R Invoice in a Streamlined Sales Process



A/R invoice:

- The only mandatory document in the sales process.
- Designed as an extremely efficient document for a small business with just a few employees.
- Able to do the job of recording a customer's order, kicking off the delivery, posting the goods issue and recording what the customer owes.

For our streamlined process, we will use just one document: the A/R invoice.

The A/R invoice is the only mandatory document in the sales process. The A/R invoice is designed to be an extremely efficient document for small businesses with just a few employees.

The A/R invoice can do the job of recording the customer's order, kicking off the delivery, posting the goods issue and recording what the customer owes.

## A/R Invoice Postings



- Saving an A/R invoice always triggers two postings
  - Debit to customer account
  - Credit for sales revenue
- When an A/R invoice has no preceding documents, two additional postings are made
  - Debit to cost of goods sold
  - Credit to stock account

Customer	Sales Revenue
100	100

Cost Acc.	Stock Acc.
50	50

Saving an A/R invoice always triggers two postings: a debit to the customer account to show what is owed and a credit for sales revenue.

When an inventory item is sold on an A/R invoice that has no preceding documents, two additional postings are made. These are the postings for issuing the item from inventory that are usually handled by a delivery document in a perpetual inventory system: a debit to the cost of goods sold account and a credit to the stock account.

Of course, this graphic covers only the basic accounting transactions. There may be additional postings for tax or additional revenues and expenses.

## Summary



Here are some key points:

- The main documents of the sales process are the sales order, delivery and A/R invoice. The incoming payment at the end of the sales process is performed in the Banking module.
- Every sales document must have a business partner assigned.
- A sales document can sell goods or services. Goods are represented by item master records. If services are represented as items, they can be sold with physical items on sales documents, otherwise they are sold on service-type documents.
- SAP Business One calculates pricing automatically in sales orders. Prices can be changed in sales documents by authorized users.
- The only mandatory sales document is the A/R invoice. When an A/R invoice is used alone without preceding documents, it can perform the functions of the sales order, delivery and the invoice.
- The A/R invoice is often used in a streamlined sales process.

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Every sales document must have a business partner assigned.

A sales document can sell goods or services. Goods are represented by item master records. If services are represented as items, they can be sold with physical items on sales documents, otherwise they are sold on service-type sales documents.

SAP Business One calculates pricing automatically in the sales order. Prices can be changed in sales documents by authorized users.

The only mandatory sales document is the A/R invoice. When an A/R invoice is used alone without any preceding documents, the A/R invoice can perform the functions of the sales order, delivery and the invoice.

This is why the A/R invoice is often used in a streamlined sales process.



## Sales - A/R: Sales Order to Cash

SAP Business One  
Version 10.0

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Welcome to the topic on sales order to cash.

## Objectives



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

- Perform the steps in the sales process from sales order to cash
- Describe the effect of each step on inventory and accounting

In this topic, we perform the steps in the sales process from sales order to cash. As we create each document, we describe the effect of each step on inventory and accounting.

## Business Scenario



- Your company has set customer satisfaction as the top priority and wants to use efficient processes in sales to ensure that customer demands can be met as quickly as possible.
- We will review the sales process from order to cash with an eye on understanding the impact of each step to see how we might improve the process.

Your company has set customer satisfaction as the top priority and wants to use efficient processes in sales to ensure that customer demands can be met as quickly as possible.

We will review the sales process from order to cash with an eye on understanding the impact of each step to see how we might improve the process

## Sales Order



### Sales order features:

- You can change a sales order after you have posted it.
- A sales order can be based on one or more sales quotations.
- You can create purchase orders directly from sales orders.
- No inventory transactions or value based changes are posted by a sales order, but items are added to the committed quantity in the inventory module.

The sales order is an important document—it tells everyone to get busy filling that order. As such, this document is important for planning production, creating purchase orders, and scheduling resources.

- You can change a sales order (changing quantities, updating prices or discounts, and so on) after you have posted it. This is possible as long as you have made the appropriate setting in Document Settings and the sales order is still open.
- A sales order can be based on one or more sales quotations.
- One unique feature of SAP Business One is that you can create purchase orders directly from sales orders, thereby streamlining your supply chain as well as material requirements planning processes.

In SAP Business One, a sales order affects the available stock level. This means that the stock available to sell is reduced by the quantity in the order. When you enter sales orders, no inventory transactions or value-based changes are posted to the general ledger, but the items are added to the committed quantity in the inventory module.

## Sales Order Scenario



- Our customer orders 5 printers
- We enter customer, items, and quantities in the sales order
- The system determines the price automatically
- A manual discount for 1% is entered in the order
- The customer is also eligible for an early payment discount of 2%

Let us imagine that our customer orders 5 printers.

We enter customer, items, and quantities in the sales order

The system determines the price automatically, based on the customer's assigned price list.

The sales person offers a discount to the customer, so a manual discount for 1% is entered in the sales order

Based on the payment terms, the customer is also eligible for an early payment discount of 2%

## Delivery



### Delivery features:

- Records goods have been shipped.
- Can be created from a sales order or sales quotation.
- Can contain items from multiple sales orders or quotations

A delivery records that goods have been shipped. This document is also sometimes referred to as a packing slip or delivery note.

You can create a delivery from a sales order or sales quotation. To do so, simply display the sales order or quotation and select Delivery from the Copy To button's drop-down list.

If you have multiple sales orders to be delivered to one customer, you can open a blank delivery, add the customer name, then use Copy from to select from a list of sales orders and quotations for that customer.

## Delivery Effect



- Adding a delivery reduces inventory levels
- If you are running perpetual inventory, the relevant inventory changes are posted to accounting.
- If the delivery is based on a sales order, the committed quantity from the sales order is reduced.



Adding a delivery reduces the actual inventory levels. When you post a delivery, the corresponding goods issue is also posted. The goods leave the warehouse, inventory quantities are reduced, and, if you are running perpetual inventory, the relevant inventory changes are posted to accounting. If the delivery is based on a sales order, the committed quantity from that sales order will also be reduced.

## Delivery Scenario



- We ship 5 printers to the customer
- The quantity of 5 printers is removed from inventory
- The inventory account is credited for item cost
- The cost of goods sold account is debited



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In our business example, our customer has ordered 5 printers.

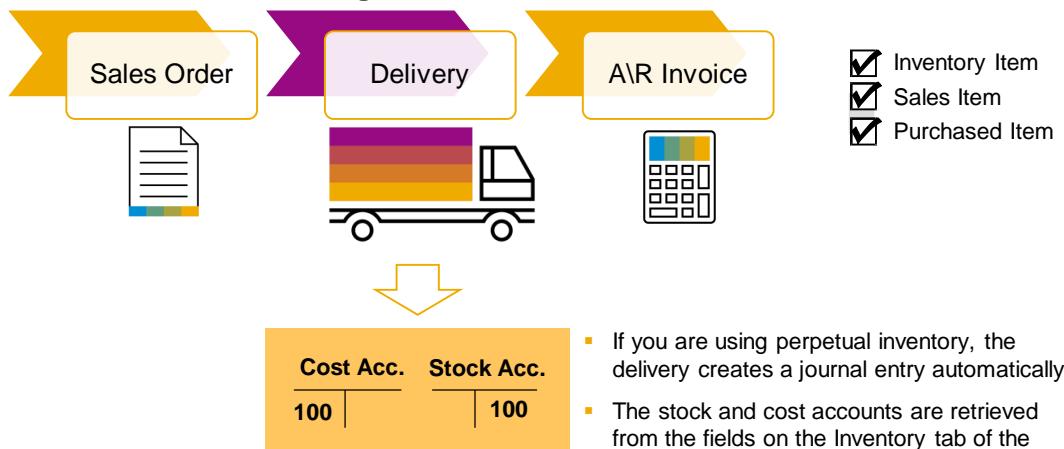
When it is time, we ship 5 printers to the customer.

The quantity of 5 printers is removed from inventory.

The inventory account is credited for item cost.

The cost of goods sold account is debited.

## Deliveries and Accounting



If you are using perpetual inventory, the system creates a journal entry automatically.

The journal entry posts the value of the current item cost to the debit side of a cost account (such as cost of goods sold) and to the credit side of the stock account.

The stock account and the cost account are retrieved from the Stock Account field and the Cost Account field on the Inventory tab of the item master record.

The stock quantity is affected whether or not you are using perpetual inventory.

## A\R Invoice



- The A\R invoice represents a request for payment.
- Posting an A\R invoice records revenue in the profit and loss statement.
- Once added, the A\R invoice automatically creates a journal entry posting to customer and revenue accounts.

An A\R invoice is a request for payment. Posting an A\R invoice records the revenue in the profit and loss statement.

Once added, the A\R invoice automatically creates a journal entry posting to the corresponding customer and revenue accounts.

## A/R Invoice Scenario



- We bill our customer for the 5 printers
- The total includes the 1% manual discount
- The due date is based on the customer's payment terms
- A journal entry is created to record:
  - a credit to revenue
  - a debit to the customer account

In our business example, we have delivered 5 printers to our customer.

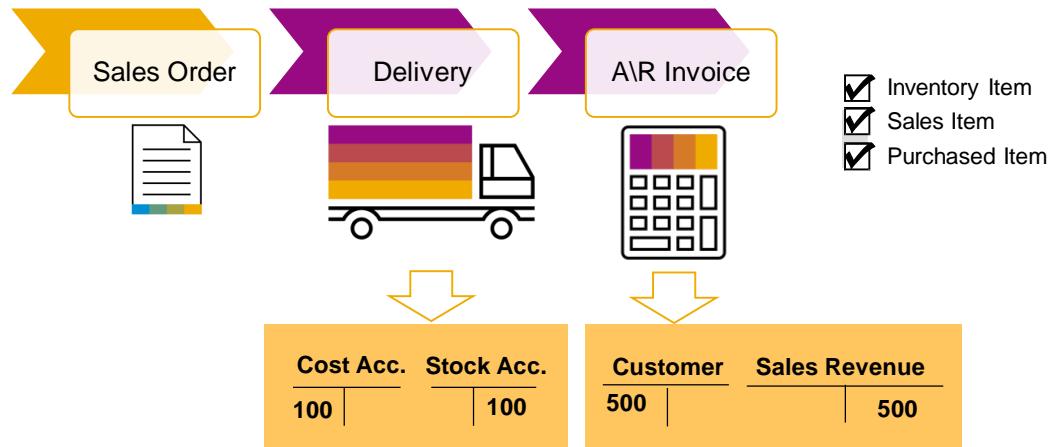
Now we bill our customer for the printers.

The total amount was reduced by a 1% discount that the salesperson entered manually.

The due date is based on the customer's payment terms. These payment terms also include a 2% discount for early payment.

When the A/R invoice is added, a journal entry is automatically created to record a credit to revenue and a debit to the customer account.

## Postings in Sales Process for Inventory Items



Here we see the journal entries made in a perpetual inventory system for inventory items. We saw previously that the delivery creates a journal entry associated with the sale of goods and the reduction in inventory value. The A/R invoice records the debt owed by the customer and the revenue made from the sale. There may be additional postings for tax or additional revenues and expenses.

## Journal Entry Preview



Journal Entry Preview

*Journal Entry Preview* enables you to simulate journal entries before they are posted.



Cost Acc. Stock Acc.  
100 | 100

Customer Sales Revenue  
500 | 500

Once a journal entry is made, it cannot be changed, only reversed.

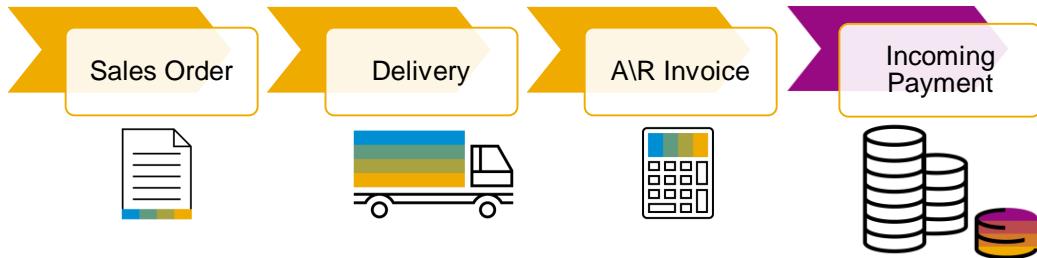
Journal Entry Preview enables you to simulate journal entries before they actually happen in the database.

This can be useful if you are creating an A/R Invoice with special circumstances and you would like to check the journal entry before posting the invoice. It is also useful for training new employees or for testing settings during an implementation. This function is available for all documents that create journal entry postings.

You choose the Journal Entry Preview icon to instantly view what would happen when you are posting the document.

Simulation includes G/L-Accounts and the Cost Center distribution.

## Incoming Payment



- Incoming payments are the last step in the basic sales process, even though they are a function in Banking.
- Customer payment can be processed for bank transfers, checks, credit cards and cash, and in some localizations, bill of exchange.
- When the payment is added, a journal entry is made automatically.

Incoming payments are the last step in the basic sales process, even though they are a function in the Banking module. Posting an incoming payment receives the payment from the customer. Customer payments can be processed for bank transfers, checks, credit cards and cash, and in some localizations, bill of exchange.

When the incoming payment is added, a journal entry is made crediting the customer account for the payment. Depending on the payment means, an appropriate G/L account (such as one of our bank accounts) is debited. If there is a early payment discount, a debit is applied to a discount account.

When you create an incoming payment to clear (fully or partially) a document or transaction, internal reconciliation takes place automatically, meaning that the customer's invoice and the payment are matched in the system.

Additionally, the Payment Wizard can be used to process incoming payments as well as process outgoing payments. Payments can also be received automatically from a bank transfer using bank transfer processing in many localizations.

## Incoming Payment Scenario



- The customer pays the invoice on time for the 5 printers
- The total includes the 1% manual discount and the early payment discount of 2%
- A journal entry is created to record:
  - debits to our house bank account and discount accounts
  - a credit to the customer account

Let us consider the business example.

Our customer pays the invoice on time for the 5 printers

The total includes the 1% manual discount and the early payment discount of 2%. The early payment discount defaults in from the payment terms associated with the customer master record.

A journal entry is created to record:

- debits to our house bank account, or a clearing account depending on the selected payment terms, and to cash discount accounts
- And a credit to the customer account

## Summary



Here are some key points:

- Sales orders contain information for placing the order, delivering goods and invoicing the customer. They have no effect on accounting.
- Sales orders can be changed after posting as long as appropriate settings are made and the order is still open.
- A delivery indicates that goods have been shipped and reduces inventory levels.
- In perpetual inventory, posting a delivery debits current item cost and credits the inventory stock account.
- An A/R invoice is a request for payment. When one is posted, a journal entry posts a debit to the customer account and a credit to sales revenue and any tax accounts.
- You can preview journal entries before they are posted.
- Incoming payments are the last step in the sales process, even though they are a function in banking.

Sales orders contain the basic information needed for placing the order, delivering the goods and invoicing the customer. A sales order has no effect on accounting.

Sales orders can be changed after posting as long as appropriate settings are made and the order is still open.

A delivery indicates that goods have been shipped and reduces inventory levels.

If you are running perpetual inventory, posting a delivery debits current item cost and credits the inventory stock account.

An A/R invoice is a request for payment. When an A/R invoice is posted, a journal entry posts a debit to the customer account and a credit to sales revenue and any tax accounts.

You can preview journal entries before they are posted.

Incoming payments are the last step in the basic sales process, even though they are a function in banking.



## Sales - A/R: Customers and Customer Groups

SAP Business One  
Version 10.0

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Welcome to the topic on customers and customer groups.

## Objectives



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

- Define a customer group
- Create a new customer
- Create a lead
- Convert a lead into a customer

In this topic, we will define a new customer group and a new customer belonging to this group. We will create a lead and then convert the lead into a customer.

## Business Scenario



- You have a marketing campaign focused on attracting local schools as new customers.
- You create a new customer group to handle the special pricing and payment terms needed for schools.
- Using customer group helps simplify the process of creating customers and facilitates better reporting.

You have a marketing campaign focused on attracting local schools as new customers.  
You create a new customer group to handle the special pricing and payment terms needed for schools.  
Using customer group helps simplify the process of creating leads and customers as well as facilitates better reporting.

## Business Partners

- Two types of business partners are used in the sales process:
  - Leads
  - Customers
- After you make the first sale, you change the business partner type to customer
- Sales orders can have either leads or customers. Deliveries must have customers.



Two types of business partners are used throughout the sales process: leads and customers. You can begin the process with the business partner master type: lead. A lead describes people and organizations in the sales pipeline—your potential customers. Lead master data records are used as the foundation for sales and marketing. After you make the first sale to a lead, you change the business partner type to customer, turning the lead into a customer.

A sales order can have either a lead or a customer assigned. Once you move to a delivery, you must have a customer.

The information on leads and customers is maintained in business partner master records. Maintaining master data centrally for business partners allows you to store all necessary information for sales, reduce duplication and avoid data entry errors.

## Business Partner Master

The screenshot shows the SAP Business Partner Master Data window. On the left, there's a sidebar with various contact and business details like Tel 1, Tel 2, Mobile Phone, Fax, E-Mail, Web Site, Shipping Type, Password, Factoring Indicator, BP Project, Industry, Business Partner Type, and Personal Data Protection (Natural Person). The main area has tabs for General, Contact Persons, Addresses, Payment Terms, Payment Run, Accounting, Properties, Remarks, Attachments, and eDogs. Under Accounting, there's a section for Account Balance with Local Currency (36.00), Deliveries (10,522.39), Orders (28,109.89), and Opportunities (10). Below this is a Sales Analysis Report by Customer (Detailed) window. It shows a table of sales documents with columns for Document ID, Order Ref, Installation Date, Sales Employee, Posting Date, Due Date, Customer Name, Sales Amount, Applied Amount, and Gross Profit. The table data is as follows:

#	Document	Install...	Sales E...	Posting Date	Due ...	Customer Name	Sales A...	Applied A...	Gross Profit
1	OR 5	1 of 1	Jim Bosovic	30.01.	10.02.06	Mashina Corp	BP 8,700.00	GBP 8,700.00	BP 2,221.48
2	OR 16	1 of 1	Jim Bosovic	10.04.	20.04.06	Mashina Corp	BP 1,937.50	GBP 1,937.50	BP 476.05
3	OR 24	1 of 1	Jim Bosovic	15.06.	25.06.06	Mashina Corp	BP 10,381.25	GBP 10,381.25	BP 3,224.45
4	OR 29	1 of 1	Jim Bosovic	18.07.	28.07.06	Mashina Corp	BP 4,212.50	GBP 4,212.50	BP 1,406.19

Below the table are two stacked bar charts. The left chart shows quarterly sales amounts (Multiples of GBP 1,000.00) from Q1 to Q4. The right chart shows monthly sales amounts (Multiples of GBP 1,000.00) from January to December. The legend indicates: Gross Profit (yellow), Applied Amount (green), and Sales Amount (purple).

Common structure for all business partners:

- Customer
- Lead
- Vendor

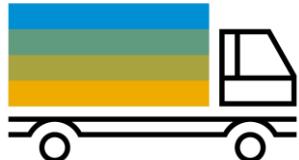
Link to account balance

Reporting available directly from the master record

We are concerned with leads and customers used in the sales process, but there is also another business partner master, the vendor master, which is used in purchasing. The reason I mention it here is that there is a great deal of similarity between the data for all three types of master data records. Therefore SAP Business One uses windows with a common structure for all three master data types: customer, lead and vendor.

The business partner master contains company details such as addresses and phone numbers, the business contact persons, logistics details, tax information, accounting information, as well as links to account balances and reporting.

## Business Partner Addresses



**Ship-to Address**

- Multiple addresses possible for each address type
- You can set defaults for each address type



**Bill-to Address**



**Contact Person Address**

Customers and leads can have multiple bill-to and ship-to addresses stored in the business partner master.

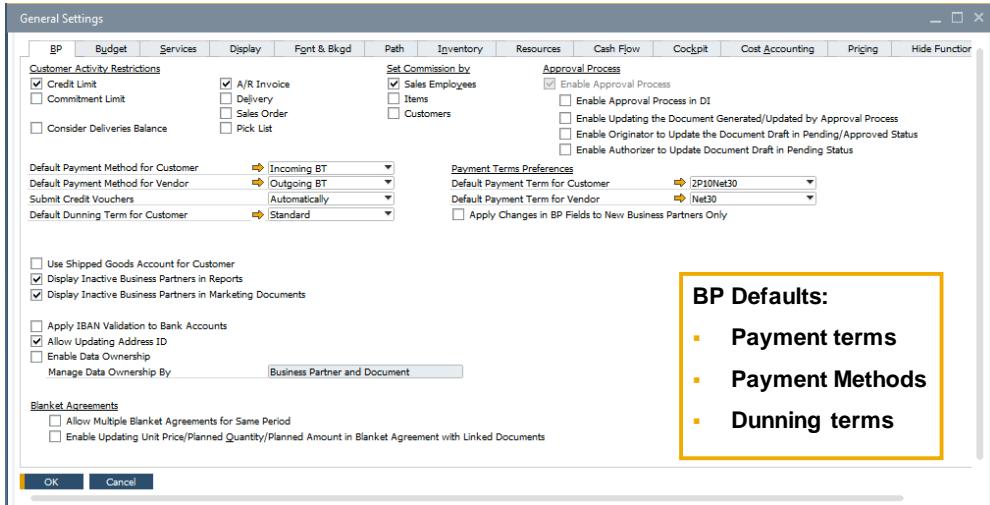
You can set one bill-to address and one ship-to address as defaults.

Additionally you have addresses for any contact persons for a business partner.

Addresses are automatically copied from the business partner master into marketing documents.

When multiple addresses are available, a selection box is available inside marketing documents for choosing the appropriate address.

## Default Settings



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Before you begin entering business partners into the system, you set defaults for business partners at the company level.

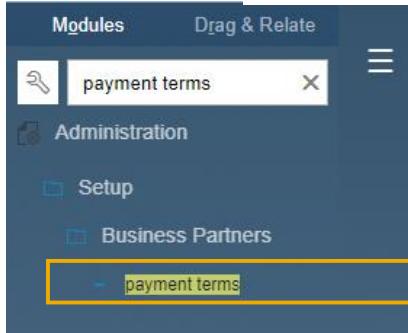
On the BP tab of the company's General Settings, you have the option to set default payment terms, default payment methods, and dunning terms (for when a customer does not pay on time).

These defaults are then copied into each newly created business partner master data record.

Of course, all these defaults can be changed in the master data record, and even when needed in sales documents.

## Payment Terms

**Administration > Setup > Business Partners.**



**Payment Terms - Setup**

Payment Terms Code	2P10Net30
Due Date Based on	Document Date
Start From	[dropdown] + [0] Months + [0] Days
Tolerance Days	[input]
No. of Installments	[input]
Open Incoming Payment	No
Cash Discount Name	2P10Net30
BP Fields	
Total Discount %	0.00
Interest % on Receivables	0.00
Price List	Base Price
Max. Credit	0.00
Commitment Limit	0.00

Add Cancel

The details behind the default settings as well as additional configuration options are found in Administration menu under the Setup for Business Partners.

In this menu you can find the details behind the payment terms and dunning terms, as well as other settings related to business partners.

Payment terms are very important and contain more than just due date calculations and discount for early payment. Credit limits and price lists are also set in the payment terms definitions.

Additionally, a default price list can be assigned for all customers via the payment terms definition. Another option for assigning a price list is via a customer group.

## Customer Groups



### For pricing and reporting

- Customer assigned to only one group
- You can use customer groups in reporting to see sales figures for different sectors.
- You can assign a price list to a customer group.
- The price list assigned to the group will supersede the default from General Settings.

Customer groups are a way to classify customers for pricing and reporting. You may wish to classify the customers by sectors or by size.

A customer can be assigned to one group.

When you run reports, you can run them by customer groups. This can allow you to see sales figures for different sectors. You can then sort data or make selections based on the groups.

If you assign a price list to a customer group, the price list assigned to the customer group will supersede the default from the general settings.

## Leads and Customers

### Leads

- Use on pre-sales documents or sales orders
- Not on deliveries or invoices



Besides customers in the sales process, we also have leads.

Leads are used to identify a potential customer.

Having lead master data enables you to document and track the presales activities for a potential customer.

You can create the following documents for lead master data: sales quotation, sales order, sales opportunity, and activity.

Leads cannot be used on deliveries or invoices.

This allows you to begin processing a potential customer's order but keeps uninformed users from delivering items to an unknown or unapproved customer.

Once you assign a lead to a sales document, the lead cannot be deleted, even if the deal does not go through.

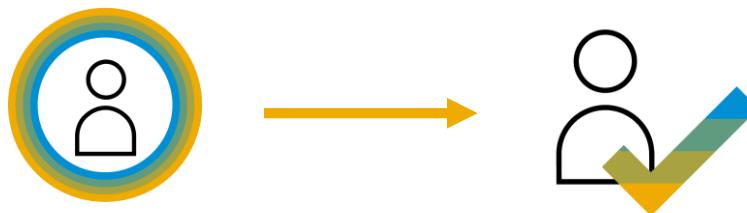
## Leads and Customers

### Leads

- Use on pre-sales documents or sales orders
- Not on deliveries or invoices

### Customers

- Use on any sales document
- Convert leads to customers when they buy



When the lead takes the next step and buys a product or service, the lead becomes a customer. In this case, all you have to do is to change the type of the business partner master record from lead to customer. All the information you have added to the lead master data record is saved, as well as the documents you created for this lead.

For example, if you created a sales order for a lead, once the lead becomes a customer and buys the items in the sales order, you can use the sales order as the basis for creating a delivery document and later on an invoice.

Because SAP Business One automates so much of the Sales-A/R process, it is essential that you select or enter the correct customer and item data when you initiate a sales order.

For example, things as simple as a customer's ship-to and bill-to addresses, if entered inaccurately or incompletely, can have a huge impact on your company's bottom line when goods ordered show up where they are not supposed to or invoices are sent to the wrong office. Additionally, in some localizations such as the United States, the tax code and rate is determined based on the ship-to assignment. So make sure you select the appropriate ship to address from the drop down.

## Leads in the Sales Quotation



- A potential customer requests a quote for a PC with accessories
- We enter lead master data, items, and quantities in the quotation.
- The system determines the price automatically
- A manual discount for 1% is entered in the quotation

Let us take a look at using leads in sales documents in a typical business scenario.

A potential customer requests a quote for a personal computer with accessories.

We enter lead master data, items and quantities in a quotation.

The sales quotation acts as an offer to the prospect for specific goods at a specific price.

The pricing for this item associated with the lead is automatically determined.

We decide to give this potential customer an additional discount so we enter a manual discount of 1% into the quotation.

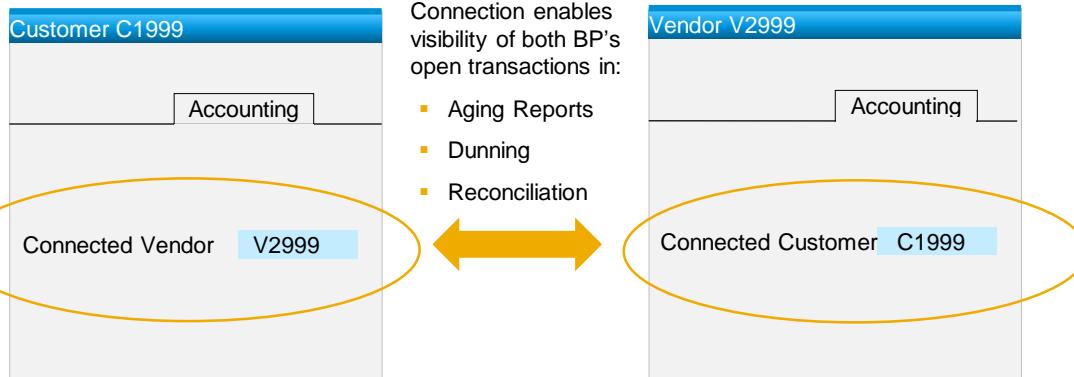
## Leads in the Sales Order



- If the prospective customer decides to order the items, we copy the quotation to a sales order
- All the information, including the manual discount, is copied into the sales order
- The lead can be converted to a customer now or at the delivery

If the prospective customer decides to order the items, we copy the quotation to a sales order.  
All the information: the lead master data, the item, the pricing including the manual discount, is copied into the sales order.  
The lead can be converted to a customer now, for the sales order, or at the point of the delivery.

## Connecting Customers and Vendors



If you have a customer who is also a vendor, you can connect the two business partner master data records to one another by using the Connected Vendor and Connected Customer.

Once you have entered a value in one of the fields, the other field automatically fills in with the related business partner. A link arrow next to the field allows you to move from one business partner to the other.

Connecting the two business partners allows you to view open transactions of both the vendor and customer side as a whole in aging reports and in the dunning wizard. It also gives you the ability to reconcile open A/R transactions with open A/P transactions. More information on the financial controlling impact of this connection is available in the financial topics covering Aging, Dunning and Internal Reconciliation.

## Summary



Here are some key points:

- There are three types of business partners: leads, customer and vendors.
- Leads and customers are used in the sales process.
- Leads are used mostly in pre-sales but can be used on a sales order.
- A lead master data record can be converted to a customer master data record.
- Leads cannot be used in deliveries or invoices.
- Customers and leads can have multiple addresses for shipping, billing, and contact persons. You can set a default for each type of address.

There are three types of business partners: leads, customer and vendors. Leads and customers are used in the sales process. Vendors are used in purchasing.

Leads are used mostly in pre-sales, but can be used on a sales order.

A lead master data record can be converted to a customer master data record.

Leads cannot be used in deliveries or invoices. A customer must be used on documents with a possible accounting impact.

Customers and leads can have multiple addresses for shipping, billing, and contact persons. You can set a default for each type of address.



## Sales - A/R: Customer Relationship Management

SAP Business One  
Version 10.0

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Welcome to the customer relationship management topic.

## Objectives



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

- Discuss the options available for customer relationship management in SAP Business One.

In this topic we will explore the options available for customer relationship management in SAP Business One.

## Business Scenario



- The company's top goals are to increase sales and customer satisfaction.
- The company wants to use pre-sales documents to track the sales pipeline and follow up on customer contacts.
- Sales team members use activities to manage their day-to-day responsibilities.

Imagine that your company's top goals are to increase sales and customer satisfaction.  
Your company wants to use pre-sales documents to track the sales pipeline and follow up on customer contacts.  
Sales team members use activities to manage their day-to-day responsibilities

## CRM Process Example

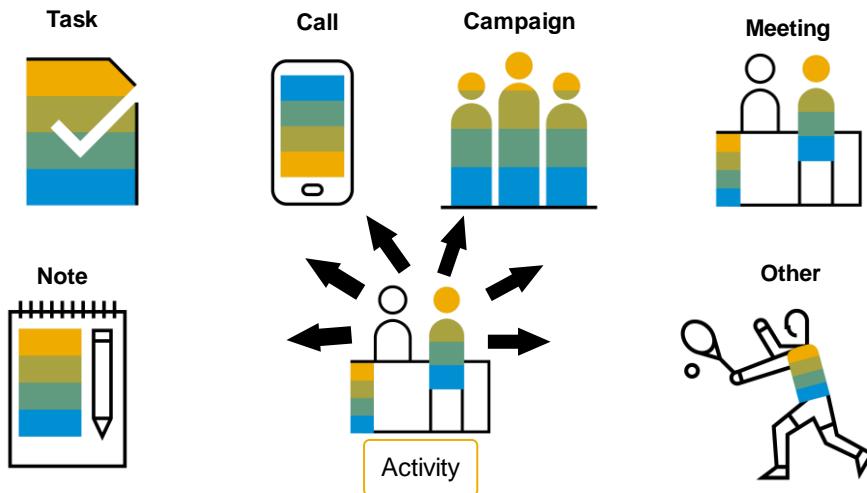


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This topic introduces four new documents for customer relationship management: the activity, the campaign, the sales opportunity and the sales quotation. We will take a look at how each of these documents can be used to support your customer relationship management.

## Activities



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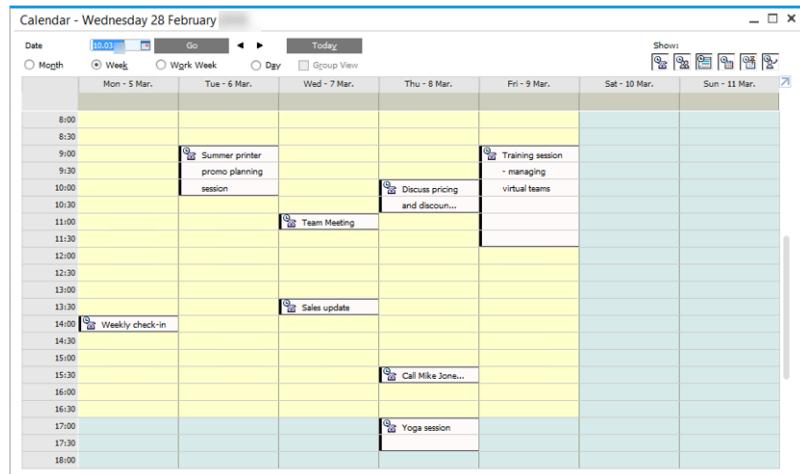
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- Activities allow you to schedule and manage diverse events such as phone calls, meetings, tasks, notes or other interactions with customers. Basically everything you do with a customer can be documented in an activity, even e-mails.
- Activities are used throughout the sales cycle to manage customer contacts as well as for internal business purposes, such as managing tasks.
- Activities can not only report what you have done with a given contact, but what you plan to do. For example, you record a phone call and set a follow-up reminder to call again.
- You can create activities many places within SAP Business One. There is a transaction for activities in the Business Partner menu, but they can also be created inside marketing documents, sales opportunities, and even business partner master data.
- Inside an activity you can link it to other objects such as documents and attachments, as well as free form content such as e-mail messages.

## Calendar



- Click on the *Calendar* icon to view.
- Monthly, weekly, or daily views
- Option to display, schedule or update activities



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- One easy way to schedule activities, such as meetings, is to use the calendar. Just click on the calendar icon in the toolbar. The calendar provides monthly, weekly and daily views.
- There is even a group view that can facilitate scheduling team meetings.
- The calendar allows you to display, schedule and update activities by dates and users.
- The activity types that appear in the calendar include: phone call, meeting, campaign, note and other. Tasks do not appear in the calendar.

## Calendar Activities

The screenshot shows the SAP Business One calendar interface. On the left, there is a small icon of two people. A callout box with the text "Double-click on a time and date in the calendar to create an activity" points to the calendar grid. The calendar shows a day view for Wednesday, 28 February 2018. Several activities are listed as colored bars: a blue bar from 8:00 to 9:00, a yellow bar from 9:00 to 10:00, and a red bar from 10:00 to 11:00. A large orange arrow highlights the red bar. To the right of the calendar is the "Activity" window, which is a dialog box for creating a new activity. The "Activity" tab is selected, showing fields for Activity Type (Phone Call), Subject (Jayson Buss), Assigned To (User), and Assigned By (User). The "General" tab is active, showing the start time as 28.02. 11:00, end time as 28.02. 11:30, and duration as 30 Minutes. Other tabs include "Other Details", "Content", "Linked Document", and "Attachments". At the bottom of the window are buttons for "Add" (highlighted in blue), "Cancel", "Inactive", and "Closed".

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- To create activities directly in the calendar, click on a given date and time, and SAP Business One takes you to the *Activity* window where you can describe activities and link them to business partners and documents.
- Even if you create an activity elsewhere, all time based activities (phone calls, meetings and others) are automatically entered in the calendar.

## Assign Activities to Multiple Users

The figure consists of three screenshots illustrating the process of assigning activities to multiple users:

- Screenshot 1:** The SAP Activity screen. A yellow circle highlights the "Recipient List" tab under the "Assigned To" section. A yellow number "1" is overlaid on the screenshot near this tab.
- Screenshot 2:** The "Add Recipient" dialog box. It shows a list of users with checkboxes next to their names. A yellow circle highlights the "Save as Recipient List" button at the bottom right. A yellow number "2" is overlaid on the screenshot near this button.
- Screenshot 3:** The "Save as Recipient List" dialog box. It shows a list name "Safety Project Team" with a checked checkbox. A yellow circle highlights the "Save" button at the bottom right. A yellow number "3" is overlaid on the screenshot near this button.

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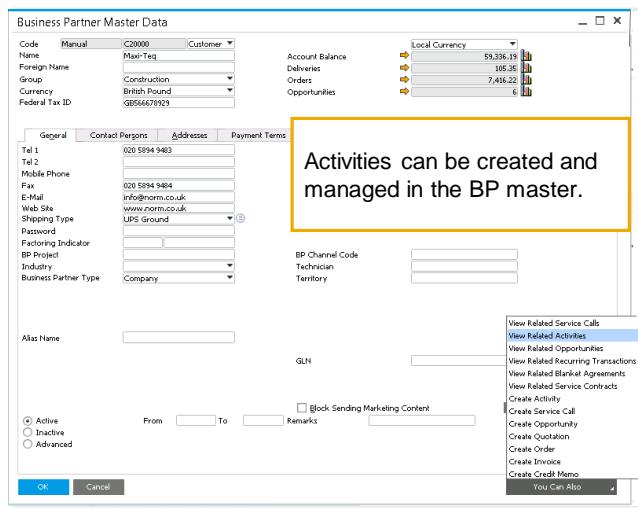
You can create activities associated with more than one user.

You can define new recipient lists for groups of users that you use frequently.

You can also filter activity reports by users, employees, or recipient lists.

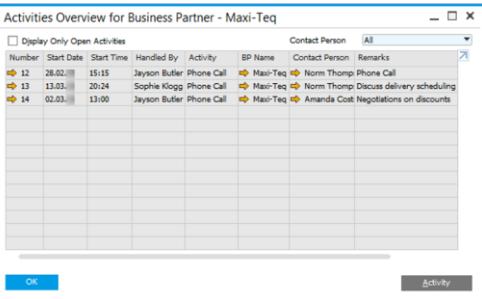
The steps for creating a list are easy. Just choose the option for a recipient list in the activity. Then select an existing recipient list on the Recipient List tab or use the User tab to create a new list. Once you've chosen all the users for a new list, save the list.

## Business Partner Activities



The screenshot shows the SAP Business Partner Master Data interface. On the right side of the screen, a context menu is open over a field labeled 'You Can Also'. The menu contains several options: 'View Related Service Calls', 'View Related Activities', 'View Related Opportunities', 'View Related Recurring Transactions', 'View Validated Work Agreements', 'View Related Service Contracts', 'Create Activity', 'Create Service Call', 'Create Opportunity', 'Create Quotation', 'Create Order', 'Create Invoice', and 'Create Credit Memo'. A yellow callout box highlights this menu.

**Activities can be created and managed in the BP master.**



The screenshot shows the 'Activities Overview for Business Partner - Maxi-Teq' window. It displays a list of activities with columns for Number, Start Date, Start Time, Handled By, Activity, BP Name, Contact Person, and Remarks. The list includes:

Number	Start Date	Start Time	Handled By	Activity	BP Name	Contact Person	Remarks
12	28.02.	15:15	Jayson Buffer	Phone Call	Maxi-Teq	Sophie Kloppe	Norm Thomp Discuss delivery scheduling
13	13.03.	20:24	Sophie Kloppe	Phone Call	Maxi-Teq	Norm Thomp	Discuss delivery scheduling
14	02.03.	13:00	Jayson Buffer	Phone Call	Maxi-Teq	Amanda Costt	Negotiations on discounts

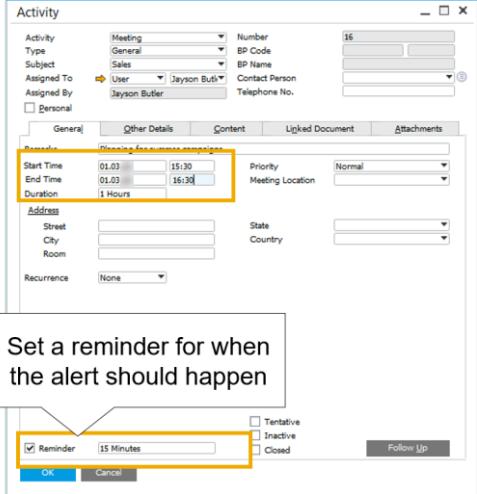
Buttons for 'OK' and 'Activity' are visible at the bottom of the window. To the right of the window is a small icon of two people.

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- Activities can also be created and managed inside the business partner master data record.
- From the Business Partner master, you can open a list of related activities as shown in the graphics, or choose the option to create activities.
- When you create an activity from within the business partner master record, the business partner information defaults into the activity.

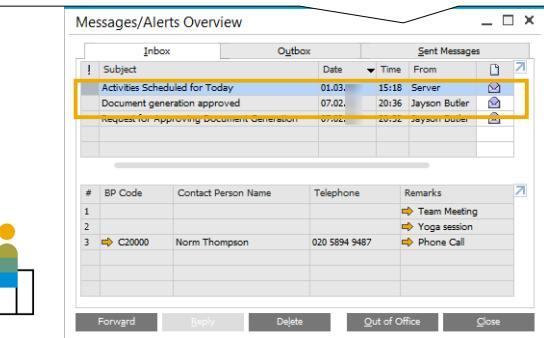
## Alerts for Business Partner Activities



**Set a reminder for when the alert should happen**

A callout box points to the 'Reminder' checkbox and the '15 Minutes' input field in the bottom right corner of the activity setup window.

To see daily activities in the Messages/Alerts Overview, select the checkbox: "Send alert for activities scheduled for today" in **Users - Setup window** or in **General Settings**



The screenshot shows the 'Inbox' tab of the 'Messages/Alerts Overview' window. A specific row for a meeting scheduled for today is highlighted with a yellow border. The row contains columns for Subject, Date, Time, From, and a small envelope icon.

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- When you set up an activity in the business partner master data, SAP Business One has functionality that allows you to set an alert to be sent to the user for a specific type of activity - Phone Call, Meeting, Note, Other.
- You can also set a reminder and a time frame for when the alert should happen.
- The alerts for activities are controlled by the "Send alert for activities scheduled for today" checkbox. This setting can be set for individual users or made at the company level. When you set it in the Services tab of General Settings, a popup box will ask you if this setting is for all users or if it is limited to new users and users who follow the Company's Default Settings.
- The date used for the alert is the date you set on the activity.

## Recurring Activities

Set activities to occur on a regular basis.



Screenshot of the SAP Activity dialog box showing the recurrence settings for a weekly meeting.

**Activity Details:**

- Activity: Phone Call
- Type: General
- Subject: Discuss weekly orders
- Assigned To: Jayson Butler
- Contact Person: Jimmy Miller
- Telephone No.: 0151 2958 3003

**General Tab (Visible):**

- Start Time: 17.05. 10:00
- End Time: 17.05. 10:15
- Duration: 15 Minutes
- Priority: Normal
- Meeting Location:

**Recurrence Tab (Highlighted):**

- Repeat Every: Weekly
- Repeat On: Mon, Tue, Wed, Thu, Fri
- Range:
  - Start: 17.05. (dropdown)
  - End: (radio buttons)
    - No End Date
    - After: 1 Occurrence(s)
    - By: (dropdown)
- Reminder: 15 Minutes
- Inactive: Closed

**Buttons:**

- Update
- Cancel

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- Change a series or individual activities within a series.
- Move or cancel an individual occurrence.
- Use *Back* or *Next* to navigate to an occurrence of a recurring activity.

- Activities can be set to occur on a regular basis. Here we see an activity that is set up for a weekly meeting.
- You can manage changes to a series or to individual activities within a series.
- Each individual occurrence of the activity can be moved or canceled without affecting the series.
- Use the Back or Next button to navigate to the individual occurrences of a recurring activity.

## Campaigns

The screenshot shows the SAP Business One 'Campaign' window. The window has tabs for 'Target BPs', 'Items', 'Partners', and 'Attachments'. Under 'Target BPs', there is a list of 9 entries:

#	Internal	BP Code	BP Name	Create Activity	Assign To	Name	BP Group	Ind...
1	<input checked="" type="checkbox"/>	C20000	Maxi-Teq	<input type="checkbox"/>	<input type="checkbox"/>	Jayson Butler	Construction	
2	<input checked="" type="checkbox"/>	C23900	Parameter Technologies	<input type="checkbox"/>	<input type="checkbox"/>	Jayson Butler	High Tech	
3	<input checked="" type="checkbox"/>	C30000	Microchips	<input type="checkbox"/>	<input type="checkbox"/>	Jayson Butler	Large Acco...	
4	<input checked="" type="checkbox"/>	C40000	Earthshaker Corporation	<input type="checkbox"/>	<input type="checkbox"/>	Jayson Butler	Large Acco...	
5	<input checked="" type="checkbox"/>	C42000	Mashina Corporation	<input type="checkbox"/>	<input type="checkbox"/>	Jayson Butler	Distributors	
6	<input checked="" type="checkbox"/>	C50000	ADA Technologies	<input type="checkbox"/>	<input type="checkbox"/>	Jayson Butler	Distributors	
7	<input checked="" type="checkbox"/>	C60000	SG Electronics	<input type="checkbox"/>	<input type="checkbox"/>	Jayson Butler	Production	
8	<input checked="" type="checkbox"/>	C70000	Aquent Systems	<input type="checkbox"/>	<input type="checkbox"/>	Jayson Butler	Small Acco...	
9	<input checked="" type="checkbox"/>	L10001	Andreas Ackermann	<input type="checkbox"/>	<input type="checkbox"/>	Jayson Butler	Customers	

Below the table are 'Update' and 'Cancel' buttons.

Three large yellow arrows point from the right side of the campaign window to three icons representing different business outcomes:

- Activity:** Represented by a person icon inside a bar chart.
- Opportunity:** Represented by a magnifying glass icon.
- Sales Quotation:** Represented by a stack of document icons.

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Campaigns are typically used for marketing to leads or existing customers through different media. For example you might wish to promote new products or upcoming sales events to your customers. Using campaign management you can create an email and send it to a distribution list that includes your customers' contacts, even an external contact list, using a well designed email. Once you get a response you can record it in SAP Business One, create an activity, a sales opportunity or a sales document.

## Campaigns



*Business Partners → Campaign Generation Wizard*

The target group is a distribution list of business partners.

Define target groups in the menu:  
*Administration → Setup → Business Partners → Target Groups.*

**Campaign Generation Wizard**

**Campaign Details**

**Select the Campaign Type**

**Step 2 of 5**

**Campaign Name:** New Printers  
**Campaign Type:** E-Mail  
**Target Group Type:**  Customer  Vendor  
**Target Group:** All  
**Owner:** [empty]  
**Start Date:** 14.05  
**End Date:** 30.06  
**Items:** [empty]  
**Partners:** [empty]  
**Remarks:** Dear Customers,  
Some new printers have just arrived in our store. See the attached flyer for more details.  
**Campaign Template:** E:\SAP\SAP Business One 64-bit\Samples\enUS\123 Template.html

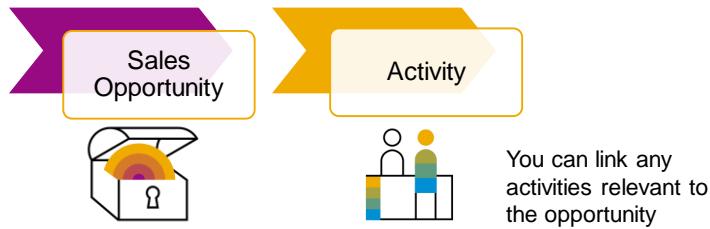
**Remarks are included in the e-mail.  
Also select the path for the campaign template**

You can easily create a new campaign or run an existing campaign again using the Campaign Generation Wizard.

Using the wizard is an easy step-by-step process allowing you to generate a campaign based on diverse criteria.

Once you start the wizard, you need to identify the channel (such as email), the target group which you can define ahead of time in the *Business Partners Setup* menu, any items you wish to promote, and optionally an HTML template for email campaigns.

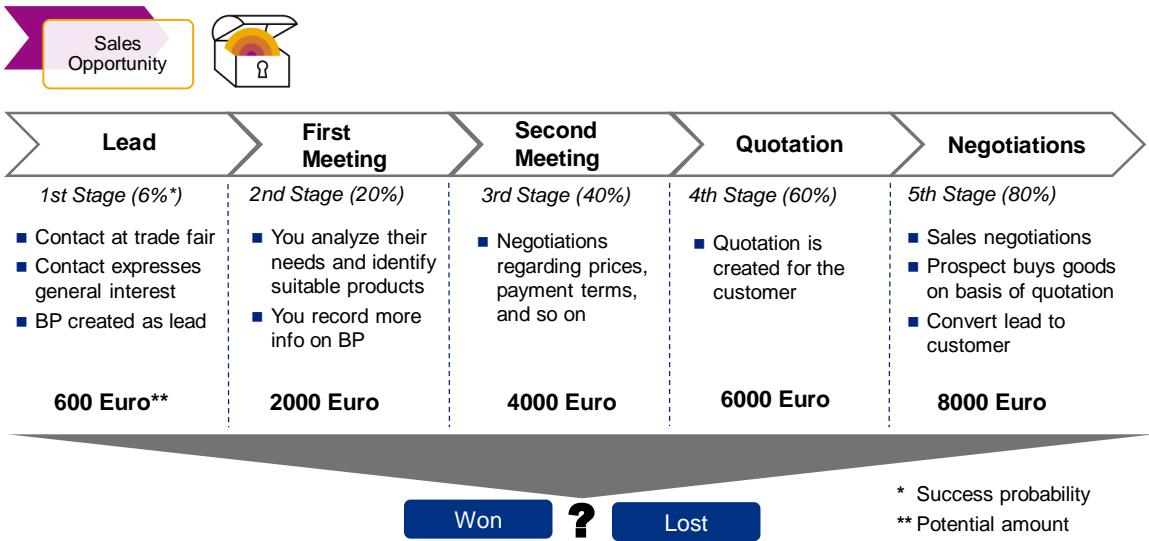
## Sales Opportunity



A sales opportunity allows you to manage the sales cycle for potential sales with a customer or lead.

- Activities are often linked to Sales Opportunities.
- A sales opportunity allows you to manage the sales cycle for the opportunity of potential sales with a customer or lead.
- For example, a customer inquires about certain products your company is selling, you can respond immediately by creating a sales opportunity, allowing you to track the prospective sale and notify others about the status of the potential deal.
- As you meet with others and gather information, you can link any activities relevant to the opportunity.
- You can also view relevant activities, such as a list of planned activities linked to the opportunity.

## Opportunity Stages

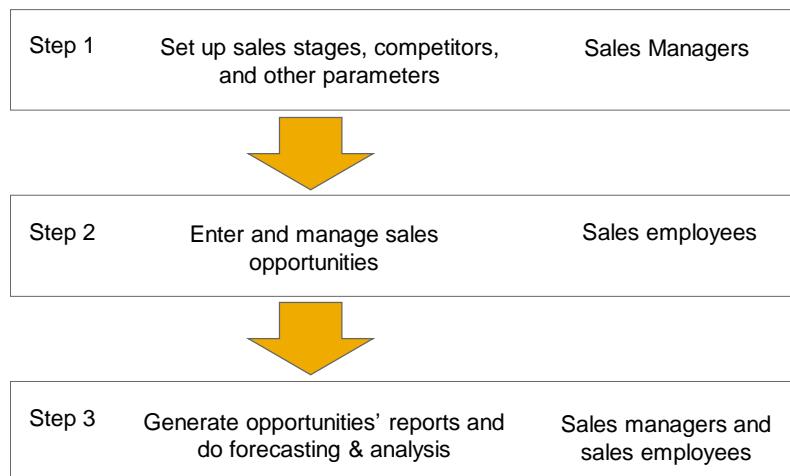


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- Opportunities are structured into stages which reflect the stages of your sales cycle.
- On the graphic we see a sales cycle with 5 stages: lead, first meeting, second meeting, quotation and negotiations. This is just an example. Sales cycles and stages can be customized to match your company's sales process.
- For each stage in the cycle, you can enter the potential amount of the deal and the system predicts the opportunity's probability of success based on some percentages you have set up in advance.
- You can track information on what is happening at each stage.
- And ultimately, you can track whether you have won or lost the deal.
- Reporting is available for analysis of opportunities and for optimizing your sales process.
- Sales opportunities give you visibility into your sales pipeline, for individual sales employees or the company as a whole.

## Sales Opportunity Process



- Let us take a look at the sales opportunity process. You can use sales opportunities to record, track and analyze every step in your business potentials with a customer or prospect
- Step 1: Sales managers set up important information such as which stages a sale will pass through and the likelihood by percentage of closing the sale. This information will help in forecasting sales. The key to successful setup is to decide what you wish to monitor during the sales process. These will assist the manager in forecasting sales.
- Step 2: Sales people enter sales opportunities and manage them throughout the sales process. The more details entered in an opportunity, the more visibility you will have later when you report on the leads. Ongoing appointments, phone calls, tasks, and contact management can be coordinated through the opportunity via related activities.
- Step 3: Reporting on sales opportunities gives you visibility into the sales pipeline, won and lost opportunities, and sales forecasting.
- Sales stages can be adjusted later, if needed, in the setup transaction. All the sales forecasting will be adjusted automatically.

## Sales Quotations

Sales  
Quotation



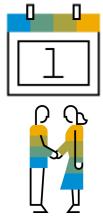
### Sales Quotations:

- Can come out of opportunities, campaigns or activities
- Document an offer to a lead or customer
- Are not typically binding, but for information
- Have a validity period
- If accepted, are copied to sales orders to begin the sales process

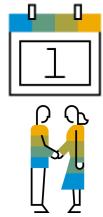
- Before customers commit to ordering, they frequently want a sales quotation that they can review and circulate within their company.
- The sales quotation might come out of a sales opportunity, a campaign, or activity, or arise independently.
- The sales quotation documents an offer or proposal that you send to a customer or to a lead.
- As used in SAP Business One, it is not a legally binding document, but rather used for information purposes.
- One field that distinguishes a quotation from a sales order is the Valid until Date. This date specifies how long the offer for the specified items and prices is available.
- You can modify the Default Valid Until Date field in the Administration module under System Initialization - Document Settings - Per Document tab.
- When you create a sales quotation, its default Valid Until date is set to the number of months/days/weeks after the Posting Date that you specify in the Default Valid Until Date field.
- You can change this default date manually or by using different payment terms.
- When a customer accepts the proposal defined in the sales quotation, you copy the quotation to a sales order to begin the sales process. Sales quotations can also be copied to a delivery, A/R invoice or A/R reserve invoice.

## MS Outlook Integration Add-on

SAP Business One



- Import and synchronize contacts
- Save e-mail messages and attachments as activities
- Import tasks and calendar activities into MS Outlook
- Edit, view and create sales quotations



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- You have the option of using the Microsoft Outlook integration add-on for SAP Business One to keep track of your day-to-day work on sales opportunities, sales quotations and activities.
- Microsoft Outlook integration gives you access to sales data without having to be logged on continuously to SAP Business One. This is especially valuable for sales managers who travel frequently and need to be able to view prospect and customer data while on the road. For example, a sales manager needs to prepare for a meeting at a customer's site.
- What kinds of things can you do with Microsoft Outlook integration? Take a look at this list:
- Import contacts from SAP Business One and synchronize them with Microsoft Outlook
- Save e-mail messages and attachments as SAP Business One activities
- Import tasks and calendar activities created in SAP Business One into Microsoft Outlook
- Edit, view, and create sales quotations and save them to SAP Business One
- Most importantly, Microsoft Outlook integration helps increase your productivity and simplify your work. It provides you with a holistic, integrated way to manage your schedule, e-mail, and activities while giving you access to all the latest information from SAP Business One.

## Summary



Here are some key points:

- Activities document interactions with business partners.
- Activities are automatically recorded in your calendar, in activity reports, and can be displayed in related business objects.
- Use the *Campaign* wizard to create multi-channel campaigns to target groups.
- Sales opportunities help you manage the sales cycle for a potential deal with a customer or lead.
- Opportunities are structured into stages. For each stage you can predict probability of success and potential sales amount.
- Sales quotations document an offer of products at an agreed upon price to a customer for a set validity period.
- The MS Outlook Integration add-on can help you manage presales and sales activities.

- Activities document interactions with business partners such as phone calls, meetings, tasks and other contacts. You can set up a one-time activity or a recurring activity.
- Activities are automatically recorded in your calendar, in activity reports, and can be displayed in related business objects.
- You can use the Campaign wizard to create multi-channel campaigns for target groups.
- Sales opportunities help you manage the sales cycle for a potential deal with a customer or lead.
- Opportunities are structured into stages reflecting the sales cycle. For each stage you can predict probability of success and potential sales amount.
- Sales quotations document an offer of products at an agreed upon price to a customer for a set validity period.
- The MS Outlook Integration add-on can help you manage presales and sales activities.

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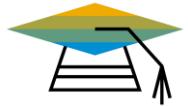
## Sales - A/R: Automating the Sales Process

SAP Business One  
Version 10.0

THE BEST RUN **SAP**

Welcome to the topic on automating the sales process.

## Objectives



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

- Discuss ways to automate the sales process
- Explain how availability checking works in the sales process
- List the functions of the Pick Pack and Production Manager
- Describe the advantages of using the Document Generation Wizard

In this topic, we discuss ways to automate the sales process, especially in how we interact with warehouse management.

We see how automatic availability checking works in the sales process. We will also look at the functions provided by the Pick Pack and Production Manager and how they are integrated into the sales process. We discuss the advantage of using the Document Generation Wizard.

## Business Scenario



- The company sets customer satisfaction as top priority. Therefore, they have chosen to automate steps in the sales process.
- Automatic availability checks are performed in the sales order to ensure that sufficient quantities are available to fulfill customer orders in a timely manner.
- If a product is unavailable in the local warehouse, they use the options available to ship that item or another acceptable item as quickly as possible. For high priority sales orders, they may reschedule deliveries.
- The company uses the Pick Pack and Production Manager to automate the process of picking and delivering items in a timely manner.
- Invoicing is automated using the document generation wizard.

- The company sets customer satisfaction as top priority. Therefore, they have chosen to automate steps in the sales process.
- Automatic availability checks are performed in the sales order to ensure that sufficient quantities are available to fulfill customer orders in a timely manner.
- If a product is unavailable in the local warehouse, you use the options available to ship that item or another acceptable item as quickly as possible. For high priority sales orders they may reschedule deliveries.
- The company uses the Pick Pack and Production Manager to automate the process of picking and delivering items in a timely manner.
- Invoicing is automated using the document generation wizard.

## Automating the Sales Process



- Availability checking
- Picking using pick lists
- Packing
- Generating delivery documents
- Generating A/R invoices

We will look at five places in the sales process where sales automation adds efficiency: Availability Checking, picking using pick lists, packing, generating delivery documents and A/R invoices using the Document Generation Wizard.

## How Automation Makes Sales Process Efficient

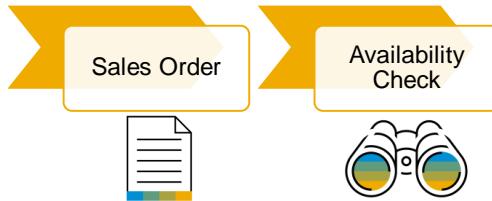


### Availability Check

- An automatic availability check occurs for sales orders.
- Available quantity is committed in inventory.
- Warehouse personnel use the Pick Pack and Production Manager to create pick lists for sales orders due for delivery.
- Pickers pick the items and enter the picked quantities into the system.
- Pickers pack the items and delivery documents are generated.
- The delivery posts the reduction in inventory and reduces committed quantity.
- A/R invoices are generated in batches via the Document Generation Wizard.

- Let's look at an example of how automation can make the sales process more efficient.
- An automatic availability check occurs when you enter items and quantities in a sales order.
- When the items are confirmed as available, the quantity is committed in inventory.
- Warehouse personnel access and filter open sales orders in the Pick Pack and Production Manager to create pick lists for sales orders due for delivery.
- Pickers pick the items from warehouse shelves and enter the picked quantities into the system.
- Pickers create packages for the items with packing lists and delivery documents generated via the Pick Pack and Production Manager.
- The delivery posts the reduction in inventory and reduces the committed quantity from the sales order.
- After the items are shipped, A/R invoices are generated in batched billing runs via the Document Generation Wizard.

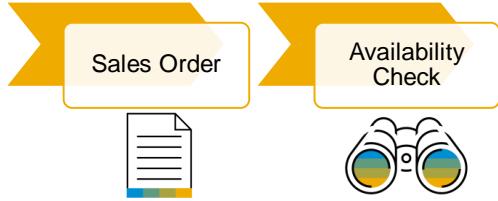
## Purpose of Item Availability Check



- The item availability check determines if the item is available:
  - With a sufficient quantity
  - In a particular warehouse
  - On the required delivery date for the customer

- An item availability check will determine if the item is available:
  - With a sufficient quantity for your sales order
  - In the particular warehouse associated with your sales order row
  - On the customer's required delivery date

## Calculating Availability



How is availability calculated?

**Available Quantity = In Stock - Committed + Ordered**

- How is availability calculated? The basic definition is this: Available quantity is calculated as the in-stock quantity minus the committed quantity plus the ordered quantity.

## Inventory Data in the Item Master

#	Whse Code	WH Name	In Stock	Committed	Ordered	Available
1	01	General Warehouse	688	38	100	750
2	02	East Coast	40	10	10	40
3	03	West Coast	40			40
4	04	Drop Ship				
5						
			768	48	110	830

**Available Quantity = In Stock - Committed + Ordered**

- The system tracks the quantities for each item and displays the quantities for each warehouse in the item master.
- The inventory data tab of the item master record shows us up-to-date information on stock levels and demand for the item for each warehouse. This information is updated dynamically so it shows a true picture at any time.

You can view:

- The quantity in stock
- The committed quantity, which represents a reserved quantity such as the quantity ordered by customers, needed for components on a production order or the quantity set aside for transfer to another warehouse.
- The ordered quantity, which represents either quantity ordered for purchase by your company but not yet delivered or the quantity on production orders for an item produced in-house or a quantity requested from another warehouse
- Finally, it shows the available quantity, which is the quantity available for your sales orders.

## Two Options for Availability Checking

### 1) Standard Availability Check

Automatically checks for row quantities in sales documents

If insufficient quantities, gives options to:

- switch warehouses,
- choose alternative items,
- change quantities, or
- view a report with multiple warehouses

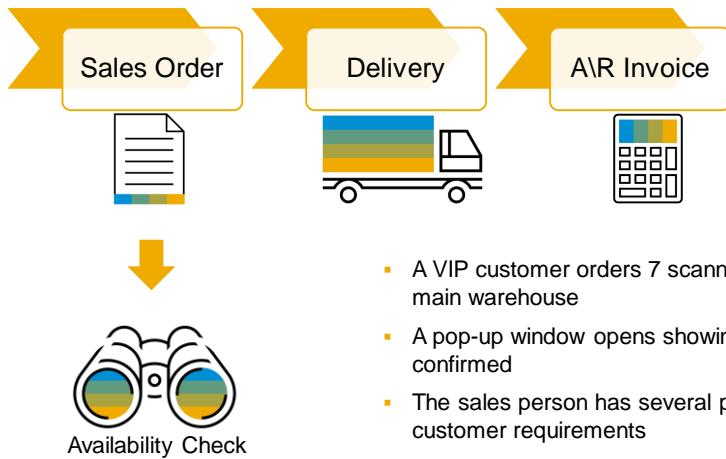
### 2) Advanced Availability-to-Promise

Provides additional functionality to:

- Create confirmed schedule lines
- View delivery schedule details
- Reschedule deliveries for multiple documents
- Only available with SAP HANA

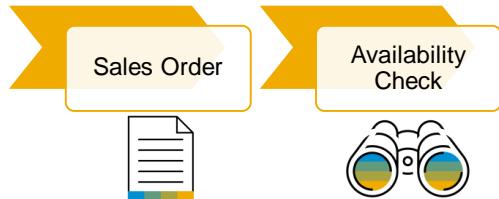
- Two options exist for availability checking.
- You can choose only one option either the standard availability check for SAP Business One or an advanced availability to promise check.
- The standard availability check automatically checks row quantities for sales documents. If there are insufficient quantities, this check gives you a pop up box with options to switch warehouses, choose alternative items, change requested quantities or view a report showing multiple warehouses.
- The standard availability check is available on both SAP HANA and MS SQL databases.
- The second option, the advanced availability to promise, provides additional functionality to create confirmed schedule lines with delivery dates for items checked and the ability to view schedule details for those items. If needed, you can reschedule deliveries for multiple documents. This option is only available if you are running on an SAP HANA database.

## Business Example – Availability Check



- Let's look at how availability checking works with a business example.
- A very important customer orders 7 scanners but unfortunately only 5 are currently available in the main warehouse.
- As the sales person enters the item, a popup box appears showing the full quantity cannot be confirmed.
- The sales person has choices about what actions he can take to fulfill the customer requirements.
- We will look at what actions are available for each availability check.

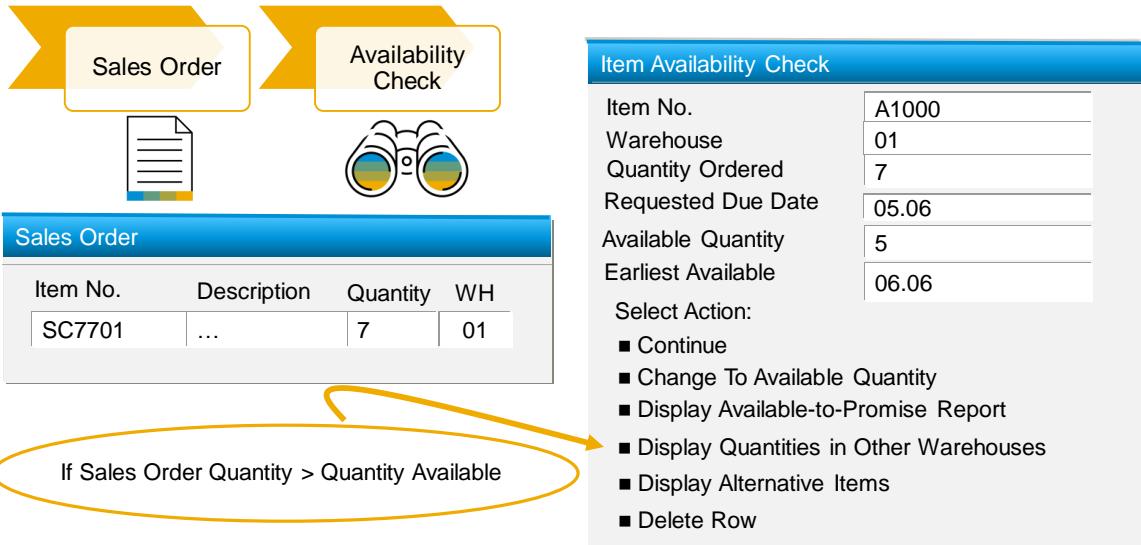
## Option 1: Standard Availability Check



Sales Order			
Item No.	Description	Quantity	WH
SC7701	...	7	01

- Let's look at the first option: the standard SAP Business One availability check.
- Whenever you create a sales order and enter a quantity for an item which is greater than the available quantity for this item minus the minimum inventory level on the delivery date, the *Item Availability Check* window comes up automatically.
- The sales person has entered the scanner item with a quantity of 7, but only 5 are available.

## Option 1: Standard Availability Check



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- The *Item Availability Check* window pops up. It displays the quantity of 7 ordered in the sales order and quantity available in inventory.
- Several actions are offered in this window.
- The first option is to continue. This allows you to accept the information and proceed without changing the sales order. In that case the item will be backordered.
- The second option is to change the quantity in the sales order line item to match the Available Quantity. This reduces the order quantity to the available quantity.
- If you need more information before deciding on a resolution, you can choose the option to display the *Available-to-Promise Report*. This provides you with an at-a-glance report on stock inflow and outflow including projections. This report is also available directly from the context menu.
- You could also check *quantities in other warehouses*. From this report, you can check and possibly select the quantities from another warehouse.
- Sometimes an item has been set up with alternate items. When you choose this option, you can check for any alternates and if one is available, you can select the quantities from an alternative item.
- If the item is not available and no other options remain for on-time delivery, a customer may decide to not order that item. One of the actions available is to delete the item's row from the sales order.
- Sometimes, you may see an additional option, *Change to Earliest Availability*. This option only appears when the availability date can be calculated. It copies the earliest availability date to the row's delivery date.

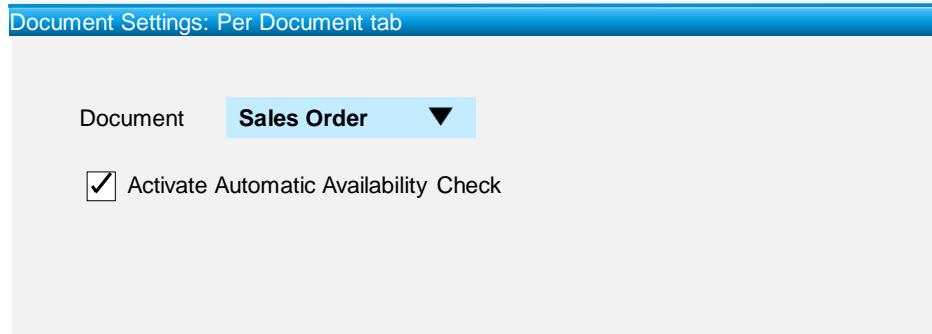
## Availability to Promise Report

Item No.	SC7701							Alternative Items
Warehouse	General Warehouse ▼							Multiple Warehouses
#	Document	Customer/Vendor	Order Date	Delivery Date	Ordered	Committed	Available	
1	PO 390	CTI Corp	04.06.	06.06.	87		92	
2	OR 343	Yogi Yoga	06.06.	08.06.		25	67	
3	PO 396	Acme Associates	06.06.	08.06	40		107	
4	OR 359	Microchips	07.06.	10.06.		12	95	

- The available to promise report is available from the availability check, however, even when you have sufficient quantity in an order, you can check the availability to promise for an item.
- In the context menu for a row, choose the option Available-to-Promise option. This opens a window with the inventory status report for the item in the row.
- You can see any documents which affect the inflow or outflow of this item from the warehouse listed on the row. You use a dropdown to view an alternate warehouse.
- For each document on the list, you can see the customer or vendor, order date, delivery date, the ordered or committed quantity.
- The documents are listed in delivery date order and the projected availability for the item on that date is shown.
- You can drill down into each document on the list.

## Settings for Standard Available Check

*Administration → System Initialization → Document Settings*



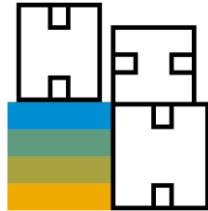
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To activate this option, go to the *Per Document* tab of the *Document Settings* window and choose *Sales Order*. Check the *Activate Automatic Availability* checkbox.

## Option 2: Advanced Availability-to-Promise (ATP)

- Delivery schedule details for different types of demand documents
- Confirmed quantities for the delivery dates
- Checking rules can be configured differently for items or item groups
- ATP check is performed for demand documents such as:
  - Sales orders
  - A/R reserve invoices
  - Inventory transfer requests
  - Purchase orders (with negative quantity)
  - A/P reserve invoices (with negative quantity)
  - Production orders
- Checking rules can be configured differently for items or item groups



- If you are running the SAP HANA database for your transactional database, you may wish to use the second option for additional functionality.
- The SAP Business One, version for SAP HANA has a configuration option to turn on the advanced availability to promise.
- As mentioned before, this option supports delivery schedule details for different types of documents that create demand and have a potential outflow.
- The Advanced ATP confirms quantity for the delivery dates and reserves the information on availability.
- The ATP check is performed for demand documents such as sales orders and A/R reserve invoices with positive quantities, inventory transfer request, purchase orders and A/P reserve invoices with negative quantities, and production orders.
- Checking rules can be configured differently for items or item groups

## Advanced ATP Check Process

- **Input** = Item + warehouse + required qty + required date
- **Available quantity** = in stock + planned receipts – existing required/confirmed quantity – temporary assigned quantity

The screenshot shows the 'Delivery Schedule Details' window for item SC7701. It includes fields for Item (SC7701), Warehouse (01), Item Description (scanner), and Warehouse Description (General Warehouse). The 'Req. Delivery Date' is set to 12.04. Under 'Delivery Strategy', a dropdown menu is open, showing three options: 'Delivery Proposal' (selected), 'One-Time Delivery', and 'Complete Delivery'. A red arrow points from the 'Delivery Proposal' option to the list. At the bottom, there are 'Confirm' and 'Continue' buttons, along with 'ATP Quantities' and 'Check Availability' links.

### Delivery Strategies:

#### **Delivery Proposal**

splits delivery to match available quantities, allows multiple deliveries.

#### **One Time Delivery**

only delivers items that can be sent on time

#### **Complete Delivery**

no delivery until complete quantity can be sent

When you create a document with demand, such as a sales order, the Advanced ATP check verifies there is enough quantity to deliver **on the required date**.

The check takes the item, warehouse, required quantity and required date from the document to calculate the base quantity.

Availability is the sum of “in stock” quantities plus planned receipts minus existing required or confirmed quantities. The check also takes into account temporarily assigned quantities currently being held by another user during their ATP check.

The output is the ATP check result. If the check determines there is insufficient quantity, the *Delivery Schedule Details* window opens with recommendations for quantity and delivery dates.

In our example, the customer ordered 7 scanners however only 5 can be delivered on time.

If there is not enough available quantity on the dates needed, you can choose a delivery strategy.

Delivery strategies control whether an item is allowed multiple deliveries.

There are three delivery strategies:

- *Delivery Proposal* - splits the delivery to match your available quantity. With this option 5 scanners would be delivered to the customer on the first available date and the remaining 2 would be delivered at a later date.
- *One time delivery* – only delivers the items that can be sent on time. With this option only 5 scanners would be delivered. A customer who needs the scanners right away for a specific event might choose this option.
- *Complete delivery* - postpones the delivery so the entire quantity is delivered in full. This option might be chosen by a customer who wants to install all 7 scanners at once. They might be willing to wait to ensure the full quantity arrives on the same date.

You can reopen the *Delivery Schedule Details* window from the context menu of a document item row.

## Check ATP without a document

The screenshot shows the SAP ATP Check window. In the top left, there's a button labeled "Open the ATP Check window from the icon" with an icon of a clipboard and a clock. A callout points to this button from the text "Open the ATP Check window from the icon". The main window has a title bar "ATP Check" and a sub-title "Item Kx555 - Leather Laptop Case". It includes sections for "Enter item" (with a dropdown for "Alternative Items"), "Enter quantity" (with a text input for "Required Quantity" set to 20), and "Warehouses" (a list with checkboxes for "Warehouse Name" like "01 - Central Warehouse" and "02 - Backup Warehouse"). Below these are sections for "Cumulative ATP Quantity" (a chart showing quantity over time) and "View when the full quantity is available in time line" (a timeline showing the availability of 7 scanners). The timeline shows a red segment from May 26 to June 1, a blue segment from June 1 to June 6, and a small yellow segment for June 6. At the bottom is an "OK" button.

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In addition to the check availability from inside documents, you can also open a graphical view of availability from an icon in the toolbar.

Click the *Available-to-Promise Check* icon on the tool bar to open the view the availability for a particular item across warehouses.

Enter the item and the quantity required. Choose which warehouses' inventory you wish to view.

In our business example, we want to see when 7 scanners will be available for our customer.

A graphical view displays an item's availability. Red indicates the full quantity cannot be delivered on those dates.

Blue indicates when the full quantity is available in the time line.

Here we see that only 5 are available until June 6.

You can scroll right and left on a timeline to see when the item is available.

You also have the option to switch warehouses and view availability of alternative items.

## Settings for Advanced ATP

The screenshot shows the SAP Fiori interface for document settings. On the left, under 'Document Settings: General', there is a checkbox labeled 'Enable Advanced Available to Promise'. Below this is a button labeled 'ATP Checking Rules - Setup' with a yellow arrow pointing to it. To the right, a modal window titled 'ATP Checking Rule List' is open, showing a table with one row: '# AA Default Checking Rule'. A red box highlights the '# AA' entry. Another modal window, 'Checking Rule Details', is also open, showing various configuration options. A red box highlights the 'Details' button at the bottom right of this window. The SAP Fiori header includes the title 'Settings for Advanced ATP'.

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To turn on the Advanced Availability Check, go to *Document Settings, General* tab.

Choose the checkbox to *Enable Advanced Available to Promise*.

Then choose the button to set up ATP checking rules. This opens the *ATP Checking Rule List*.

The default rule is AA.

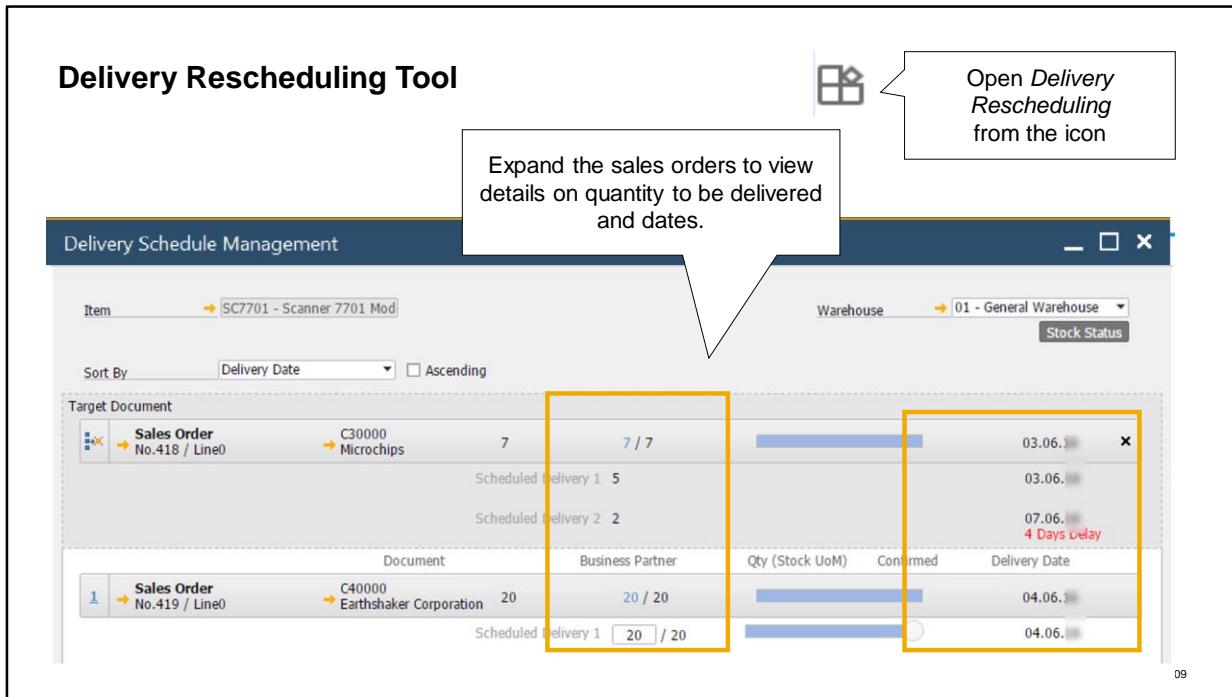
Additional checking rules can be created. Give it a name and then define rule details.

Checking rules can be assigned to item groups or specific items.

The rules allow you to say whether to include past planned receipts, whether to do an automatic check, and whether to display schedule line details and allow delivery for unconfirmed or delayed quantities.

You can also choose whether to allow multiple deliveries or not.

The assigned checking rule appears on the *Planning Data* tab for an item.



*Delivery Schedule Management* is a tool for rescheduling deliveries. You can open this tool from an icon on the tool bar or from the *Sales – A/R* menu.

In our business example, a very important customer absolutely needs the 7 scanners on time and will not take a substitute.

Only authorized users can reschedule deliveries. In our business example, the sales manager and the warehouse manager are the only employees with access.

After talking with the sales manager, the warehouse manager opens the *Delivery Schedule Management* tool to view all open orders for the item.

He checks to see if he can reschedule the committed quantity from a lower priority sales order to fulfill the important customer's urgent order.

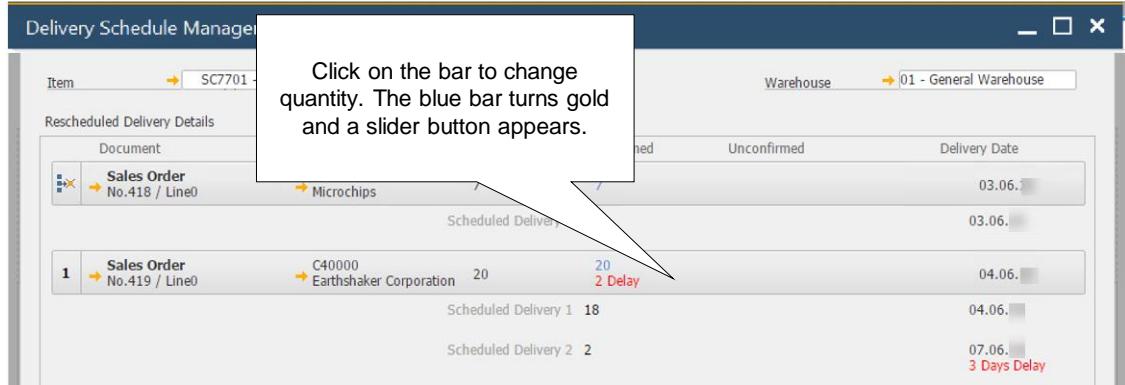
He has opened the *Delivery Schedule Management* window from inside the saved order by right-clicking on the row with the unconfirmed quantity. He can see all the open sales order rows for this item.

The other way to open the window is to use the *Delivery Schedule Management* icon on the tool bar then select the item.

Once the window is open, he can expand each sales order by clicking on the row to view the quantities to be delivered and the delivery dates.

Here we see the customer sales order is currently delayed by 4 days.

## Delivery Rescheduling - Move Quantities Between Orders



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To make inventory available, choose the sales order you wish to reduce, click on the blue bar.

The bar turns gold and a slider button appears.

Drag to the left to reduce the quantity.

Here we see the user reducing the quantity of the sales order by 2.

## Delivery Rescheduling – Confirm changes

The quantity moves from the one sales order to the other. If you like the result you can confirm the change.

The screenshot shows the SAP Delivery Schedule Management interface. At the top, it displays 'Item' SC7701 - Scanner 7701 and 'Warehouse' 01 - General Warehouse. A message box in the upper right corner states: 'The quantity moves from the one sales order to the other. If you like the result you can confirm the change.' Below this, the 'Rescheduled Delivery Details' table is shown:

Document	Business Partner	Qty (Stock UoM)	Confirmed	Unconfirmed	Delivery Date
Sales Order No.418 / Line0	C30000 Microchips	7	7		03.06.
		Scheduled Delivery 1 7			03.06.
1 Sales Order No.419 / Line0	C40000 Earthshaker Corporation	20	20 2 Delay		04.06.
		Scheduled Delivery 1 18			04.06.
		Scheduled Delivery 2 2			07.06. 3 Days Delay

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The quantity moves from one sales order to the other.  
You can see the full quantity is now available to be delivered on the first sales order.  
The lower priority second sales order is now delayed by 3 days.

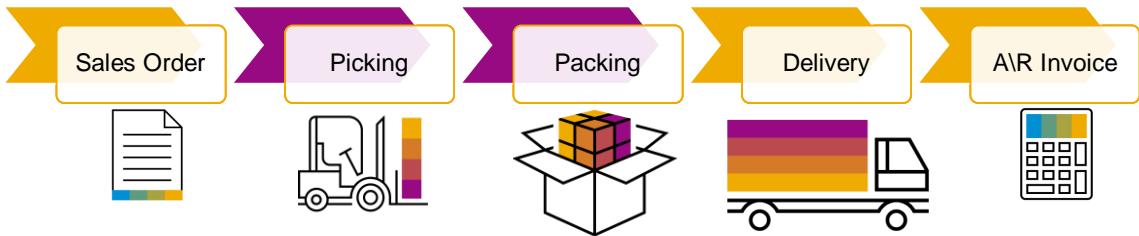
## Automating Process Steps – Pick and Pack



The Pick Pack and Production Manager allows you to more efficiently manage the warehouse processes of picking, packing and delivery.

- Now we take a high level look at the Pick Pack and Production Manager and how it can improve picking, packing and delivery.
- The Pick Pack and Production Manager topics for sales, inventory transfers and production are covered in detail in other course sessions.

## Advantages of the Pick Pack and Production Manager



- View multiple sales order rows
- Group items to be picked into pick lists for maximum efficiency.
- Packing for deliveries can be done centrally.
- Deliveries can be generated for all the picked and packed items.

- Pick Pack and Production Manager allows you to view multiple sales order rows and group them into pick lists for maximum efficiency.
- After picking, packing for deliveries can be done centrally.
- Then delivery documents can be generated for all the picked and packed items.
- In this way, you can more efficiently manage the logistics of picking and shipping sales orders.
- This course topic introduces you to the concepts behind the Pick Pack and Production Manager. For more details on this subject, see the three course topics that focus solely on Pick and Pack.

## Create Pick List

Open a drawer to view a screen with open items, released items (on pick lists) or picked Items

Picking

**Pick Pack and Production Manager**

Open   Released   Picked

Find Document Number:

#	Trans. T...	Doc. No.	BP Code	BP Name	Doc. Row	Delivery/...	Number	Description	UoM Code	UoM Name	Items per Unit	Whse	Open	Conf...	To Release	Avail. to R...	F...
1	<input type="checkbox"/> OR	550	C26000	River Ltd.	1	26.02.	I00013	SDHC 64 GB Ci Each		Each	1  05	8	8	8	1,100		
2	<input type="checkbox"/> OR	550	C26000	River Ltd.	2	26.02.	I00001	Portable Hard I Manual		Each	1  01	1	1	1	216		
3	<input type="checkbox"/> OR	569	C23900	Parameter Tec 1	23.04.		I00013	SDHC 64 GB Ci Each		Each	1  05	8	8	8	1,092		
4	<input type="checkbox"/> OR	569	C23900	Parameter Tec 2	23.04.		D00001	Portable Hard I Manual		Each	1  01	2	2	2	256		
5	<input type="checkbox"/> OR	615	C23900	Parameter Tec 1	13.07.		I00013	SDHC 64 GB Ci Each		Each	1  05	1	1	1	1,084		
6	<input type="checkbox"/> OR	615	C23900	Parameter Tec 2	13.07.		I00011	KG 4-Port USB Pack		Pack	12  01	10	5,157	5,157	5,157		
7	<input type="checkbox"/> OR	706	C26000	River Ltd.	1	05.12.	I00013	SDHC 64 GB Ci Each		Each	1  05	4	4	4	1,083		
8	<input type="checkbox"/> OR	706	C26000	River Ltd.	2	05.12.	LM4029	LeMon 4029 Pri Each		Each	1  01	7	7	7	1,042		
9	<input type="checkbox"/> OR	701	C50000	ADA Technic 1	12.12.		I00013	SDHC 64 GB Ci Each		Each	1  05	5	5	5	1,079		
10	<input type="checkbox"/> OR	701	C50000	ADA Technic 2	12.12.		A00002	I.B. Officeprint Manual		Each	1  01	7	7	7	479		
11	<input type="checkbox"/> OR	692	C99999	One Time Cust 1	20.12.		I00013	SDHC 64 GB Ci Each		Each	1  05	5	5	5	1,074		
12	<input type="checkbox"/> OR	692	C99999	One Time Cust 2	20.12.		C00012	Cabinet for exti Manual		Each	1  01	8	8	8	160		
13	<input type="checkbox"/> OR	936	C50000	ADA Technic 1	03.04.		C00003	Quadcore P4 2; Manual		Each	1  01	9	9	9	225		
14	<input type="checkbox"/> OR	936	C50000	ADA Technic 2	03.04.		I00013	SDHC 64 GB Ci Each		Each	1  05	6	6	6	1,069		
15	<input type="checkbox"/> OR	769	C70000	Aquent System 1	22.04.		I00013	SDHC 64 GB Ci Each		Each	1  05	4	4	4	1,063		
16	<input type="checkbox"/> OR	943	C30000	Microchips	08.05.		I00001	DVD+R Disc 10; Case		Case	100  01	10	3,2	.2	.2		

OK   Cancel

Open drawer displays rows from multiple sales orders.  
You can choose items to release to pick lists and print the lists for pickers.

- In our business example, the warehouse manager opens the Pick Pack and Production Manager.
- He sets the selection criteria to pull up all the upcoming deliveries for the week.
- The Pick Pack and Production Manager displays 3 drawers: *Open* for items that are not yet on a pick list, *Released* for items that have been released to a pick list and *Picked* for all the items already picked.
- In the *Open* drawer, he sees this sales order's rows and the rows of many other sales orders.
- He chooses the items to release to the pick list and prints our pick lists for all the pickers in the warehouse.

## Create Pick List

Pick Pack and Production Manager

Picking

#	Trans. T...	Doc. No.	BP Code	BP Name	Doc. Row	Delivery/...	▲ Number	Description	UoM Code	UoM Name	Items per Unit	Whse	Open	Conf...	To Release	Avail. to
1	✓ OR	550	C26000	River Ltd.	1	26.02.	100013	SDHC 64 GB Cl Each	Eac		1 □ 05	6	8	8	1,084	
2	✓ OR	550	C26000	River Ltd.	2	26.02.	100001	Portable Hard C Manual	Eac		1 □ 01	1	1	1	21	
3	✓ OR	569	C23900	Parameter Tec 1	23.04.		100013	SDHC 64 GB Cl Each	Eac		1 □ 05	6	8	8	1,092	
4	✓ OR	569	C23900	Parameter Tec 2	23.04.		100002	Portable Hard C Manual	Eac		1 □ 01	2	2	2	256	
5	✓ OR	615	C23900	Parameter Tec 1	13.07.		100013	SDHC 64 GB Cl Each	Eac		1 □ 05	1	1	1	1,084	
6	✓ OR	615	C23900	Parameter Tec 2	13.07.		100002	KG 4-Port USB Pack	Pack		12 □ 01	10	5,167	5,167		
7	✓ OR	706	C26000	River Ltd.	1	05.12.	100013	SDHC 64 GB Cl Each	Eac		1 □ 05	4	4	4	1,083	
8	✓ OR	706	C26000	River Ltd.	2	05.12.	100003	LM44029 LeMon 4029 Pri Each	Eac		1 □ 01	7	7	7	1,042	
9	✓ OR	701	C50000	ADA Technic 1	12.12.		100013	SDHC 64 GB Cl Each	Eac		1 □ 05	5	5	5	1,079	
10	✓ OR	701	C50000	ADA Technic 2	12.12.		100002	J.B. Officeprint Manual	Eac		1 □ 01	7	7	7	479	
11	✓ OR	692	C99999	One Time Cust 1	20.12.		100013	SDHC 64 GB Cl Each	Eac		1 □ 05	5	5	5	1,074	
12	✓ OR	692	C99999	One Time Cust 2	20.12.		100012	Cabinet for exts Manual	Eac		1 □ 01	8	8	8	160	
13	✓ OR	936	C50000	ADA Technic 1	03.04.		100003	Quadcore P4 2. Manual	Eac		1 □ 01	9	9	9	225	
14	✓ OR	936	C50000	ADA Technic 2	03.04.		100013	SDHC 64 GB Cl Each	Eac		1 □ 05	6	6	6	1,069	
15	✓ OR	769	C70000	Aquent Syster 1	22.04.		100013	SDHC 64 GB Cl Each	Eac		1 □ 05	4	4	4	1,063	
16	✓ OR	943	C30000	Microchips 1	08.05.		100001	DVD+R Disc 10- Case	Case		100 □ 01	10	3,2	.2	.2	

OK Cancel Release to Pick List Create

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- In our business example, the warehouse manager opens the Pick Pack and Production Manager.
- He sets the selection criteria to pull up all the upcoming deliveries for the week.
- The Pick Pack and Production Manager displays 3 drawers: *Open* for items that are not yet on a pick list, *Released* for items that have been released to a pick list and *Picked* for all the items already picked.
- In the *Open* drawer, he sees this sales order's rows and the rows of many other sales orders.
- He chooses the items to release to the pick list and prints our pick lists for all the pickers in the warehouse.

## Pick List Generation Wizard

Pick List Generation Wizard gives you options for how to split your pick lists for optimal picking.

- By business partner
- By document type
- By document
- By item group
- By warehouse

The screenshot shows the 'Pick List Generation Wizard' window. At the top, it says 'Pick List Details' and 'Specify the details for the pick lists that you want to generate.' Below is a table with columns: #, Pick No., Pick Date, User, Picker, Remarks, Item Group, Warehouse, No. of Items, No. of Picks, and Total Released Qty. The table contains four rows of data. To the right of the table is a graphic of a forklift truck with a yellow bar above it. To the right of the bar is a purple arrow pointing right containing the word 'Picking'.

#	Pick No.	Pick Date	User	Picker	Remarks	Item Group	Warehouse	No. of Items	No. of Picks	Total Released Qty
1	1	02.03.2024	Wilson Perez	Hunter O'Rear		J.B. Printers	01	3	6	45
2	2	02.03.2024	Wilson Perez	Wilson Perez		Rainbow Printers	01	1	1	3
3	3	02.03.2024	Wilson Perez	Mary Heske		Items	01	7	8	14
4	4	02.03.2024	Wilson Perez	Wilson Perez		PCs	01	1	1	9

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When items are released to a pick list, the Pick List Generation wizard opens.

The wizard gives you options for how to split your pick lists for optimal picking.

You can split pick lists by business partner, document type, individual document, item group, item or warehouse.

In this warehouse, items are mostly organized by item groups so the warehouse manager chooses item groups for organizing the pick lists.

## Pick, Pack and Create Delivery



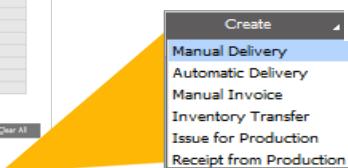
**Pick List**

Pick Number	4	Remarks										
Pick Date	02.03.11											
User	Wilson Perez											
Picker	Mary Heike											
Status	Picked											
#	Trans. T...	Doc. No.	BP Code	Delivery/Due...	Number	Description	UoM Name	Whse	Ordered	Released	Picked	Avail. to ...
1	OR	1233	C23900	02.03.	C00009	Keyboard Comfort USB	Each	01	1	1	212	
2	OR	1233	C30000	02.03.	C00001	Motherboard P4 Turbo	Each	01	1	1	620	
3	OR	1233	C30000	02.03.	C00002	Motherboard P4 Turbo - Asus Cr	Each	01	1	1	516	
4	OR	1233	C30000	02.03.	C00003	Processor Quad Core i4 2.4 GHz	Each	01	1	1	224	
5	OR	1233	C30000	02.03.	C00004	Power supply	Each	01	5	5	247	
6	OR	1233	C30000	02.03.	C00005	Network Card10/100	Each	01	1	1	179	
7	OR	1233	C30000	02.03.	C00009	Keyboard Comfort USB	Each	01	1	1	212	
8	OR	1233	C30000	02.03.	C00010	Mouse USB	Each	01	3	3	811	

OK Cancel Create Disc All Clear All

### Pickers:

- Use a printout of the pick list to find items
- Prepare shipments in the packing area
- Update the pick list with quantities picked
- Generate deliveries from the pick list



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- The pickers use a printout of the pick list to find all the items.
- They prepare the shipments in the packing area.
- They update the pick list with information on what was picked.
- Then they generate deliveries from the pick list.
- When each delivery is posted the committed quantity is reduced for the sales order when the stock quantity is issued for the delivery.
- The deliveries are loaded on trucks to ship them to the customers.

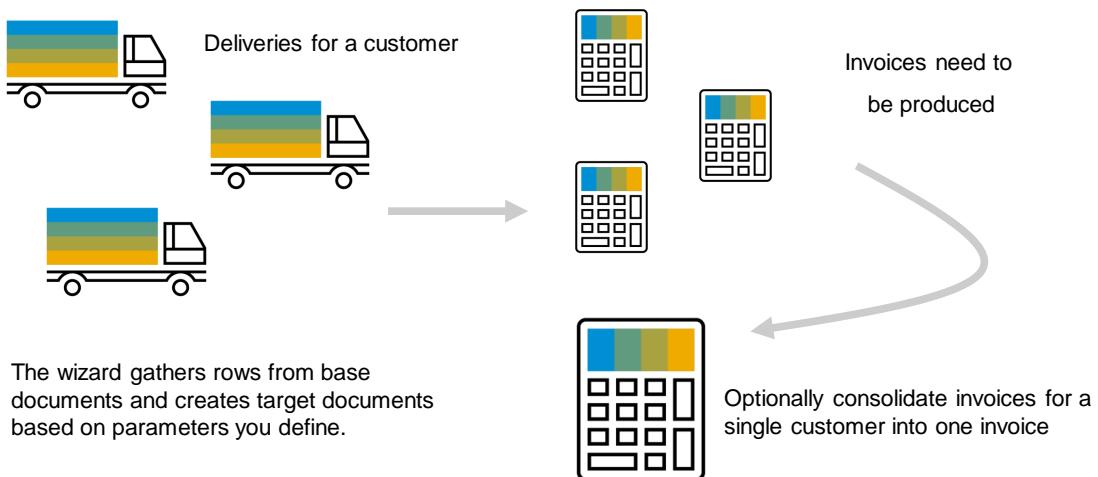
## Automating Process Steps – Document Generation Wizard



- A company will typically generate a number of invoices at one time in a batch.
- Document Generation Wizard is a tool to run a batch of documents at one time.

- A company will typically generate a number of invoices at one time in a batch.
- The Document Generation Wizard is a tool to run a batch of documents at one time.

## Document Generation Wizard



- The wizard follows a simple process used for gathering rows from base documents to target documents, based on several user-defined parameters. Examples of the parameters that exist are target document type, posting date, document date, items or service and many more.
- This wizard can be used for example, to produce a summarized A/R Invoice for a customer, containing all delivery notes that were created for the customer over the past week. It is a simple yet effective method of summarizing data to reduce data input. All deliveries for an individual customer can be consolidated into one invoice or set to create separate invoices.

## Business Example: Generating invoices

The screenshot shows the SAP Document Generation Wizard. On the left, the 'Target Document' step is displayed, where the user has selected 'A/R Invoice' as the target document type. The 'Posting Date' is set to '03.06.', 'Document Date' to '03.06.', and 'Series' to 'Primary'. Under 'Items' and 'Service', checkboxes are checked. A yellow arrow points from this screen to a detailed view of an A/R Invoice on the right.

**A/R Invoice**

Customer	Name	No.	Status
C20000	Max-Tec	365	Open

**A/R Invoice**

Customer	Name	No.	Status
C30000	Microchips	366	Open

**Contents**

Item/Service Type	Item	Summary Type
# Base Document	Sales Employee	By Documents
1 396	Bill Levine	No Summary
2 398		By Items

**Sales Employee Owner**

Sales Employee	Owner
Bill Levine	

**Remarks**

Total Before Discount: GBP 3,357.90  
 Discount: %  
 Total Down Payment: GBP 575.88  
 Freight: GBP 3,333.76  
 Rounding: GBP 3,333.76  
 Tax: GBP 3,333.76  
 Total: GBP 3,333.76  
 Applied Amount: GBP 3,333.76  
 Balance Due: GBP 3,333.76

**Based On Sales Orders 414, 415, 416, Based On Deliveries 399.**

Cancel < Back OK Update Cancel Close Form Close Tab

At the end of the day, the document generation wizard generates consolidated invoices for the recent customer deliveries.

In our case the billing department created a parameter set for creating invoices that they use each week to do the batch job of creating invoices.

The document run creates invoices with summary rows by delivery note.

They have specified what criteria they use regularly to consolidate invoices and how to handle issues automatically as they arise.

## Summary



Here are some key points:

- An automatic availability check is done for sales orders. A window appears when the row quantity of an item exceeds available quantity.
- Available quantity is equal to the *in stock* quantity plus the *order* quantity minus the *committed* quantity. Committed quantity is increased by sales orders. Both *committed* and *in stock* quantities reduce at delivery.
- There are two options for availability checking: standard availability check or advanced ATP. Advanced ATP is only available on the SAP HANA database.
- Advanced ATP confirms quantities, creates delivery schedule detail lines and allows delivery rescheduling for demand documents.
- Pick Pack and Production Manager coordinates picking activities and can automate delivery creation.
- The Document Generation wizard does batch processing of sales documents.

Here are some key points:

- An automatic availability check is done for sales orders as long as you have selected the configuration option.
- Available quantity is equal to the *in stock* quantity plus the *order* quantity minus the *committed* quantity.
- An availability check window appears when the sales order row quantity of an item exceeds available quantity minus the minimum inventory level on the delivery date. You also have the ability to do a manual availability check as needed.
- Two options exist for availability checking: the standard availability check or the advance availability to promise. Advanced ATP is only availability when you run SAP Business One on the SAP HANA database.
- The standard check gives you options to change item quantity, change delivery dates, view an ATP report, check other warehouses, choose alternate items, delete the item row or ignore the message. Advanced ATP gives additional functionality. Advanced ATP confirms quantities, creates delivery schedule detail lines and allows delivery rescheduling for demand documents.
- Committed quantity is increased by sales orders and reduced when the item is delivered. Delivery also reduces *in-stock* quantity.
- Pick Pack and Production Manager coordinates picking and packing activities and can automate delivery creations.
- The Document Generation Wizard performs batch processing of sales documents. For example, it can be automate invoice processing.



## Sales - A/R: Returns and Exchanges

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Welcome to the topic on handling returns and exchanges in the sales process.

## Objectives



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

- Describe the options for handling issues that arise from deliveries
  - Returns
  - Redeliveries
  - Exchanges
- Create a Return Request to provide return material authorization for a damaged item
- Copy the Return Request to a Return to bring the item back into stock and give a credit to the customer

- In this topic, we will explore how to handle issues that arise from deliveries. We will process returned items, redeliver items, and see how we can use negative rows in a sales documents to handle partial credits and exchanges.

## Business Scenario



- To increase customer satisfaction, the company has a liberal policy for returning items for replacement, exchange, or credit.
- When problems arise from the delivery, a Return document is used to give credit or to provide an option for redelivery from the original sales order.
- A Return Request can be used to provide a customer with authorization for returning an item and to document the reason for return.
- Sometimes the customer wants to return an item to exchange it for a different item. In those cases, the option for negative rows on a sales document can be used to return an item and exchange it for another.

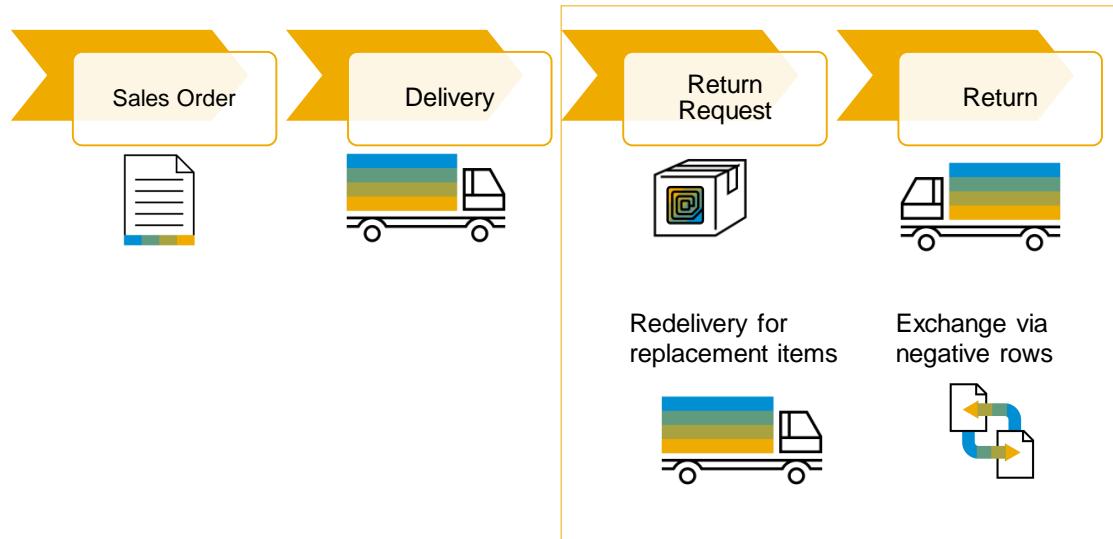
To increase customer satisfaction, the company has a liberal policy for returning items for replacement, exchange, or credit.

When problems arise from the delivery, a Return document is used to give credit or to provide an option for redelivery from the original sales order.

An optional document, a Return Request, can be used to provide a customer with authorization for returning an item.

Sometimes the customer wants to return an item to exchange it for a different item. In those cases, the option for negative rows on a sales document can be used to return an item and exchange it for another

## Options for correcting delivery issues



Once a delivery has been made, there are several options open for how to solve the customer's issues. The first option is a Return Request. This document allows you to record the customer's reason for the return and to provide them authorization to return the item.

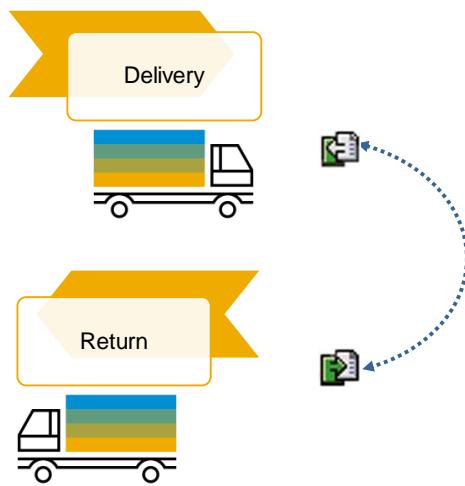
When the item is received you can create a Return. This brings the item into stock and credits the customer for the purchase.

If a customer wants a replacement item, there are two ways you can handle this. Either by creating a new delivery from the original sales order or by adding a negative row to send out a replacement on the Return.

Let's look at these options in more detail.

## Return

- A Return allows you to reverse the effects of a Delivery
  - Partially
  - Fully
- When you reference the original delivery, the Return reverses the stock transaction
- If an A/R Invoice exists, you cannot use a Return.



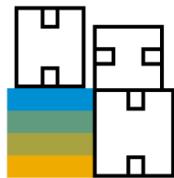
Since the Return Request is optional, let's first look at the Return document.

If a delivery is damaged or of poor quality, the customer returns the items to you. A Return allows you to reverse the effects of a delivery, either partially or fully. When you create the Return with reference to the delivery note, the system adds a reversed stock transaction to return the item to inventory.

Why would you need to use a return? For legal reasons, you cannot change or delete deliveries and customer invoices that have already been entered in the system. To correct these, you need to use a clearing document such as a Return or an A/R credit memo document.

If a delivery is returned before you create the A/R invoice for the customer, you can post the return delivery in the system. If an A/R invoice exists, you cannot use a Return.

## Effect of a Return



Cost Account	Sales Return
50	50

**Warehouse**  
(Quantity)



**General Ledger**  
(Value)



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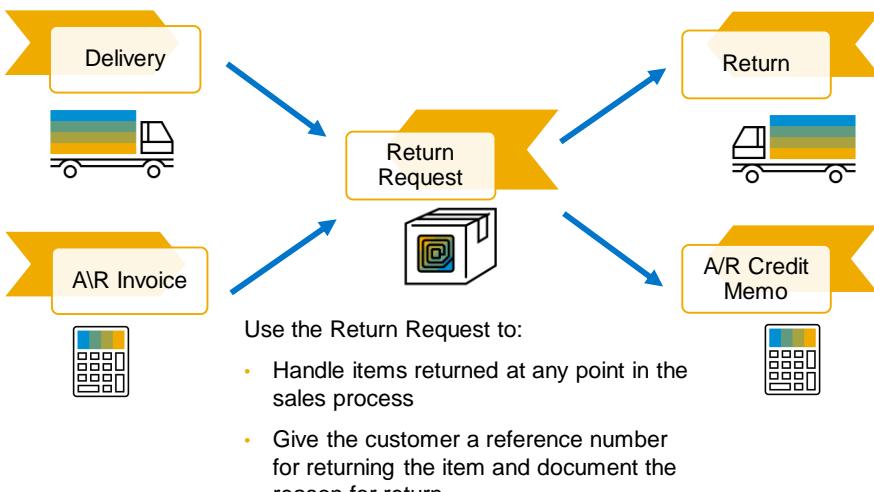
When you add a return document, the return document increases the quantity in the warehouse by the quantity of the returned item.

The system also creates a journal entry that posts the value of the returned goods to the debit side of a sales returns account and to the credit side of the cost account.

The value of the returned goods is not posted back to the original stock account in order to keep it separate from the value of the undamaged goods. The sales returns account and the cost account are retrieved from the Sales Returns field and the Cost Account field on the Inventory tab of the item master record.

- Here is a tip: If you also want to manage the inventory of the damaged goods separately from the undamaged goods, you should define a special warehouse for the damaged goods and enter this warehouse in the return document.

## Return Request



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Although the Return Request is an optional document, it can be very useful in managing returns. It allows you to track a customer's request to return and items. Another huge advantage of this document is that you can handle items returned at any point in the sales process because it can be created by copying from either a Delivery or an A/R Invoice.

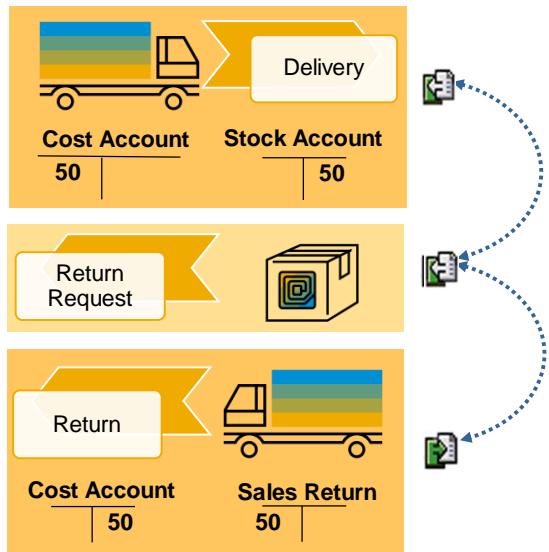
When the customer contacts you requesting to return an item, you can use the Return Request document number as a reference number that authorizes the return. Often these numbers are called Return Material Request (RMA) numbers.

You can enter the reason for the return.

It might be in your business process that once you document the request for the return, you send out a box with prepaid postage for the customer to return the item or you may request that they print the return request document and include it with their returned item.

## Return Material Authorization (RMA) Example

- We ship the customer a quantity of 5 keyboards
- The delivery creates a journal entry for the decrease in inventory value and the cost of goods sold.
- The customer asks to return the 5 keyboards. We copy the Delivery to a Return Request.
- The customer sends the item and references the Return Request (RMA) number
- When the item arrives, we create a Return from the Return Request.
- A journal entry is automatically created to record:
  - Credit to the cost account for the full amount
  - Debit to the sales returns account



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Here is an example of a Return Material Authorization that uses a Return Request and a Return. We shipped the customer a quantity of 5 keyboards. Because we were using perpetual inventory, the delivery created a journal entry for a credit to the stock account for the decrease in inventory value and a debit to the cost account to record the cost of goods sold.

The customer asked to return the 5 keyboards. We copied the Delivery to a Return Request.

The customer sends the item and references the RMA number. When we use Copy to in the Return Request, a Return is automatically created.

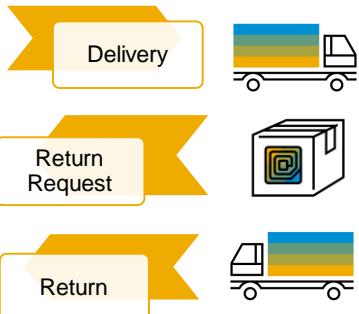
When the return is processed, a journal entry is created to record:

- a credit to the cost account for the full amount
- a debit to the sales returns account

Note that some customers use the regular stock account for returns rather than a sales returns account because they do not need to separate returned items from the general stock. Some customers may use a separate warehouse or bin for returned items, the warehouse or bin location can be specified on the row of Return Request.

## Inventory Effect for Return Request and Returns

Before the delivery, 20 keyboards were in stock.



	In Stock	Committed	Ordered	Available
Delivery	15			15
Return Request	15		5	20
Return	20	*		20*

\* If there were a preceding sales order and the setting allowed redelivery, a quantity of 5 would be added to the Committed column and the Available quantity would be reduced by 5.

Let's look at an example of a delivery (without a preceding sales order) for the five keyboards.

Prior to the delivery we had 20 in stock.

Once the delivery for 5 keyboards was made we have 15 in stock and 15 available.

When the Return Request is added, 5 keyboards are added to Ordered and to the Available stock. The Return Request does not have any effect on accounting.

When the Return Request is copied to a Return, the 5 keyboards are returned to stock and a posting is made that reverses the delivery posting.

If there had been a preceding sales order and the setting was made to allow redelivery, a quantity of 5 would have been added to the Committed column and the Available column would have been reduced by 5.

## Redelivery

- 
- A redelivery can be created for a sales order after items are returned.
  - Option exists to reopen a sales order.
  - The open quantity of an item is increased by the returned quantity in sales order.
  - The option to allow redelivery can be chosen by a user or set to occur automatically.
  - Redelivery reduces the need for duplicate orders.
  - Subsequent deliveries are easier and more transparent.

A redelivery can be created from a sales order after items are returned.

An option exists to reopen the original sales order. The open quantity of an item is increased in sales order according the quantity in the return document.

The option to allow redelivery can be chosen by a user or set to occur automatically.

One advantage is that redelivery reduces the need for duplicate orders.

Another advantage is that subsequent deliveries are easier and more transparent. You can view the connection between the documents in the relationship map.

The same functionality exists on the purchasing side for purchase orders and goods receipt POs.

When you create a goods return, the purchase order can be reopened to receive replacement items on a goods receipt PO.

## Redelivery Example



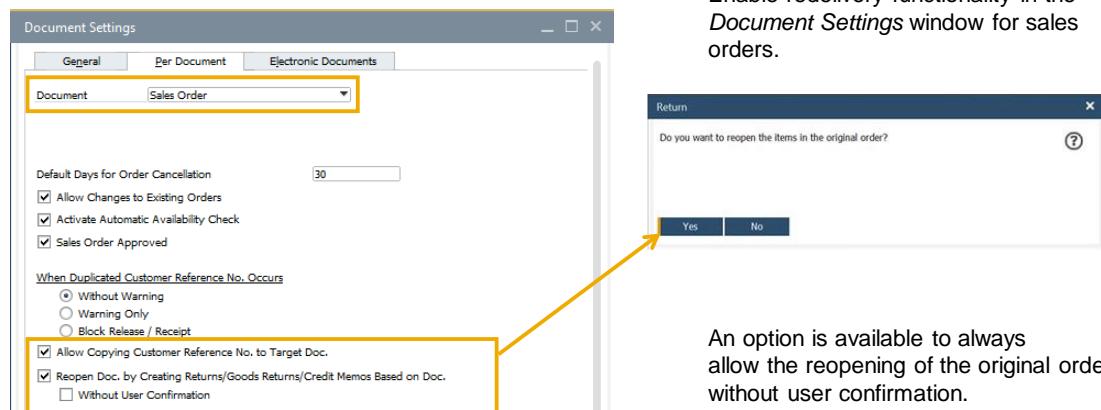
Let us look at a business example for redelivery.

The customer has ordered 10 laptops. The sales order was copied to a delivery for the 10 laptops. When the delivery was saved, the sales order was automatically closed. Since all 10 were delivered there is no open quantity on the sales order.

There was problem with 3 of the laptops. The delivery was referenced to create a Return for a quantity of 3. The user chooses to reopen the sales order so that the quantity of 3 can be redelivered.

A subsequent delivery is created from the original sales order. The open quantity of 3 is delivered, so the sales order is automatically closed and the open quantity on the sales order returns to 0.

## Prerequisites for Redelivery



Enable redelivery functionality in the *Document Settings* window for sales orders.

An option is available to always allow the reopening of the original order without user confirmation.

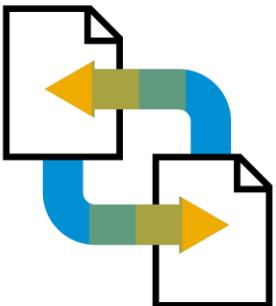
To offer users the option of redelivery, the setting must be made in advance.

You can enable the redelivery functionality in the Document Settings window for sales orders.

Once you have selected that option, you have an additional option to always allow the reopening of items in the original order without user confirmation. If this is chosen, then the sales order is always reopened. If left unchecked, a box will appear as the return is saved to ask if the user would like to reopen the items in the original order.

This same setting is also available for the Purchase Order.

## Exchanges by negative rows



- Make corrections directly in a marketing document without a credit memo
- Negative rows can be added to marketing documents in both sales and purchasing.
- Example: customers can get a credit for sending back packaging while ordering more items.

Negative rows allow you to give credits directly on sales or purchasing documents.

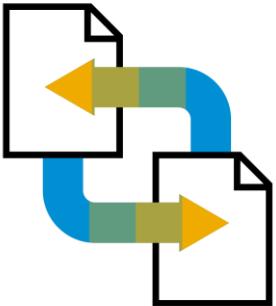
Using negative rows you can make corrections directly in a marketing document such as a delivery or invoice without using a separate return or credit memo.

Negative rows can be added to sales and purchasing documents. Some of the most useful sales documents for using this feature in are: Returns, Deliveries, A/R Invoices, and A/R credit memos. On most sales documents, like a delivery or A/R invoice, the negative row is a credit. However a negative row added to a Return or an A/R credit memo will actually be a debit line which charges the customer rather than credits the customer. That is because a positive total on a correction document indicates a credit; therefore a negative amount on any correction document will indicate that the customer owes us.

Another reason to use a negative row is to give a customer credit for sending back packaging while they are ordering more items.

In most localizations, you can have a document with a negative amount. This can be useful in case the amount on the credit rows exceeds the amount on the debit rows in a Return or A/R Credit Memo.

## Exchange example



- The customer orders 5 batteries
- The customer discovers the batteries are not the correct kind
- The customer wants to exchange batteries
- Create a delivery to ship out the correct batteries
- Add a negative row to return the incorrect batteries

In our business example, our customer has ordered 5 batteries.

The customer quickly realizes that the batteries are the wrong kind.

The customer would like to exchange the incorrect batteries for the correct batteries.

We can create a sales document, such as a delivery or an A/R invoice to ship out the correct batteries

The same document can include a negative row (or credit row) to receive the returned batteries into stock and credit the customer.

## Summary of options for returns and credits in sales

Issues	Suggested Solutions
Incorrect entry of Delivery	Cancel Delivery Sales Order reopens to create new Delivery
Need to return item(s) received on a Delivery but not yet invoiced	Copy item(s) from Delivery to a Return Request Then copy to Return
Need to return or credit item(s) invoiced on an A/R Invoice but yet not paid	Copy item(s) to a Return Request Then copy to an A/R Credit Memo If no stock movement is desired use <i>Without Qty posting</i>
Need to return items that have already been invoiced and paid or need to credit items from multiple A/R invoices	Create A/R Credit Memo without reference If no stock movement is desired use <i>Without Qty posting</i>
Want to have credit lines in a delivery or invoice	Use negative rows

Here's a summary of options for returns and exchanges in sales. The summary includes options for crediting A/R invoices that are covered in more detail in the top for A/R Credit Memos.

- For incorrect entry of a Delivery, you can cancel the document. The related sales order will reopen so you can create a new Delivery. The same is true if you incorrectly enter an invoice, you can cancel and reissue the invoice from the Delivery.
- If you need to return item(s) received on a Delivery that is not yet invoiced, it is useful to copy to a Return Request. The system will automatically suggest copying to a Return.
- If you need to return item(s) that have been invoiced but not yet paid, it is useful to copy to a Return Request. The system will automatically suggest copying to an A/R Credit Memo.
- Once an invoice has been paid, you can no longer reference it to create a Return Request or A/R Credit Memo. Similarly, you cannot copy from multiple invoices to create a credit memo.
- If you want to include credit rows in a Delivery or A/R invoice, use negative rows.

## Summary



Here are some key points:

- A Return Request can be used to begin the process of handling customer returns. Create the return request from either a delivery or an A/R invoice. When you use *Copy to*, the system will automatically choose the correct document for giving a credit and returning the item to inventory.
- The Return document is used to process items returned from a customer after a delivery. It allows you to reverse the stock postings and any related accounting postings of a delivery either partially or fully.
- An option exists to reopen the related sales order for redelivery when posting returns. Configuration for this option is set in document settings for the sales order.
- Another option for correcting deliveries and managing exchanges is negative rows. Negative rows are available in marketing documents in both sales and purchasing.

A Return Request can be used to begin the process of handling customer returns. Create the return request from either a delivery or an A/R invoice. When you use *Copy to*, the system will automatically choose the correct document for giving a credit and returning the item to inventory. The Return document is used to process items returned from a customer after a delivery. A Return document allows you to reverse the stock postings and any related accounting postings of a delivery either partially or fully.

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Configuration for this option is set in document settings for the sales order.

Another option for correcting deliveries and managing exchanges is negative rows. Negative rows are available in marketing documents in both sales and purchasing.

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## Sales - A/R: A/R Credit Memos

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Welcome to the topic on A/R credit memos.

## Objectives



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

- Correct issues that occur after an A/R invoice has been created.

- In this topic we will discuss how to correct issues that occur after an A/R invoice has been created. We will see how to create A/R Credit Memos and how to cancel an A/R invoice.

## Business Scenario



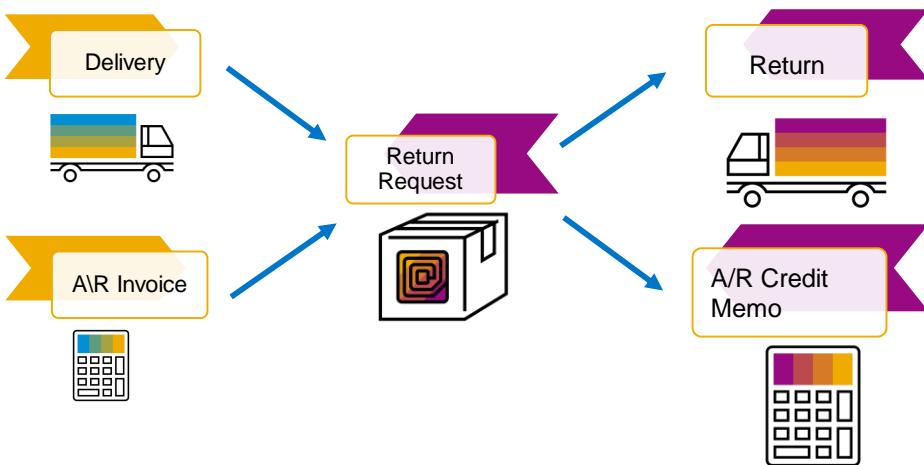
- As part of the initiative to improve customer satisfaction, the company has begun studying how to best correct issues that occur after invoicing.
- The key document for correcting invoicing issues is the A/R Credit Memo. A/R credit memos are used to correct problems with invoice pricing as well as to allow items to be returned for credit.
- Another tool for correcting issues is the ability to cancel a marketing document. The company uses this option when incorrect invoices are created.

As part of the initiative to improve customer satisfaction, the company has begun studying how to best correct issues that occur after invoicing.

The key document for correcting invoicing issues is the A/R Credit Memo. A/R credit memos are used to correct problems with invoice pricing as well as to allow items to be returned for credit.

Another tool for correcting issues is the ability to cancel a marketing document. The company uses this option when incorrect A/R invoices are created.

## Correction Documents



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The two main correction documents for the sales process are the Return document and the A/R Credit Memo. In this topic we focus on the A/R credit memo. The A/R Credit Memo (or credit note) is the document used to process returned items or to give a pricing credit, once an A/R invoice has been issued.

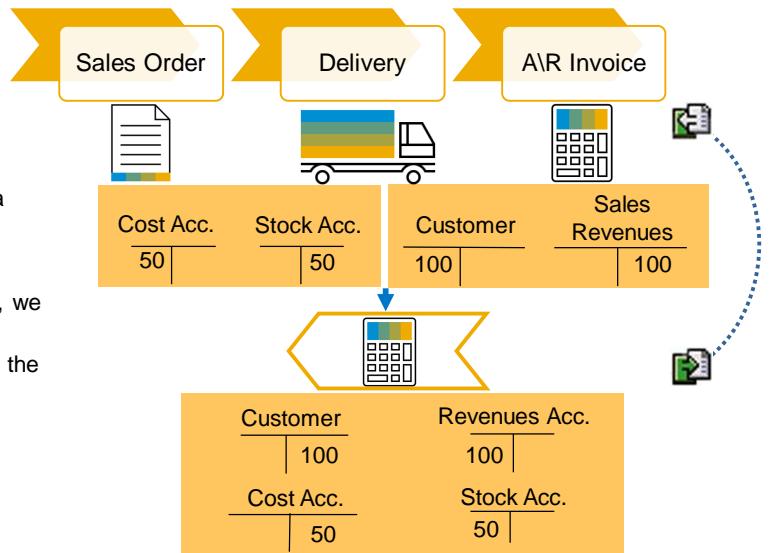
Returns cannot be used for correcting issues arising from A/R invoices. They are only used for correcting issues arising in Delivery.

One advantage of using the Return Request document is that users can use this document for issues arising from both deliveries and A/R invoices. The system will automatically determine the appropriate correction document to follow the Return Request.

An additional option for correcting issues after a customer is billed is to cancel an invoice and reissue it.

## Credit Memo Example

- The customer returns a camera
- The original cost is 50
- The invoiced price is 100
- Since the camera was invoiced, we use a credit memo
- The credit memo reverses both the invoice and the delivery



In our business example, the customer is disappointed in the performance of the camera they ordered. So they have decided to return the camera.

Our item cost for the camera was 50.

The camera was invoiced at the price of 100.

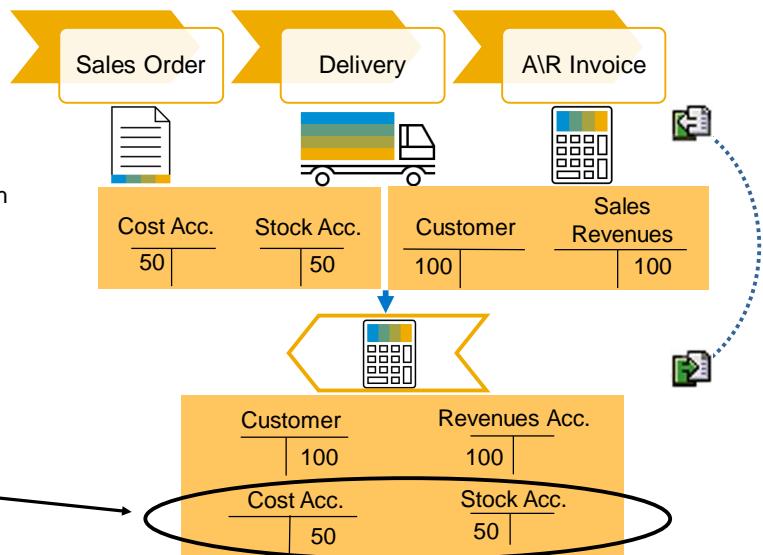
Since the camera had already been invoiced, we had to use a credit memo to process the return.

The A/R credit memo reverses both the invoice posting and the delivery posting.

## Credit Memo

When you create an A/R credit memo with reference to the invoice, the system corrects both quantities and values.

- Increases the stocks of credited items
- Credits the value to the customer account and corrects revenue
- Increases the stock account and decreases the cost account for item-type documents



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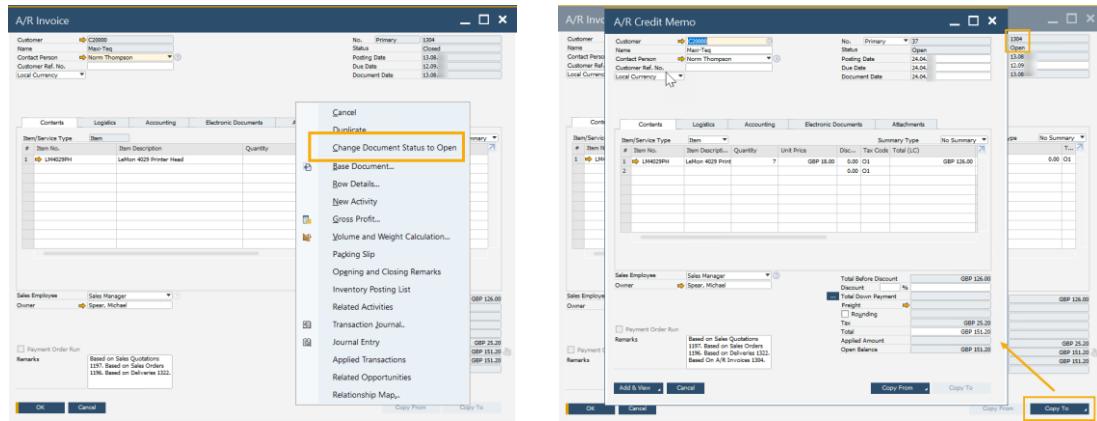
An A/R credit memo (also called a credit note) reverses either partially or fully the journal entry created by an A/R invoice.

When you create an A/R credit memo with reference to the A/R invoice, the system corrects both the quantities and values in the A/R invoice.

- The system increases the stocks of the credited items.
- The system credits the credit memo value to the customer's account in the general ledger and corrects the revenue by the same amount

If the credit memo is an item-type credit memo with rows for inventory items, then the journal entry for the credit memo will also increase the stock account and decrease the cost account.

## Credit Memo from Closed (Paid) AR Invoice



In the event that an AR Invoice has already been paid, you must first right click and Change Document Status to Open before you can Copy To a Credit Memo or to a return Request

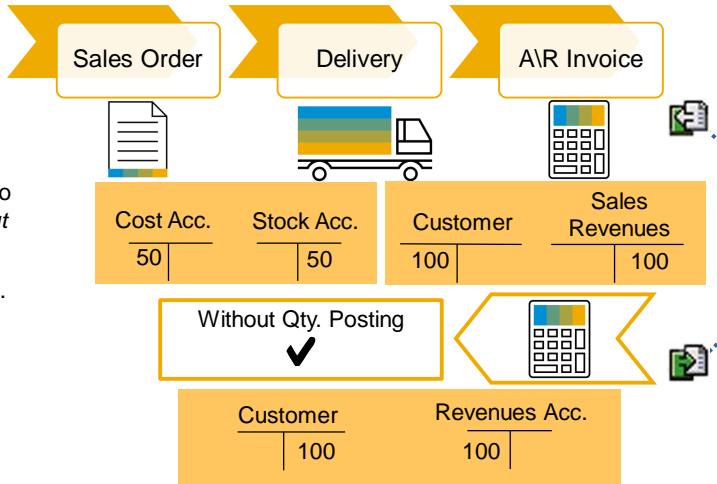
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In certain cases you may find that a Customer has fully paid an AR Invoice before Returning the Item(s) for credit. In such cases, you must first change the document status of the AR Invoice from Closed to Open. Do this through right click and Selection of the option to Change Document Status to Open. Once you select Update the Document will be reverted to Open status. A refresh of the document will allow a Copy To Credit Memo to be effected.

## Credit without Return to Stock

- If you wish to give a credit without a goods movement:
  - Create an item-type credit memo and select the checkbox *Without Qty Posting*, or
  - Use a service-type credit memo.
- Advantage of the first option: item-type credit memos can be copied from item-type invoices



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As we just saw, an item-type credit memo normally returns items to stock as well as gives a credit for the items.

If you wish to give a credit, but not create a goods movement, you have two choices.

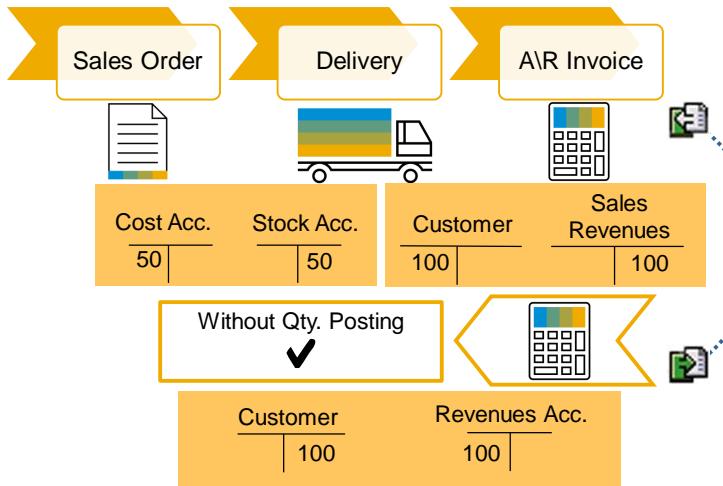
You can create an item-type credit memo and select the checkbox Without Qty posting on the item row, or you can use a service-type credit memo.

The advantage using an item-type credit memo and the Without Qty posting checkbox is that an item-type credit memo can be copied from an item-type A/R invoice. Only an item-type credit memo, can you list the item numbers.

Neither of these are possible with a service-type credit memo. Therefore, the service-type credit memo is best used for crediting services or for circumstances where you do not wish to reference the invoice as a base document.

## Credit without Return to Stock Example

- A customer's camera breaks.
- We do not require he return the item to receive credit.
- The original cost is 50
- The invoiced price is 100
- We reference the original invoice and create a credit memo without a quantity posting.
- The credit memo reverses only the invoice.



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Let us look at an example of creating an item-type credit memo without a quantity posting to inventory. In this case, a customer's camera breaks. Unlike our last example, we do not require the customer returns the item to receive credit.

As before, the original cost is 50 and the invoiced price is 100.

We once again reference the original invoice and create an item-type credit memo. However, this time we select the checkbox "Without Qty Posting".

The customer receives full credit for the item and no stock postings are made.

## Credit Memo without Reference

- For returned items that do not reference an invoice, create a credit memo without referencing a preceding document.
- If the credit memo is for inventory items, then the stock and stock value increase as a result.



Customer	Revenues Acc.
100	100
Cost Acc.	Stock Acc.
50	50

**General Ledger**  
(Value)



**Warehouse**  
(Quantity)



When a customer returns items that do not refer to a specific invoice, you can post this quantity directly to the warehouse without referencing a preceding document.

If the credit memo is for inventory items, then the stock and stock value increase as a result.

## Credit Memo without Reference

- If you do not wish to reverse the stock posting and cost postings, use the checkbox “Without Qty Posting”
- Then the posting is only to revenue and customer accounts



Without Qty. Posting

Customer	Revenues Acc.
100	100



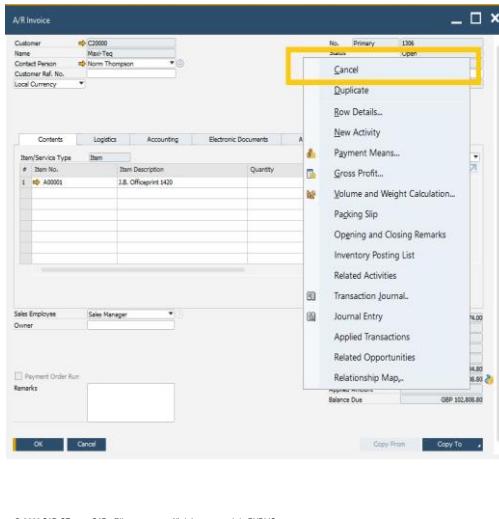
**General Ledger**  
(Value)



If you do not wish to reverse the stock posting and cost postings, you once again have the option to use the checkbox “Without Qty Posting” to eliminate the goods movement.

Then the only posting is to reverse the postings to revenue and customer accounts.

## Cancellation



When you cancel an invoice...

### New Cancellation Reversal Posting is created

Document status is set to *Closed - Cancellation*

### Original A/R invoice posting remains

Document status is updated to *Cancelled*

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Sometimes it is not appropriate to create a credit memo, instead you prefer to cancel the original document.

Business One gives you the ability to cancel marketing documents such as an incorrect invoice. When you cancel a marketing document, a new 'cancellation' document is created with a reversal posting including quantities and its status is set to Closed – Cancellation. The original A/R invoice posting remains and the status is updated to Cancelled. Both the reversing and reversed documents are closed automatically and fully reconciled.

Canceling a document saves time because any relevant accounting, fiscal, financial and inventory transactions are completely reversed in one step.

Base documents, such as a delivery, are re-opened after cancellation, and can be used as a base document again.

Reporting is available for cancelled documents, since the original posting remains in the system along with the cancellation.

You have the flexibility to set a maximum number of days for allowing cancellation after documents are posted, and relevant authorizations support this process.

## Cancellation Example

1. A customer was invoiced before all items on the sales order were delivered.



2. The invoice is canceled. The cancellation creates an invoice with reversed amounts.



3. The original delivery reopens. A second delivery is made. Customer can be invoiced for full sales quantity.



A customer was invoiced before all items on the sales order were delivered.

The customer had asked that they not be invoiced until the full order was received.

The customer had ordered several items on a sales order which were partially delivered. When these items were invoiced the delivery document status was Closed and the open quantity on the delivery was 0.

To resolve the customer's complaint, the invoice is canceled. The cancellation creates an A/R invoice with reversed amounts.

The original delivery reopens. A second delivery is made.

Now because the full quantity is sent to the customer, the customer can be invoiced for the full sales quantity.

## Summary of options for returns and credits in sales

Issues	Suggested Solutions
<b>Incorrect entry of A/R Invoice</b>	Cancel A/R Invoice Delivery reopens to create new A/R invoice
<b>Need to return item(s) received on a Delivery but not yet invoiced</b>	Copy item(s) from Delivery to a Return Request Then copy to Return
<b>Need to return or credit item(s) invoiced on an A/R Invoice but yet not paid</b>	Copy item(s) to a Return Request Then copy to an A/R Credit Memo If no stock movement is desired use <i>Without Qty posting</i>
<b>Need to return or credit item(s) invoiced on an A/R Invoice which has been Paid (Closed status)</b>	Change AR Invoice Status to Open Then copy to an A/R Credit Memo If no stock movement is desired use <i>Without Qty posting</i>
<b>Need to return items without a reference to an Invoice or need to credit items from multiple A/R invoices</b>	Create A/R Credit Memo without reference If no stock movement is desired use <i>Without Qty posting</i>
<b>Want to have credit lines in a Delivery or A/R invoice</b>	Use negative rows

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Here's a summary of options for returns and exchanges in sales.

- For incorrect entry of a A/R Invoice, you can cancel the document. The related Delivery will reopen so you can create a new A/R invoice. The same is true if you incorrectly enter an Delivery, you can cancel and reissue the Delivery from the Sales Order.
- If you need to return item(s) received on a Delivery that is not yet invoiced, it is useful to copy to a Return Request. The system will automatically suggest copying to a Return.
- If you need to return item(s) that have been invoiced but not yet paid, it is useful to copy to a Return Request. The system will automatically suggest copying to an A/R Credit Memo.
- Once an invoice has been paid, you must first change the document status to open before you can create an A/R Credit Memo.
- You cannot copy from multiple invoices to create a credit memo.
- If you want to include credit rows in a Delivery or A/R invoice, use negative rows. The use of negative rows is covered in detail in the topic Returns and Exchanges.

## Summary



Here are some key points:

- An A/R credit memo reverses a journal entry partially or fully.
- When you create a credit memo with reference to an invoice, the system corrects both the quantities and values in the invoice.
- If the credit memo contains inventory items, the journal entry will increase the stock account and decrease the cost account.
- A credit memo can be created without reference.
- If you wish to give a credit without impacting stock, select the checkbox Without Qty posting on the item row or use a service-type credit memo.
- You can cancel marketing documents. A reversing document is created and both the reversing and reversed documents are closed.
- Base documents are re-opened after cancellation.

An A/R credit memo reverses an A/R invoice's journal entry either partially or fully.

When you create an A/R credit memo with reference to the A/R invoice, the system corrects both the quantities and values in the invoice.

If the credit memo contains inventory items, then the journal entry for the credit memo will also increase the stock account and decrease the cost account.

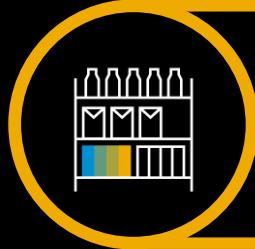
A credit memo can be created without reference to a base document, for example when you need to credit closed invoices that have been paid or for when the credit does not relate to any specific invoices.

If you wish to give a credit without an impact to stock, you can select the checkbox Without Qty posting on an item row in an item-type credit memo, or you can use a service-type credit memo.

You can cancel marketing documents such as A/R invoices. A new reversing 'cancellation' document is created during each cancellation procedure, and both the reversing and reversed documents are closed automatically and fully reconciled.

Base documents, such as a delivery, are re-opened after cancellation, and can be used as a base document again.

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## Items and Inventory: Item Master Data

SAP Business One  
Version 10.0

THE BEST RUN **SAP**

Welcome to the topic on item master data.

## Objectives



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

- Describe the contents of the item master

In this topic, we will explore the contents of the item master.

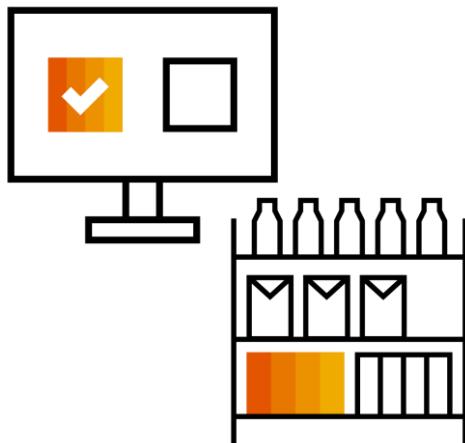
## Business Scenario



- Your company has a large number of items.
- To better manage the daily business, items are set up as master data records.
- Default data for purchasing, sales and inventory transactions are contained in the item master records.

Your company has a large number of items. To better manage the needs of daily business, items are set up as master data records. Default data for purchasing, sales and inventory transactions are contained in item master records.

## Item Master



### Item Master Data

- Manages all items you purchase, manufacture, sell or keep in stock
- Created for each product
- Identified with a unique code
- Stores essential information used in multiple business processes

SAP Business One enables you to manage all the items that you purchase, manufacture, sell, or keep in stock.

The way we define what these items are and how they are handled is through the item master data record.

An item master data record is created for each product and identified with a unique code. You would create an item master for a product at the level of a universal product code or a catalog number.

Item master data is at the heart of almost every process in SAP Business One. It controls how the item acts in the sales, purchasing, production, MRP, inventory, and service modules.

An item master data record stores essential information such as if the item is purchased or sold, the price of the item, the inventory level, and how purchasing of the item is forecast and planned.

This data is used automatically by the system in the processes for purchasing, sales, production, managing your warehouse, and accounting.

## Inactive Items



- Items used in an accounting or inventory transaction cannot be deleted
- Items can be marked inactive
- Inactive items cannot be added to sales orders
- Inactive items can be excluded from reports
- Once transactions are archived, items can be deleted

One important rule applies to item master data. If a master data record is used in a marketing document or in an accounting or inventory transaction (such as an A/P invoice, A/R Invoice, Journal Entry and so on), it cannot be deleted.

But what about obsolete items? Perhaps you no longer wish to sell a particular model of monitor, but since it has been stocked and sold in the past you cannot delete it.

What can you do?

Instead you can mark the item as inactive so it can no longer be added to sales orders. The inactive checkbox can also be used for products that are not yet ready for sales and purchasing transactions. You can choose to exclude these inactive items from system reports. Options in the *General Settings* window allow you to choose whether to display inactive items in reports and/or in marketing documents. Later on, when you archive old data and these items no longer have transactions related to them in the database, it is possible to delete them completely.

## Structure of the Item Master Record

Item Master Data							
General Area				Item Categories			
<i>Item Number Description Description in Foreign Language Item Type Item Group Unit of Measure Group Price List....</i>				<i>Bar Code Unit Price</i>			
<u>General</u>	<u>Purchasing</u>	<u>Sales</u>	<u>Inventory</u>	<u>Planning</u>	<u>Production</u>	<u>Properties</u>	
<i>Manufacturer Shipping Type Serial and Batch Numbers Valid / Inactive /Advance with Dates ...</i>	<i>Purchasing Units of Measurement Customs Group Tax Information Dimensions ...</i>	<i>Sales Unit of Measurement Packaging Unit Dimensions ...</i>	<i>Valuation Method Warehouses Stock Quantities Item Cost ...</i>	<i>Planning Method Procurement Method Order Information Lead Time ...</i>	<i>Issue Method BOM types Routing Information Cost ...</i>	<i>Up to 64 distinct Item Properties Remarks Text Photo Attachments Files</i>	

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Like other types of master data, such as the business partner, there are two main sections in an item master record: the header and the tabs.

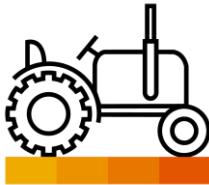
The header contains general information about the item. A unique ID number must be assigned as the code.

The 9 tabs contain more detailed information for processing the item.

## Item Categories

### Inventory Item you make and sell:

- Inventory Item
- Sales Item
- Purchased Item



### Expenditures:

- Inventory Item
- Sales Item
- Purchased Item



### Service for sale:

- Inventory Item
- Sales Item
- Purchased Item



The header is also where you can assign item categories. The item categories control whether that item can be purchased, sold, or stored in inventory. An item can belong to multiple categories.

Designating the item as an inventory item means that the item can be used in inventory transactions.

Similarly marking an item for purchasing or sales means that the item can be bought or sold on marketing documents.

If you mark an item as inventory only, you cannot buy or sell that item.

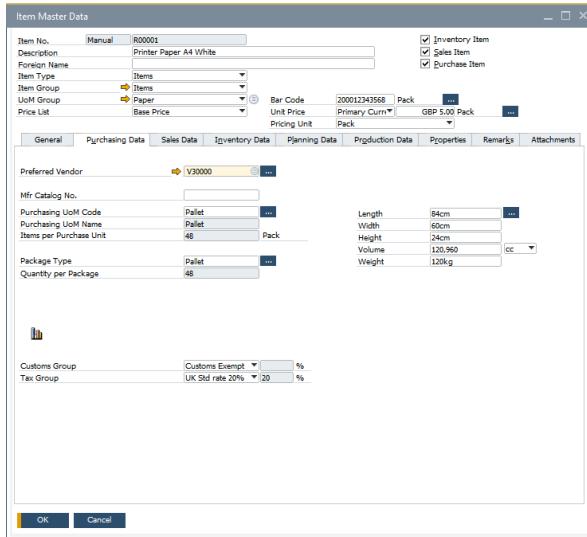
Perhaps you have an item that you never purchase, instead you manufacture the item in-house and then sell it. This item would be marked for inventory and sales.

A second example would be a service that you sell. In this case, the item would be marked only for sales, and not for purchasing or inventory.

A third example could be expenditures, like office supplies, that you purchase for use in your business.

You might choose not receive these into inventory because they are used directly after purchase. This item then would be a purchased item but not an inventory item.

## Purchasing and Sales tabs



### Necessary information for marketing documents:

- Units of Measure
- Dimensions
- Packaging
- Tax
- Links to Analysis
- Purchasing tab additionally contains:
  - Preferred vendors
  - Manufacturer catalog numbers

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The purchasing data and sales data tabs contain the information necessary for using that item on marketing documents.

The sales data tab contains information on the item's sales units of measure, sales item dimensions, packaging for sales, and tax details.

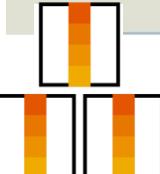
Similarly, the purchasing data tab contains information on the item's purchasing unit of measure with its dimensions, packaging and tax details.

Additionally, the purchasing data tab has information about specific vendors and manufacturer catalog numbers.

When you create a marketing document, the relevant information for the item defaults into the document. Both tabs offer you a link to reporting via icons for Sales Analysis and Purchase Analysis for the item.

## Inventory Data tab and Stock Levels

#	WH Code	WH Name	In Stock	Committed	Ordered	Available
1	01	General Warehouse	688	38	100	750
2	02	East Coast	40	10	10	40
3	03	West Coast	40			40
4	04	Drop Ship				
			768	48	110	830



Stock information is updated dynamically and displays in the item master

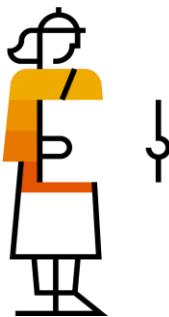
The inventory data tab shows us up-to-date information on stock levels and demand for the item for each warehouse. This information is updated dynamically so shows a true picture at any time.

- A matrix displays:
  - The quantity currently in stock
  - The committed quantity, which is the quantity ordered by customers
  - The ordered quantity, which represents either quantity ordered for purchase by your company but not yet delivered or the quantity on production orders for an item produced in-house
  - And in the last column, it displays each the quantity available for sales orders. The available quantity is calculated by adding together the in stock and ordered quantities then subtracting any committed quantity.

You can set a warehouse to be the default warehouse for transactions. If you do not set a default, the first one appearing in the matrix will be the default.

Other fields on this tab page, such as the valuation method and inventory unit of measure are discussed more in later topics.

## Planning Data



Item Master Data	
<i>Item Number</i>	<b>P1001</b>
<i>Description</i>	<b>Printer</b>
...	
<u>Planning Data</u>	
<i>Planning Method</i>	<b>MRP / None</b>
<i>Procurement Method</i>	<b>Make / Buy</b>
<i>Order Interval</i>	<b>Weekly / Monthly / ...</b>
<i>Order Multiple</i>	<b>12</b>
<i>Minimum Order Qty.</i>	<b>5</b>
<i>Lead Time</i>	<b>10 Days</b>

The planning data tab contains information for planning your inventory requirements. On this tab, you can control whether the item is considered in material requirement planning. And if it is relevant for planning you can indicate whether this is an item that is purchased or built in-house and set a lead time for calculating how long it will take to restock the item. The other fields on this tab support the materials requirement planning process.

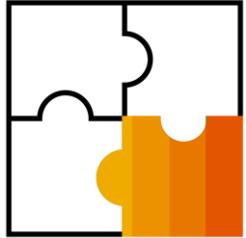
## Production Data Tab



- Issue Method – Backflush or Manual
- Bill of Materials Information
  - BOM Type
  - # of components
  - # of resources
  - # of routing stages
  - Link to open Bill of Materials
- Production Standard Cost

The Production Data tab contains information used in managing the item during production. You can control how the item is issued to production orders. If the item is composed of a bill of materials, there is a link to the BOM as well as a summary that displays the number of components, resources and route stages. You also have the option to enter costing information for production on this tab.

## Item Properties



- Item Properties add more information about how item fits into company
- 64 properties available for:
  - Reporting
  - Marketing purposes
  - Pricing

Item properties give you a way to add more information about how this item fits into your company lines of business, sales territories and marketing goals.

On this tab you can classify the item with up to 64 different properties which you can use for reporting, marketing purposes and even for determining pricing.

For example, a particular laptop might be classified according to the type of user (professional, student), condition (new, refurbished), and other properties such as screen size, processor brand, price range, system memory, touchscreen or not, operating platform, and much more.

## Summary



Here are some key points:

- Item Master Data controls how an item acts in business processes. The data is used automatically in processes for purchasing, sales, production, warehouse management, service and accounting.
- A master data record used in transactions cannot be deleted, but it can be marked inactive.
- Item categories control whether an item can be purchased, sold or stored in inventory. An item can belong to multiple categories.
- The inventory data tab tracks the in-stock, committed, ordered, and available quantities for an inventory item.
- Available quantity = in-stock + ordered – committed.

Item master data controls how an item acts in the business processes. The data is used automatically by the system in the processes for purchasing, sales, production, warehouse management, service, and accounting.

A master data record is used in transactions and cannot be deleted until those transactions are archived, but the item can be marked inactive.

Item categories control whether an item can be purchased, sold, or stored in inventory. An item can belong to multiple categories. Designating the item as an inventory item means that the item can be used in inventory transactions. Similarly marking an item for purchasing or sales means that the item can be bought or sold on marketing documents. If you mark an item as inventory only, you cannot buy or sell that item.

The inventory data tab tracks the in-stock, committed, ordered, and available quantities for an inventory item in each warehouse.

The available quantity is equal to the total of the in-stock and ordered quantities minus any committed quantity.

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## Items and Inventory: Defining Item Groups

SAP Business One  
Version 10.0

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Welcome to the topic on defining item groups.

## Objectives



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

- Run reports by item groups
- Define an item group
- Create item master records

In this topic, we will explore how item groups help manage items in set up and reporting. We will run reports by item groups. Then we will define an item group and see how the defaults from the item group are copied into newly created items.

## Business Scenario



- Your company has a large number of items. To better manage the items, the items are managed by item groups.
- Reporting by item groups makes it easier to see profitable product lines and to manage inventory more effectively.
- Setting default field values in item groups makes creating items quicker and enforces consistency for items within an item group.

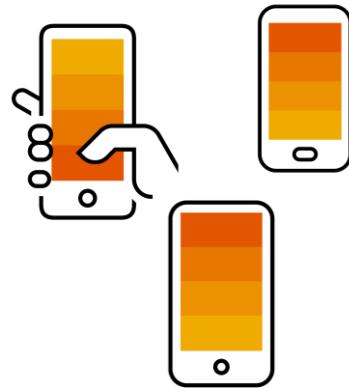
Your company has a large number of items. To better manage the items, the items are managed by item groups.

Reporting by item groups makes it easier to see profitable product lines and to manage inventory more effectively.

Setting default field values in item groups makes creating items quicker and enforces consistency for items within an item group.

## Item Groups

- Group similar items together
- Sort items for reporting
- Categorize by product lines
- Group for sales and procurement purposes



Many businesses have a large number of items. It is useful to have a way to group similar items together and sort those items logically for processing and reporting.

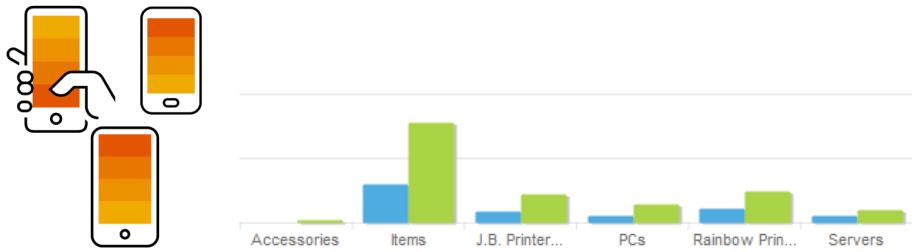
Item groups allow you to categorize your items by product lines or by how the items are used in your business.

You could set up groups such as raw materials and finished goods, or group them by how they would appear in a sales catalog.

In our business example, OEC Computers has grouped items into product lines such as printers, computers, accessories, etc.

## Item Group Advantages

- Creating items – default field values into new items
- Reporting on item related data – run reports by groups
- Processing items – choose related items for an inventory count



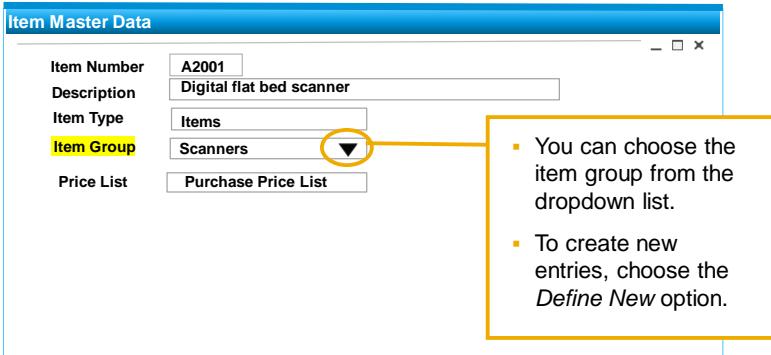
Item groups are an advantage when you are:

Creating items - It is faster to create items because some fields common to this business area automatically default into the item.

Reporting item related data - Item groups can be used in reporting for selection criteria.

Processing items - You could use the group as criteria for processing items, such as choosing items in an item group to include in an inventory count.

## Item Groups in the Item Master



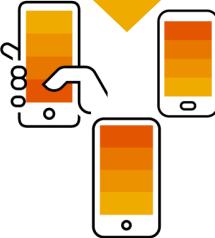
Item groups are very easy to use, because the group is chosen in the header area of the item master record.

You can even create new item groups in the dropdown by using the Define New option.

## Item Group Defaults

- General Classification:  
Item or Service
- Units of Measurement & Measurement Groups
- Materials Requirement Planning (MRP) fields
- Costing – Valuation Method
- Bin Location

- Common Values
  - Item
  - Unit of Measure - Each
  - Bought from vendor
  - Moving Average costing



The defaults fall into a few basic areas:

Basics for the item: item type (material item or service),

Defaults for units of measurement – default group and default inventory unit of measure.

Defaults for material requirements planning - planning method, procurement method, order interval, order multiple, minimum order quantity, lead time,

Costing default - One key setting you can make at the item group level is the inventory valuation method.

If you are using bin locations in a warehouse, you can set defaults on a default bin location and whether the default bin location must be used upon receipt of the item.

When you create an item and assign an item group, the item group's default fields appear in the item.

The fields can be changed.

## Reporting by Item Groups

The screenshot displays two SAP application windows. The left window is titled 'Sales Analysis Report - Selection Criteria' and shows various report selection options like 'Annual Report', 'Posting Date', and date ranges. A dropdown menu under 'Main Selection' is highlighted with a yellow box, showing categories such as 'All', 'Accessories', 'Items', 'J.B. Printers', 'PCs', 'Rainbow Printers', 'Servers', and 'Storage'. The right window is titled 'Sales Analysis by Item Group (Annual)' and shows a table of sales data grouped by item. A second yellow box highlights the top section of the table. Below the table is a chart titled 'Top 5 Item Groups by Inventory Value' showing horizontal bars for 'Items', 'Rainbow Print...', 'J.B. Printer...', 'PC', and 'Servers'.

**Sales Analysis Report - Selection Criteria**

- Report Type: Annual Report
- Date Range: From 01.01. To 31.12.
- Secondary Selection: Item
- Group Selection: All, Accessories, Items, J.B. Printers, PCs, Rainbow Printers, Servers, Storage

**Sales Analysis by Item Group (Annual)**

#	Group Code	Item Group	Quantity	Sales Amt	Gross Profit	Gross Profit %
1	100	Items	55,024,000	BP 154,578.70	BP -344,972.53	-69.06
2	101	J.B. Printers	101,000	3BP 21,650.00	GBP 10,534.07	94.77
3	102	Rainbow Printers	44,000	3BP 14,350.00	GBP 7,141.86	99.08
4	103	Accessories	98,000	GBP 3,276.25	GBP 1,247.71	61.51
5	105	PCs	149,000	BP 171,750.00	GBP 78,142.25	83.48
6	106	Storage	98,000	GBP 9,286.25	GBP -20.77	-0.22

**Top 5 Item Groups by Inventory Value**

Item Group	Inventory Value
Items	55,024,000
Rainbow Print...	44,000
J.B. Printer...	101,000
PC	149,000
Servers	98,000

You can use item group in the selection criteria for many reports.  
Some reports, such as sales and purchasing analyses, can display totals by item groups.

## Search functions for an item

The screenshot shows two windows side-by-side. On the left is a 'List of - Settings' dialog with a table of fields. On the right is a 'List of Items' search window.

**List of - Settings**

#	Field Name	Displayed Name	Group	Visible	Dis...
1	Item No.	Item No.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	Item Description	Item Description	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	In Stock	In Stock	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	Item Group	Item Group	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Add fields to search via Forms Settings**

**List of Items**

#	Item Group	Item No.	Item Description	In Stock
1	Accessories			
2	Items			
3	1.B. Printers			
4	PCs			
5	Rainbow Printers			
6	102	A00004	Rainbow ColorJet 5	560.000
7	102	A00005	Rainbow ColorJet 7.5	702.000
8	102	A00006	Rainbow 1200 Laser Series	70.000
9	Servers			
10	... more ...			

Annotations:

- A yellow box highlights the 'Rainbow Printers' group in the list.
- A yellow arrow points from the 'Group by fields, such as item group' text to the highlighted group in the list.
- A yellow arrow points from the 'Expand groups to show individual items' text to the expanded view of the 'Rainbow Printers' group.

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You can add additional fields to an item search to make finding items easier in marketing documents or reports.

Open a document or report which displays the List of Items window for finding items. Use form settings (at the tool bar) to add the fields you need.

If the list of items is too long, you can shorten the list by using your added field to group the items. In this way, you first view the groups, then can open a group to find an individual item.

The reformatted search is available wherever the List of Items window is used.

## Summary



Here are some key points:

- You can categorize items by business areas using item groups.
- Item groups can store default values common to items belonging to those groups.
- Item groups are useful as selection criteria in reporting and processing functions.
- You can subtotal your sales and purchasing analyses by item group.
- If you have a large number of items, you can reformat item search criteria to group the results by item group or another field in the Form Settings window.

You can categorize items by business area using item groups.

Item groups can store default values common to items belonging to those groups. Then when you create new items belonging to the group, the values automatically default into the new item.

Item groups are useful as selection criteria in reporting and in processing functions, such as choosing items in an item group to include in an inventory count.

You can subtotal sales and purchasing analyses by item group.

If you have a large number of items, you can reformat item search criteria to group the results by item group or by another field in the Form Settings window.



## Items and Inventory: Units of Measure Overview

SAP Business One  
Version 10.0

PUBLIC

THE BEST RUN 

Welcome to an overview of units of measure in SAP Business One.

## Objectives



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

- Assign units of measure to an item
- Describe the relationship of different types of units of measure
- Change conversation rules for specific items

In this topic, you will learn how to assign units of measure to items by using unit of measure groups and describe the relationship of different types of units of measure for items in sales, purchasing and inventory. Additionally you are able to change the conversation rates for specific items.

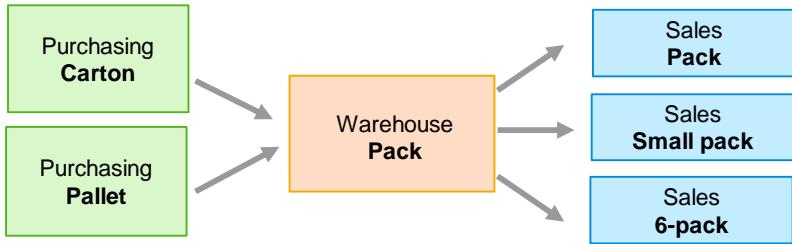
## Business Scenario



- Items are often purchased and sold in different units of measure. For example, paper may be purchased in cartons or pallets and sold in packs or 6-packs.
- OEC Computers has set up a unit of measure group for paper in order to add consistency and ease to assigning an appropriate set of units of measure to each paper item.
- Unit of measure groups help better manage how similar items are handled in sales, purchasing and inventory processes by setting up relationships between the units used in different processes.

- Items are often purchased and sold in different units of measure. For example, paper may be purchased in cartons or pallets and sold in packs or 6-packs.
- The company has set up unit of measure groups in order to add consistency and ease to assigning an appropriate set of units of measure to each item. An item's assigned unit of measure group will contain all the different units that the item needs in purchasing, sales and inventory.
- Unit of measure groups help better manage how similar items are handled in sales, purchasing and inventory processes by setting up relationships between the units used in different processes.

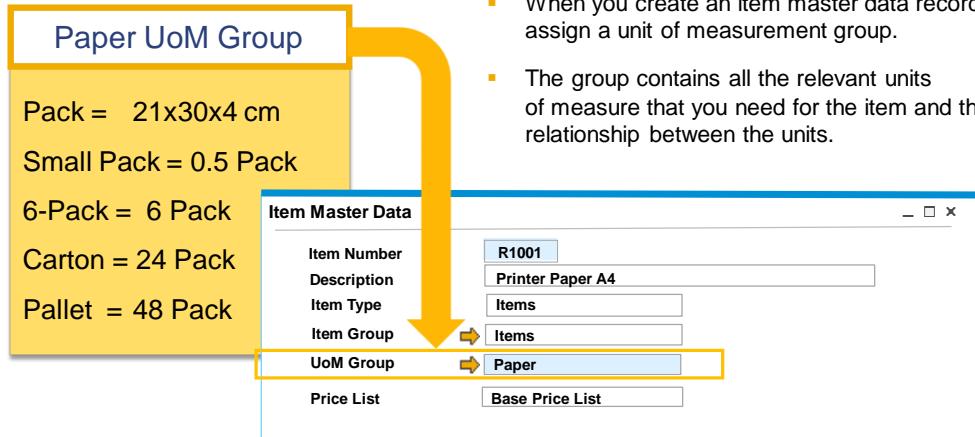
## Basic Units of Measure



- Use different units of measure in:
  - Purchasing documents
  - Sales documents
  - Warehouse

- Typically in business, an item may be sold in different types of packaging than how it is purchased.
- In the graphic, we see an example for paper. Vendors sell the item in cartons or pallets and we sell the paper in either packs, small packs or groups of 6 packs.
- Each item master record holds the units of measure used for purchasing, storing and selling that particular item.
- When you set up the item, you assign a group containing the units of measure commonly used for this type of item. The group “manual” is provided for upgraded companies and used as the default until another group is assigned.

## Units of Measure in Items



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- When you create an item master data record, you assign a unit of measurement group.
- The group contains all the relevant units of measure that you need for the item as well as the relationship between the units.
- In our example, we can assign the Paper UoM group because it has all the measures we need.

## Grouping Units of Measure

*Global Units of Measure*

each  
liter  
**Pack**  
Small Pack  
6-pack  
Carton  
Pallet  
mm  
ml  
...

*List of UoM Groups*

Paper  
Manual  
...

*Paper UoM Group*

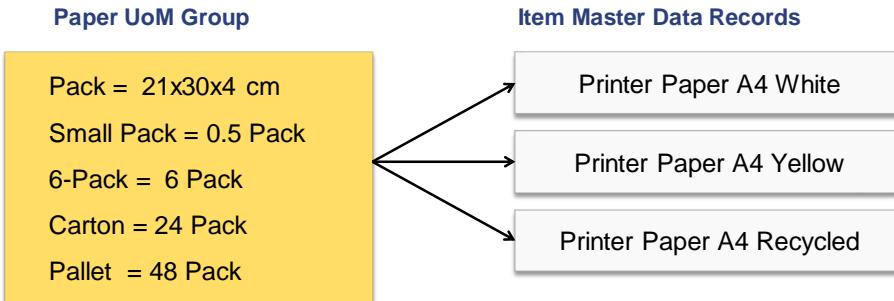
Pack = 21x30x4 cm  
Small Pack = 0.5 Pack  
6-Pack = 6 Pack  
Carton = 24 Pack  
Pallet = 48 Pack

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- We saw that a UoM group contains a set of relevant units of measurement.
- Let us take a step back to see how they are made.
- There is a table with a list of all possible units of measure. This is the Global UoM. We see this list on the left of the graphic.
- Single items from this table are then grouped together into a group.
- In our business example, we set up a group for paper.
- Within a group, you define the relationships between the listed measurements based on conversion rules.
- On the right we see the measurements that make up the UoM group “Paper”.
- Note that the measurements listed in the Global UoM table can be assigned to multiple UoM groups.

## One UoM group can be assigned to multiple items



- OEC Computers can use this same unit of measure group for several different types of printer paper that they sell.
- Once a UoM group is created it can be assigned to several item master data records.
- In our graphic, the UoM group for paper is assigned to 3 item master records that need the same type of relationships between the UoMs in the group.
- Because the paper UoM group has been defined flexibly, it can be used for several different types of printer paper that the company sells.

## Changes of conversion rules for one specific item assigned to a UoM Group

### Paper UoM Group

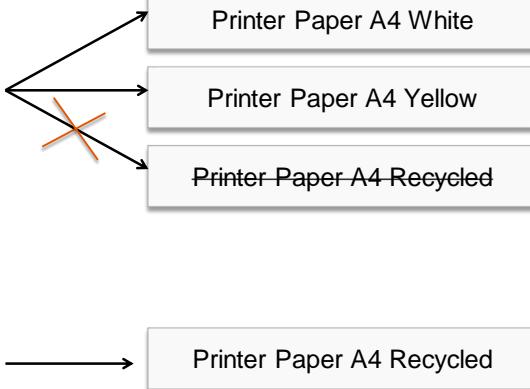
Pack = 21x30x4 cm  
 Small Pack = 0.5 Pack  
 6-Pack = 6 Pack  
 Carton = 24 Pack  
 Pallet = 48 Pack

### Paper UoM Group 2

Pack = 21x30x4 cm  
 Small Pack = 0.5 Pack  
 6-Pack = 6 Pack  
 Carton = **30** Pack  
 Pallet = 48 Pack  
 Dual Pallet = 96 Pack

### Item Master Data Records

- Printer Paper A4 White
- Printer Paper A4 Yellow
- Printer Paper A4 Recycled**

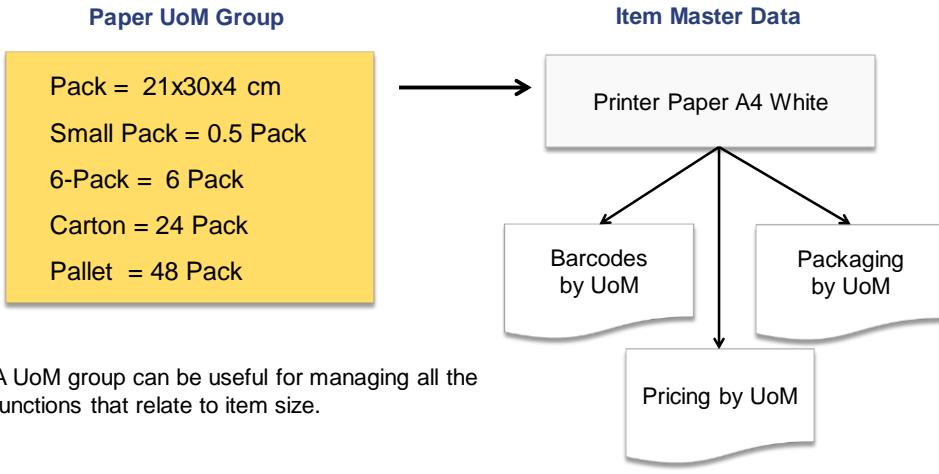


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- Challenge: Change the conversation rate within one UoM group for one particular item.
- You have to create a second UoM Group (Group 2) which includes an identical set of UoM to the first group. The new group can also contain additional conversation rates.
- Assign the affected item to the new UoM Group 2. You see that the conversion rate is still same as in the first original UoM Group.
- NOTE: You are not able to change the conversion rates within UoM Group 2 as long as there are open documents linked to the affected item.
- You have to close all linked, open documents containing the affected item.
- After all documents, containing the affected item, are closed you are able to navigate to UoM group definition of UoM Group 2 and change the conversation rate according.

## Units of Measure in the Item Master

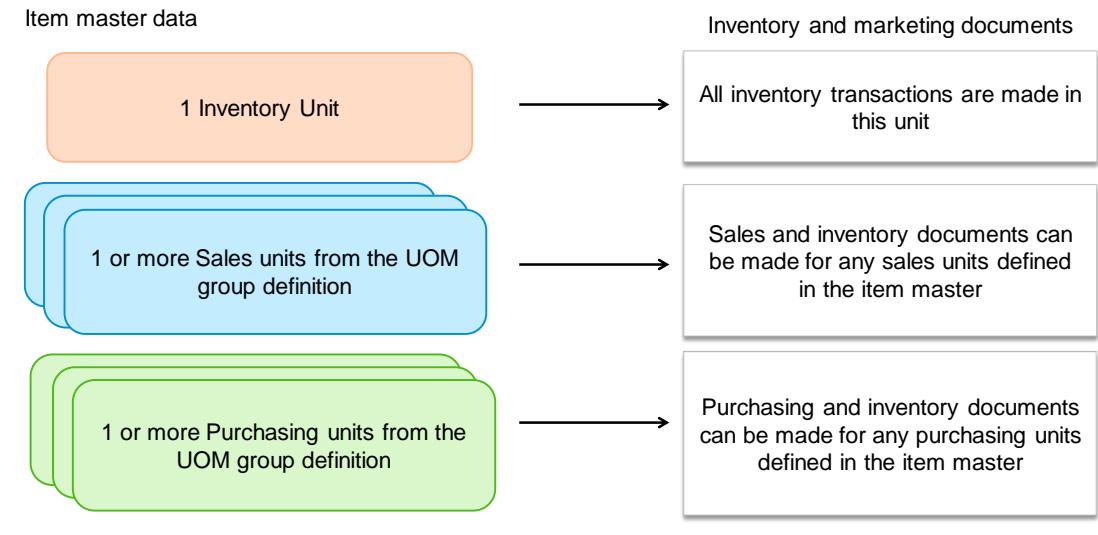


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- A unit of measure group can be very useful for managing all the functions that relate to item size.
- After a unit of measure group is assigned to an item master data, you can then define barcodes, pricing and packaging for the item relating to each unit of measure within the group.

## Units of Measure Types for an Item



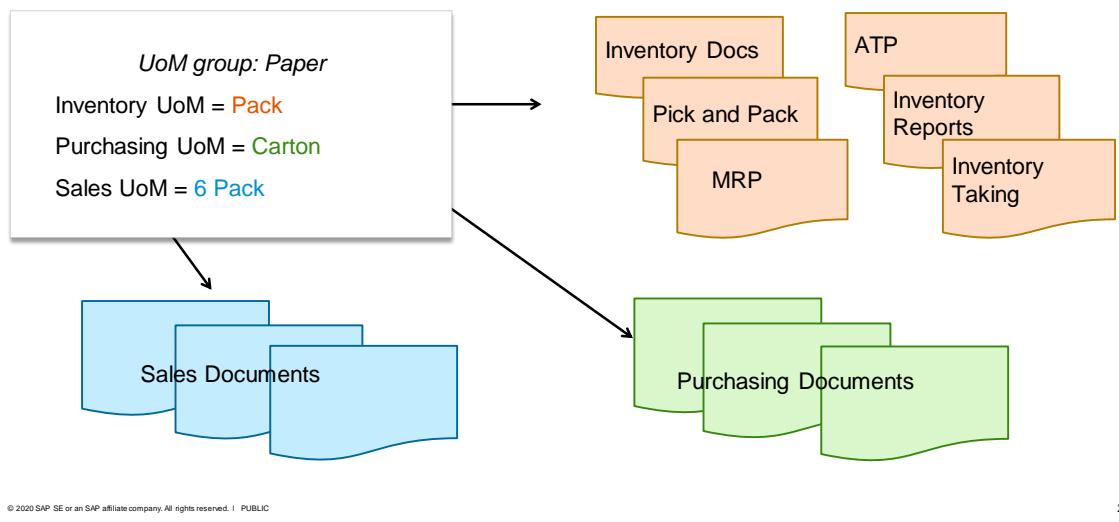
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- In the *Item Master Data* we define three different Unit of Measure types:
  - The *Inventory Unit of Measure* - This single unit of measure is used for posting all inventory transactions.  
The inventory unit of measure cannot be changed once transactions were made for this item.  
Note that the Inventory Unit of Measure field in the Item Master Data does not appear if the Manual group is assigned.
  - The *Sales Units of Measure* – One item can have many Sales units of measure related to it.  
Each of these units of measure can be used in a sales or inventory document.
  - The *Purchasing Units of Measure* – One item can have many Purchasing units of measure related to it.  
Each of these codes can be used in a purchasing or inventory document.
- All inventory tracking and reporting is done in the inventory unit of measure. Availability checking is done for the inventory unit of measure.

## Units of Measure in Documents

### Printer Paper A4



- In our business example, we set the inventory unit of measure to pack. Therefore, pack will appear as the unit on all inventory transactions.
- We set carton for the purchasing unit of measure because this is the typical unit used by our vendors.
- Regardless of how we buy it, we may choose to sell a product with different packaging. In our example, paper is most often sold packaged as a 6-pack. Therefore, we set the sales unit of measure to a 6-pack so that this measurement is the default for our sales documents.
- You can overwrite the unit of measure and the items per unit in marketing documents as needed. For example, you usually buy from a vendor who delivers an item in cartons, each carton contains 12 units. However, you are trying out a new vendor who will supply the item in crates. Each crate contains 20 units. Since the purchasing unit of measure is a carton, the unit of measure in the purchase order defaults in as a carton. As long as the crate unit of measure belongs to the Paper UoM group, you can override "carton" and change the unit of measure and the items per purchase unit to "crate" in the purchase order without affecting the item master record. If the change is permanent, you can also make the same change to the default purchasing unit of measure in the item master data record.
- Remember that regardless of which purchasing unit or sales unit is used in a document, the postings are always made in the inventory unit of measure. Therefore using our business example, a goods receipt PO for 1 carton will create an inventory posting for 24 packs, since each carton contains 24 packs.

## Summary



- Units of measure (UoM) are defined globally for a company.
- A unit of measure group contains a list of units and defines relationships between the listed units based on conversion rules.
- A flexibly-defined UoM group can be assigned to multiple items and will contain all the units of measure you need for those items.
- A UoM group can manage functions relating to size such as barcodes, pricing and packaging for the item for each unit of measure.
- In the item master you define three UoM types: inventory, sales and purchasing units of measure.
- Each item has a single inventory unit of measure assigned for all inventory transactions. This setting cannot be changed once transactions are made for this item.

- Units of measure (UoM) are defined globally for a company.
- A unit of measure group contains a list of units of measurement and defines relationships between the listed units of measurement based on conversion rules. When you create an item master data record, you assign a unit of measurement group.
- A flexibly-defined unit of measure group can be assigned to multiple items and will contain all the relevant units of measure that you need for these items.
- A unit of measure group assigned to an item can manage functions relating to item size such as barcodes, pricing and packaging for the item relating to each unit of measure within the group.
- In the Item Master Data we define three different unit of measure types: inventory, sales and purchasing units of measure. An item may have multiple sales and purchasing units of measure.
- Each item has a single inventory unit of measure assigned for posting all inventory transactions. This setting cannot be changed once transactions are made for the item.

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## Items and Inventory: Warehouses

SAP Business One  
Version 10.0

THE BEST RUN **SAP**

Welcome to the inventory management topic on Warehouses.

## Objectives



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

- Create a warehouse
- View a warehouse's bin location structure
- Describe the drop shipment process

In this topic, we will discuss the importance of warehouses in the business processes. We will create a warehouse and view the available options. We take a quick look at using bin locations for warehouse management. Then we look at how a virtual warehouse can be set up for the drop ship process.

## Business Scenario



- Your company makes, buys and sells items that are stored in multiple warehouses.
- One of the warehouses is controlled by bin locations.
- Another of the warehouses is physically located at a vendor so it is represented in your system as a drop ship warehouse.
- Business is growing in a new region, so you create a new warehouse to expand your distribution

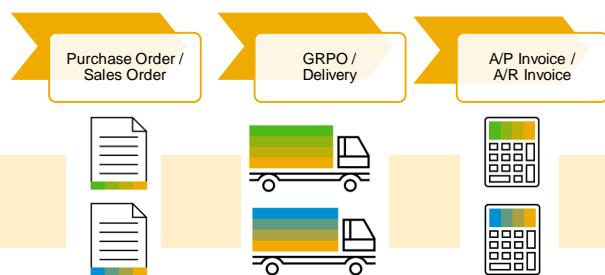
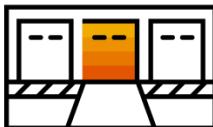
Your company makes, buys and sells items that are stored in multiple warehouses.

One of the warehouses is controlled by bin locations.

Another of the warehouses is physically located at a vendor so it is represented as a drop ship warehouse.

Your business is growing in a new region, so you create a new regional warehouse to expand your distribution.

## Warehouses and Documents



Item-type documents in the purchasing and the sales processes reference warehouses

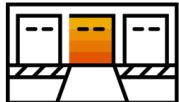
Goods receipts, inventory transfers and goods issue documents always contain warehouses



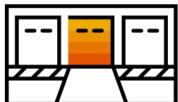
Documents in the sales and purchasing processes reference a warehouse whenever they contain items. Inventory documents such as the goods receipt, inventory transfer and goods issue always reference a warehouse. Because warehouses are so key in any process involving items, we will look at how warehouses are defined and what they signify.

## Warehouses

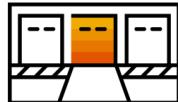
A warehouse represents a location where goods are stored.



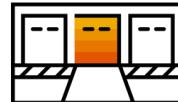
Warehouse 01  
General Warehouse



Warehouse 02  
Regional Warehouse



Warehouse 03  
Drop Ship Warehouse



Warehouse 05  
Bin Managed Warehouse

A warehouse represents a location where goods are stored.

## Defining a Warehouse

**General**

**Address Information**

**Location**

**Drop Ship**

**Nettable**

**Enable Bin Locations**

**Show Location in Web Browser**



**Warehouse 02**  
**Regional**  
**Warehouse**

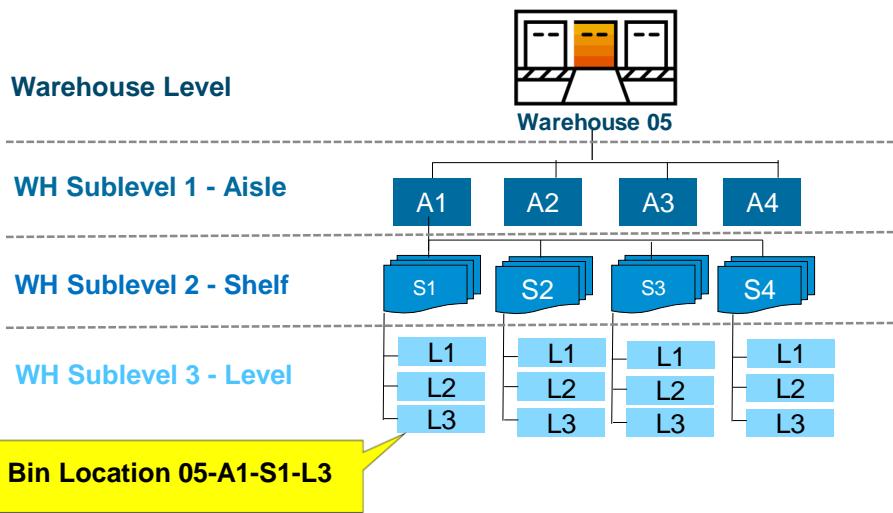
The first step in defining a warehouse is to enter a Warehouse code and a Warehouse name. Then you need to specify where the warehouse is by entering location information. This location information is important, because typically the address of the warehouse associated with the first document row is used as the ship-to address.

Most warehouses are created for physically storing items, but a warehouse can also be set up as a virtual warehouse to manage business processes where goods are shipped directly to your customers from one of your vendors. We call this a drop ship warehouse. If you choose to set a warehouse as a drop ship warehouse, you will have the additional option to manage serial numbers and batches in the drop ship warehouse.

Another option is whether you want this warehouse to be considered in material requirements planning. A third option, new in 9.0, is the option to use bin locations as sublevels within your warehouses. This option would not be available if this is a drop ship warehouse.

Other fields for tax information may be visible depending on the localization.

## Bin Locations in the Warehouse



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One option to improve logistics of warehouse processes is to implement bin location management. Bin location management helps you keep track of the items in a warehouse down to the physical bins that store the items.

Using bin location management can help you optimize storage space, quickly locate items, and plan out efficient routes for picking.

In our business example, Warehouse 5 is managed with bin locations. The warehouse is broken out into 4 levels.

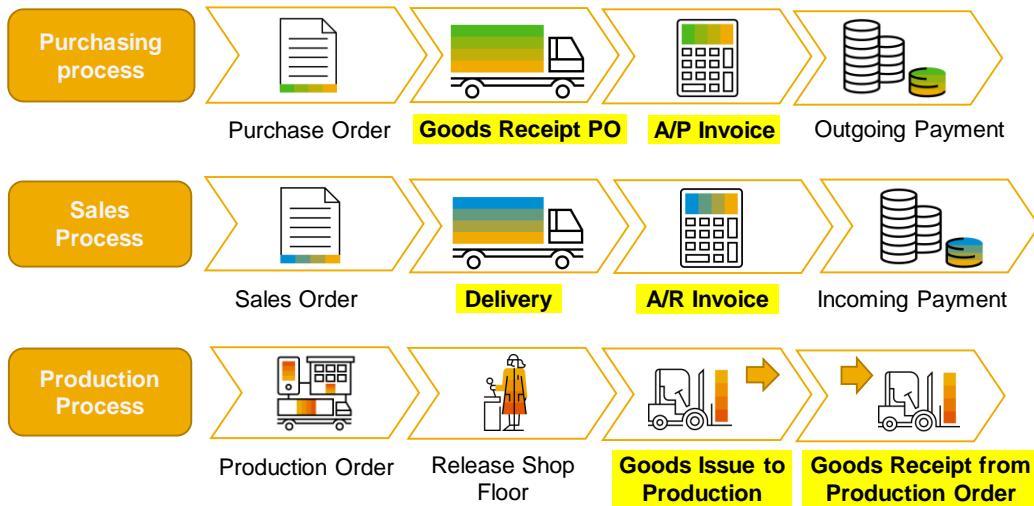
The top level is the warehouse.

Below the warehouse, the first sublevel is made of 4 aisles: A1 through A4.

Each aisle is made up of 6 shelves S1 through S6, and each shelf as 3 levels.

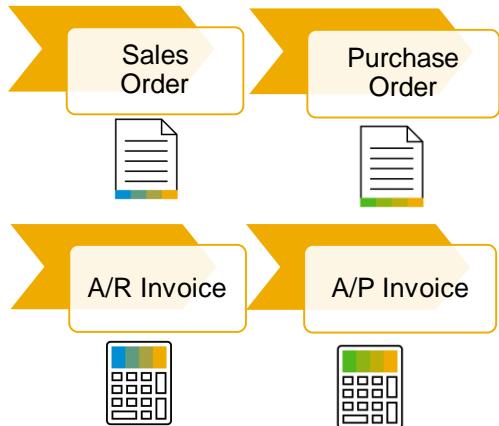
The bin location code is made up of the warehouse code plus each sublevel. Here we see the third level of shelf 1 on aisle 1 has a bin location code of 05-A1-S1-L3.

## Bin Locations in Business Processes

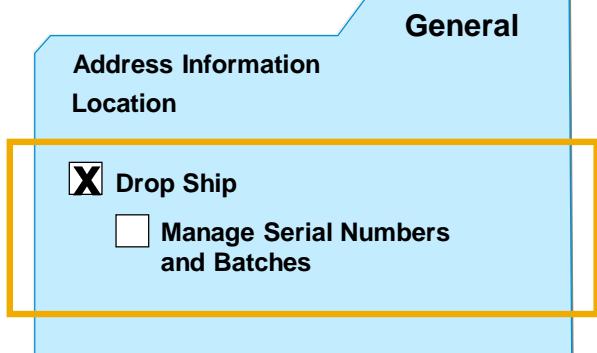


Here is a quick glance of the main business processes showing steps in the process that include bin locations. Bin locations are available on all documents that have inventory movements.

## Drop Ship Process



### Warehouse 03 Drop Ship Warehouse



Sometimes, you have products you sell that you do not make or store. Instead, your company serves as a middleman between your customers and vendors. In those circumstances you can set up a drop ship warehouse.

When a customer orders a product from a drop ship warehouse, the system opens the procurement confirmation wizard when you save the sales order.

The wizard creates a purchase order for the preferred vendor of the item.

The ship-to address in the purchase order is the ship-to address of the customer in the sales order.

When the vendor receives the purchase order, they ship the product directly to the customer.

The vendor invoices you for the cost of the product, and you invoice the customer for the sales amount.

With the drop ship process, there is no effect on inventory quantities or values. No goods movements are posted. No journal entry is made to reflect inventory value changes. Therefore, the drop ship warehouse is not displayed on inventory reports.

To set up a warehouse, mark the Drop Ship checkbox. If you would like to include the ability to track serial numbers or batches in a drop shipment, then also mark the Manage Serial Numbers and Batches checkbox.

## Summary



Here are some key points:

- Warehouses are specified in all inventory documents and in any sales and purchasing document containing items.
- Bin location management can be used to optimize storage space, quickly locate items and plan efficient routes for picking.
- A bin location code consists of the warehouse plus each sublevel.
- Bin locations can be specified on all documents that have inventory movements once bin location management is activated.
- You can set up a drop ship warehouse to represent a vendor's location. Then when you save a sales order for that warehouse, then procurement wizard suggests a purchase order to the vendor. The items are sent directly to the customer. The vendor invoices you and you invoice the customer.

Warehouses are specified in all inventory documents and in any sales or purchasing document containing items.

Bin location management can help you optimize storage space, quickly locate items, and plan out efficient routes for picking.

The bin location code consists of the warehouse code plus each sublevel.

Bin locations can be specified on all documents that have inventory movements once bin location management is activated.

You can set up a drop ship warehouse to represent a vendor's location. Then when you save a sales order with a product from the drop ship warehouse, the procurement confirmation automatically suggests creating a purchase order to the vendor. The items are sent directly to the customer from the vendor. The vendor invoices you for the cost of the product, and you invoice the customer for the sales amount.

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## Items and Inventory: Goods Movements

SAP Business One  
Version 10.0

THE BEST RUN **SAP**

Welcome to the inventory management topic on goods movements.

## Objectives



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

- Create a goods receipt
- Create a good issue
- Enter an inventory transfer document

In this topic, we will look at how to move goods in, out and between warehouses. You will learn how to create goods receipts and goods issues. You will see how to create an inventory transfer document to move items between two warehouses, one of which is managed with bin locations.

## Business Scenario



- Your company makes, buys and sells items that are stored in multiple warehouses.
- You transfer items between warehouses to improve availability
- Sometimes you receive items into stock that do not come through the regular purchasing or production processes
- Sometimes stock is issued out of the warehouse as samples for trade fairs or other marketing purposes
- Periodically damaged stock is removed from the warehouse

Imagine that your company makes, buys and sells items that are stored in multiple warehouses. You transfer items between warehouses to improve availability. Sometimes you receive items into stock that do not come through the regular purchasing or production processes. Sometimes stock is issued out of the warehouse as samples for trade fairs or other marketing purposes. Periodically damaged stock is removed from the warehouse.

## Warehouse Management Overview



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This graphic shows an overview of the different possibilities of stock movements, including some of the stock movements initiated from purchasing, production, and sales documents.

We will focus on the red business process arrows in this topic – these are the basic inventory goods movements.

## Good Receipts Documents



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Goods receipt documents are used for receiving inventory that is not purchased or produced. One example might be receiving a sample from a vendor for inspection.

You choose to receive it into the warehouse on a goods receipt rather than on a goods receipt PO because the item is not relevant for pricing or purchasing analysis reports.

## Inventory Transfers



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Inventory Transfers are used to move stock between warehouses.

## Goods Issues Documents



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Goods issues can be useful for cases where items are damaged, perhaps by a flood in a warehouse. If water damage renders them useless and unable to sell, they are removed from the warehouse.

## Goods Receipts / Goods Issue

The diagram illustrates the SAP Goods Receipt window. On the left, two yellow arrows point from a warehouse icon towards a forklift icon, representing the movement of goods into a warehouse. The main window is titled 'Goods Issue' at the top, with a sub-section 'Goods Receipt'. It contains several input fields: 'Number' (22), 'Primary' (checkbox), 'Price List' (Last Purchase Price), and a table window. The table window has columns: '#', 'Item No.', 'Quantity', 'Price', and 'Total'. One row is shown with item A1000, quantity 10, price 10 EUR, and total 100 EUR. Below the table are sections for 'Remarks' (with a text input field) and 'Journal Remark' (with a text input field containing 'Goods Receipt'). The window is divided into three main sections: 'General Information 1' (top right), 'Table Window' (center right), and 'General Information 2' (bottom right). The bottom right corner of the window contains the number '306'.

The goods receipt and goods issue windows are very similar.

Both documents require you to enter the warehouse affected.

If you do not specify a warehouse, the system will use the default warehouse from the item master record.

Unlike marketing documents used in the sales and purchasing processes, you cannot enter a business partner.

One difference between the two documents:

- Goods receipts allow you to enter the price of item entering warehouse.
- Goods issues, on the other hand, use the item cost to calculate the value of the accounting transaction and the price field is for informational purposes only.

## Inventory Postings



Goods Receipt

Stock Account

100

Inventory Offset – Increase

100



Goods Issue

Inventory Offset – Decrease

100

Stock Account

100

Inventory Item

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If a company is using perpetual inventory, saving an inventory transaction creates a journal entry automatically.

Here we see a graphic representation of the postings for a goods receipt (on top) and a goods issue (on the bottom).

A goods receipt creates a journal entry that posts the value of the received goods on the debit side of the stock account and the credit side of the inventory offset – increase account.

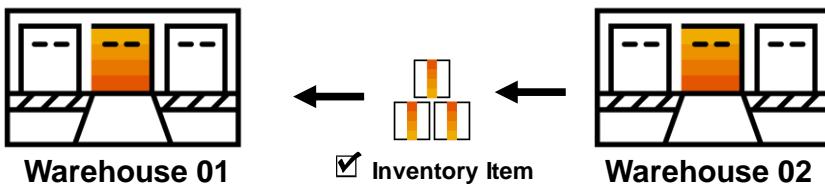
A goods issue creates a journal entry that posts the value of the issued goods on the debit side of the inventory offset – decrease account and the credit side of the stock account.

## Transferring Stock



Inventory Transfer

- A sales order has just come in for 5 cartons of an item.
- Warehouse 01 has 2 cartons.
- More cartons are available in Warehouse 02.
- We can transfer 3 cartons from Warehouse 02 to Warehouse 01 so all 5 cartons can be delivered together.



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When you have multiple warehouses, you might need to transfer inventory from one warehouse to another.

Here's an example. A sales order has just come in for 5 cartons of an item.

Warehouse 01 has 2 cartons. More cartons are available in Warehouse 02.

We can transfer the 3 cartons from warehouse 02 to warehouse 01, so that all the items can be delivered from one warehouse.

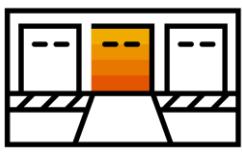
## Transferring Stock



Inventory Transfer

Inventory account (Warehouse 01)	
150	

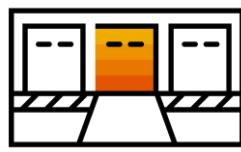
Inventory account (Warehouse 02)	
	150



Warehouse 01



Inventory Item

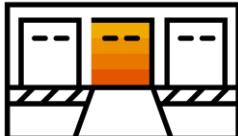


Warehouse 02

When you add an inventory transfer from warehouse 02 to warehouse 01, the system posts a journal entry. The journal entry posts the value of the transferred goods on the debit side of the stock account of warehouse 01 and on the credit side of the inventory account of warehouse 02.

## Customer Consignment

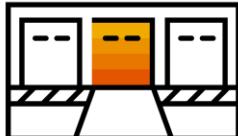
Your warehouse at  
your own site



Warehouse 01



Your warehouse at  
customer site



Warehouse 07

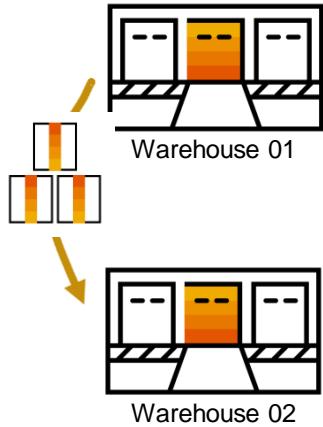


- Use an Inventory Transfer to move items to a consignment warehouse
- Create an A/R invoice for the items and quantities used by the customer

Inventory transfer documents can also be used to transfer items to a consignment warehouse at a customer's site. Unlike the goods receipt or goods issue documents, inventory transfers have fields for a business partner, a contact person and ship-to address.

When items are withdrawn from the consignment warehouse at the customer site, you create an A/R invoice for the items and quantities used. Each row references the consignment warehouse so that inventory is shown as removed from the warehouse when the invoice is saved.

## Inventory Transfer Request



Inventory transfer status

	In Stock	Committed	Ordered	Available
WH 01	10			10
WH 02				

	In Stock	Committed	Ordered	Available	
WH 01	10	1		9	WH 01 -> WH 02
WH 02			1	1	Transfer Request

	In Stock	Committed	Ordered	Available	
WH 01	9			9	WH 01 -> WH 02
WH 02	1			1	Inventory Transfer

Inventory transfer requests commit items to move from one warehouse to another with no effect on inventory movements or financials. Only once the request is closed is the stock transferred and the financial posting made.

When the inventory transfer request has the status Open:

For the issuing warehouse, the requested quantity is regarded as Committed.

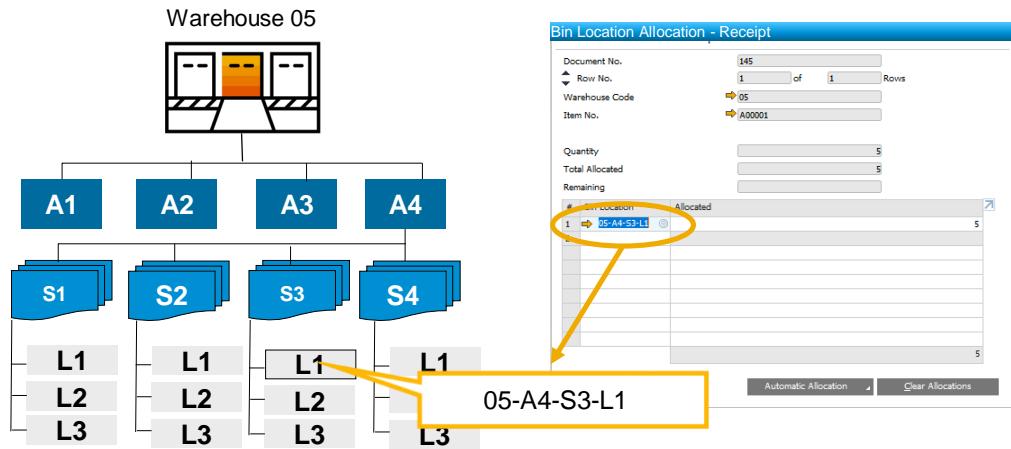
For the receiving warehouse, the requested quantity is regarded as Ordered.

When the inventory transfer request has the status Closed:

For the issuing warehouse, the requested quantity is released from the Committed quantity. If you copy this request fully into an inventory transfer, the quantity is subtracted from the In Stock quantity.

For the receiving warehouse, the requested quantity is released from the Ordered quantity. If you copy this request fully into an inventory transfer, the quantity is added to the In Stock quantity.

## Bin Locations in Goods Movements



If a warehouse is managed by bin locations, then a bin location will be required on inventory documents for any items stored in that warehouse.

Bin locations represent a physical shelf or bin where items are located. Bin location codes consist of the warehouse code plus the code for each sublevel.

You can define default bin locations for goods receipt and rules for automatically determining bin locations for goods issues.

To manually specify a bin location, right-click on the quantity field in a row to open the Bin Location Allocation window.

In this window you can specify quantities and bin location codes for the item on that row.

## Summary



Here are some key points:

- Goods movements are recorded by marketing documents and inventory transactions.
- The three main inventory transactions are: goods receipt, goods issue, and inventory transfer.
- A warehouse is required on all inventory documents.
- You cannot enter a business partner on goods receipt or goods issue.
- An inventory transfer request can be used to commit the movement of stock from one warehouse to another.
- If you activate bin locations for a warehouse, then a bin location is required every time you use that warehouse on inventory documents.
- When using perpetual inventory, each goods movement creates a journal entry.

Goods movements are recorded by both marketing documents and inventory transactions. The three main inventory transactions are: goods issue, inventory transfer and goods receipt. A goods receipt is used to receive items into a warehouse. A goods issue is used to transfer goods out of a warehouse. And the inventory transfer is used to transfer items between warehouses.

A warehouse is required on all inventory documents. If one is not manually entered into the transaction, the default warehouse for the item will be assigned.

You cannot enter a business partner on a goods receipt or goods issue, unlike marketing documents which always require business partners.

An inventory transfer request can be used to commit the movement of stock from one warehouse to another. It is possible to specify a business partner on an inventory transfer.

If you activate bin locations for a warehouse, then a bin location is required every time you use that warehouse on inventory documents.

When using perpetual inventory, each goods movement automatically creates a journal entry.

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## Items and Inventory: Valuation Methods

SAP Business One  
Version 10.0

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Welcome to the topic on valuation methods.

## Objectives



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

- List the valuation methods used in perpetual inventory in SAP Business One
- Describe how each valuation method works
- Discuss the differences between perpetual and non-perpetual inventory

In this topic, we will look at the valuation methods used in perpetual inventory in SAP Business One. We describe how each valuation method works. Additionally, we look at using non-perpetual inventory and discuss the differences between using perpetual and non-perpetual inventory.

## Business Scenario



- The company uses perpetual inventory.
- Most items are controlled by the moving average valuation method.
- However, some items are controlled by standard cost and some are controlled by the FIFO method.

The company uses perpetual inventory.

Most items are controlled by the moving average valuation method.

However, some items are controlled by standard cost and some are controlled by the FIFO method.

In our previous business examples in this course, we have always used the moving average valuation method. We have looked at how the item costs have been posted in the purchasing and sales business process. Now we will create some items with the other two methods and see the difference in inventory cost postings.

## Perpetual or Non-Perpetual Inventory

Two choices for defining inventory valuation:



- **Perpetual Inventory system**
  - Inventory transactions affect both stock levels and value
  - Automatic entries created in the general ledger
- **Non-perpetual inventory system**
  - Automatic inventory transactions affect only the inventory levels
  - No effect on stock value
  - No automatic entries in the general ledger

When you set up SAP Business One, you need to define how to control the inventory valuation according to business needs and local legal settings.

You have two choices for defining inventory valuation: a perpetual inventory system or a non-perpetual inventory system.

A perpetual inventory system reflects the value of inventory postings in terms of monetary transactions in the accounting system. These monetary transactions are carried out when items defined as inventory items are received or released from stock.

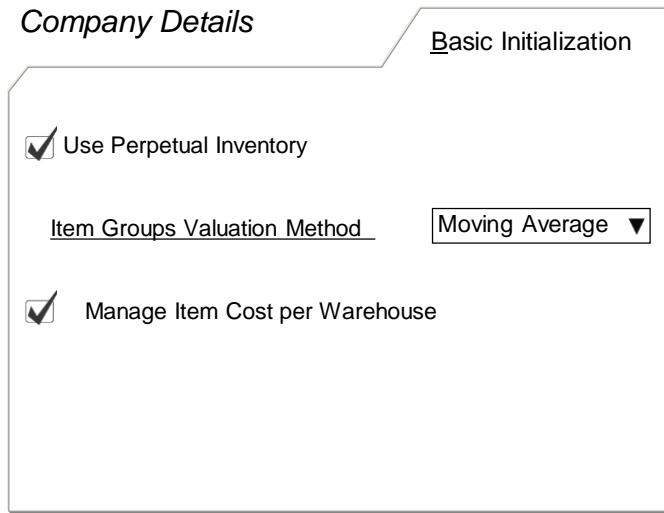
In a perpetual inventory system, inventory transactions affect both stock levels and stock value.

Automatic journal entries for the change in stock value are created in the general ledger.

In our course's business example, we work with a perpetual inventory system so this is what you see in the demonstrations and practice sessions.

The other choice is to use a non-perpetual inventory system in which sales, purchasing, inventory, and production transactions automatically create inventory transactions which affect only the inventory levels and have no effect on the stock value. Transactions in a non-perpetual inventory system do not generate automatic inventory-related monetary entries directly into the general ledger. However, it is possible to get an estimate of inventory value using different inventory reports.

## Setup for Perpetual Inventory



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If you choose to use perpetual inventory, you need to make the configuration settings during basic initialization, before posting any transactions.

To activate perpetual inventory, select the checkbox on the Basic Initialization tab of the Company Details window. This transaction is under System Initialization in the Administration module.

You can then set a default valuation method for your company. This default will be used whenever you create a new item group. You can, of course, change the default in the item group or any item assigned to the item group.

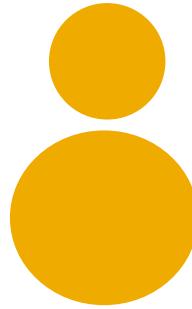
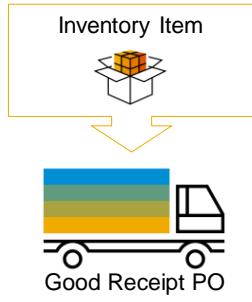
You also have the option to manage item costs separately for each warehouse, rather than setting an item's cost at the company level. This can be useful when you operate in several regions with varying cost levels.

Once you have activated perpetual inventory, each transaction that receives or issues inventory items is reflected in the inventory related G/L accounts.

After the first inventory transaction is posted, the option to choose either perpetual or non-perpetual inventory is disabled, and its status cannot be changed.

## Monetary Value of Inventory Postings

- Inventory Transactions
- Inventory Account Balance

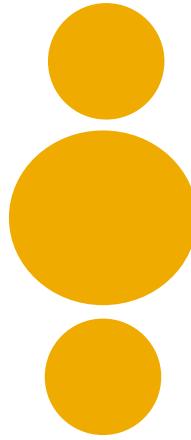


Let us quickly review the monetary effects on stock value of an inventory item when using perpetual inventory.

As you purchase an inventory item, the balance of the inventory account increases.

## Monetary Value of Inventory Postings

- Inventory Transactions
- Inventory Account Balance



When you sell this item and deliver it to a customer, the balance of the inventory account decreases. We see that values increase as stock quantity grows and values decrease as stock quantity shrinks. The value of an item received into inventory is based on either a purchase price or a fixed value. However, how do we determine the value of the item when it is issued? The way we determine the items value at sales is by using a valuation method.

## Inventory Valuation Methods



**Moving Average Price**

→ **First In – First Out (FIFO)**



**Standard Cost**



**Serial / Batch Valuation**

Valuation methods are basically formulas for how you determine the cost of the units that you sell. These formulas control the inventory cost of an item if you are using perpetual inventory.

If you are using perpetual inventory, you choose one of three methods for any given item.

- Moving Average
- First in – First Out, generally known as FIFO
- Standard Cost

An additional valuation method exists just for serial and batch managed items. The method is discussed in a separate course topic “Serial/Batch Valuation Method”. The prerequisite for that course topic is the topic on “Serial Numbers and Batches”.

In this course we focus on the three inventory valuation methods that can be used for any item: moving average price, FIFO and Standard Cost.

## Inventory Valuation Methods



Moving Average Price

5 items @ 10 Total inventory 50 Moving average price 10  
5 items @ 20 Total inventory 150 Moving average price 15



First In – First Out (FIFO)



Standard Cost

First, we will look at the moving average method.

When using this method, the system calculates the moving average price by dividing the total value of the goods by the quantity in stock.

For example, let us say you buy 5 items for a price of 10 each. You have 5 items worth 50. The moving average price is 10.

Then you spend 100 to buy another 5 items at a price of 20 each.

Total inventory value is now worth 150 and you have a quantity of 10 in stock. Therefore, the total value of the goods divided by the quantity in stock gives us a moving average price of 15.

The moving average price is used as the item cost when this item is sold or otherwise issued from the warehouse.

## Inventory Valuation Methods



Moving Average Price



First In – First Out (FIFO)

5 items @ 10 Unit cost of first layer = 10  
5 items @ 20 Unit cost of second layer = 20



Standard Cost

When you use the FIFO Method, the system calculates the item cost as the cost of the oldest unit on hand.

The theory behind this valuation method is the same as the name: first in, first out. The first items received into stock are the first items to be issued. This is a useful method if you have inventory items with expiration dates. You want to sell the items before the expiration date, so you always sell the oldest items first.

How does this valuation method work?

The system stores each good receipt in the inventory in a separate layer.

When you post any good issue, such as when you sell an item, the system uses the price from the oldest layer, from the second-oldest, and so on.

Let us say you buy a quantity of 5 at 10 each. The unit cost of the first layer is 10 each.

You then buy a second quantity of 5 at 20 each. The oldest layer's cost remains 10. However, you also now have a newer layer with an unit cost of 20.

When you sell the item, the system uses the oldest layer first. So the first quantity of 5 sold has a item cost of 10.

## Inventory Valuation Methods



Moving Average Price



First In – First Out (FIFO)



Standard Cost

Standard cost set at 10  
Item cost = 10

When you select the standard cost option, you manually set a fixed inventory cost for the item.

The system uses this fixed cost for all stock movements.

This is a logical method to use for items which you produce in-house.

Here is an example. You set the standard cost at 10. Therefore, when an item is received into stock it is valued at 10. When it is sold, the item cost remains 10.

Setting a standard cost is like a making a royal decree. You decide what the item is worth. You specify the unit cost. The item cost always equals the standard cost displayed in the item master record.

Once you set the standard cost at 10, the unit cost remains 10.

If you buy this item for 11, the difference of 1 is posted to a variance account and the item cost remains at 10.

It is possible to adjust a standard cost item's cost through inventory revaluation on a periodic basis.

An example of a standard cost item might be a service. You could have a service that you sell. The service is defined as a non-inventory item, but you can set the valuation method as standard on the Inventory Data tab of the item master. Then, when you base the gross profit on the item cost, the base price for this non-inventory item is included in the calculation of gross profit for the service.

## Inventory Valuation Methods



Moving Average Price



First In – First Out (FIFO)



Standard Cost

Let us take a look at how each method works by working through a slightly more detailed example. This time we will look at how each method works when an item is purchased multiple times with varying purchase prices.

## Moving Average - Example



### Purchasing

- Purchase 5 Units for 100 each
- Unit Cost = 100
- Inventory Value = 500



### Purchasing

- Purchase 5 Units for 200 each
- Current Unit cost = 150
- Inventory Value = 1500



### Sales

- Sell 7 for sales price of 300
- Current Unit cost = 150 Total COGS = 1050
- New Inventory value 450

Item cost =  
total inventory  
divided by  
on-hand quantity

Remember that the formula for moving average is that item cost is calculated by dividing the total inventory value by the on-hand quantity.

Here we see a purchase of 5 units for 100 each. The inventory value at this point is 500. The moving average cost at this point is 100. That is the inventory total value of 500 divided by the quantity of 5.

Then a second purchase of 5 is made, this time for 200 each for a total purchase cost of 1000.

Now the total inventory value is 1500. There is a quantity of 10 in stock. 1500 divided by 10 gives us an item cost of 150.

We sell a quantity of 7 to a customer for 300.

The selling price is not important in calculating cost.

The cost of each item in stock at the time of sale is 150. Therefore the total cost of goods sold is calculated as 7 multiplied by 150, that is 1050.

The inventory value is now 1500 minus 1050 resulting in the new inventory value 450. If you divide 450 by the remaining quantity of 3 you will get the unit cost of 150.

You have seen the moving average method and its consequences in the sales and purchasing exercises and demos of this course.

## FIFO - Example

- Item cost managed by layers



### Purchasing

- Purchase 5 Units for 100 each
- Inventory Value = 500

- Each receipt transaction creates a new layer



### Purchasing

- Purchase 5 Units for 200 each
- Inventory Value = 1500

- Each release transaction uses first available open layer



### Sales

- Sell 7 for sales price of 300
- Total COGS = 900 ( $5 \times 100 + 2 \times 200$ )
- New Inventory Value 600 ( $3 \times 200$ )

In the FIFO method, the item cost is managed by layers for each item.

Each inventory receipt transaction creates a "layer" of quantities linked to costs.

Each inventory release transaction uses quantities and their corresponding costs from the first open layer.

So in our example, again we purchase 5 units at 100. The goods receipt PO creates a FIFO layer with 5 units costing 100 each. The total inventory value is 500.

We purchase a second quantity of 5 units at 200 for a total value of 1000. The second goods receipt PO creates a second FIFO layer for these 5 units costing 200 each.

The inventory value is now  $500 - 500 + 1000$ .

We sell a quantity of 7 for the sales price of 300. Remember sales price is not important in determining item cost.

The rule in FIFO is that the first (oldest) layer is used first.

So the first 5 issued from stock are from the first layer and have a cost of 100 each. And the next 2 are from the second layer with a cost of 200 each.

The total cost of goods sold is calculated as 5 multiplied by 100 that is 500, plus 2 multiplied by 200 that is 400 for a total of 900.

When subtracting the 900 total cost of goods sold from 1500, we get the new inventory value of 600.

Please note that we do not have one general item cost for the item master data like in the other valuation methods as the item cost is managed by layers for each item.

## Standard Cost - Example



### Purchasing

- Set manual unit cost to 100
- Purchase 5 units for 100 each
- Inventory Value = 500

Standard Cost Method assumes a constant stock value



### Purchasing

- Purchase 5 Units for 200 each
- Current Unit cost = 100
- New Inventory Value = 1000 (Variance of 500)

Unit cost remains the same regardless of purchase price



### Sales

- Sell 7 for sales price of 300
- Current Unit cost = 100 Total COGS = 700
- New Inventory value 300

The difference between purchase price and standard cost posts to a variance account.

The standard cost valuation method assumes a constant stock value, regardless of the purchase price. With the standard cost method, the unit cost is determined manually when you setup the item. Variances that occur due to a different purchase price are recorded to a variance account, and the unit cost is not affected.

So in our example, the unit cost is set to 100.

We purchase 5 units at 100 each and then we purchase 5 units at 200 each.

It does not matter what the purchase price is. The value of each unit is set to the standard cost of 100.

We have 10 inventory. We multiply 10 by the standard cost of 100 to find the total value of the inventory is 1000.

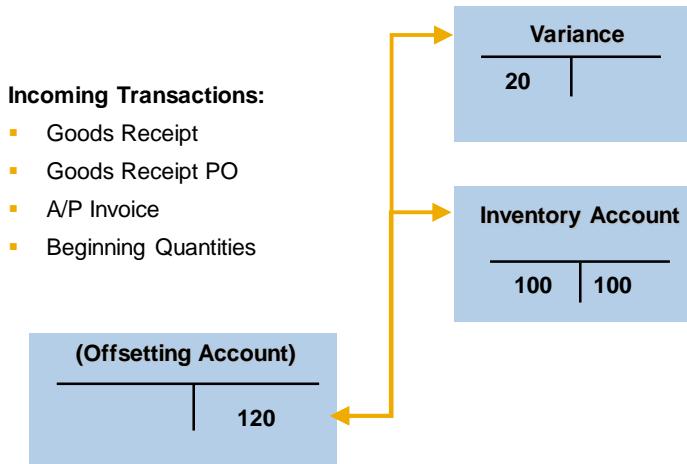
The difference in cost in the second purchasing transaction between the standard cost of 100 each and the purchase price of 200 each is registered to a variance account.

The inventory value after the sales transaction is also set by the fixed unit cost of 100.

The 7 units sold are multiplied by 100 for a total cost of goods sold of 700.

When subtracting this 700 total cost of goods sold from the inventory value of 1000, you get 300 as the new inventory value.

## Stock Movements with Standard Cost



As we discussed previously, if an item is managed with standard cost valuation, a variance account is needed when posting any kind of goods receipt (goods receipt without reference, goods receipt PO, A/P invoice, beginning quantity). The variance account receives the difference between the standard cost and the cost in the document.

Here is a graphic look at what happens when you receive an item with a standard cost.

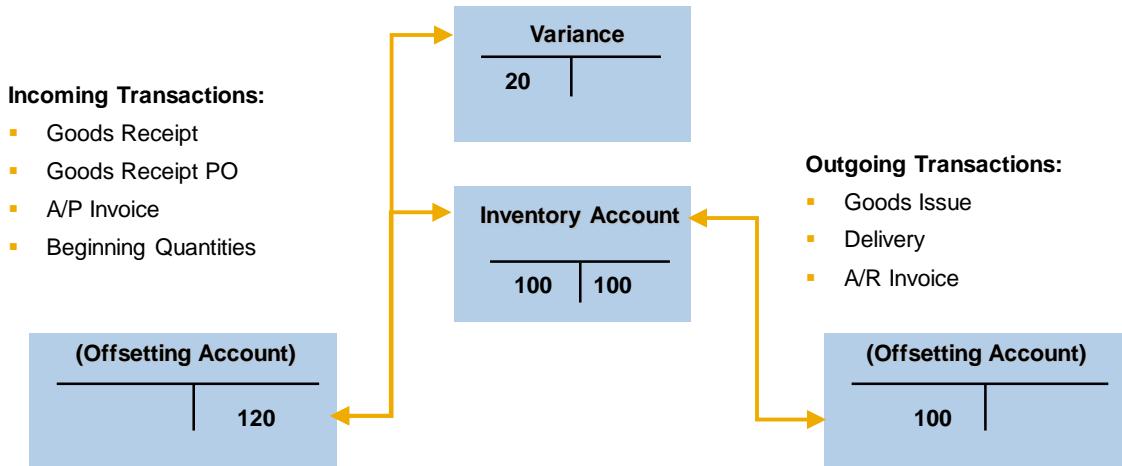
In this example, the value of the item when received is 120. However, our item's standard cost is set at 100.

The journal entry will post the amount of 120 to the appropriate account depending on the type of transaction used – here we have labeled it as the offsetting account.

Since the standard cost is 100, 100 is posted to the inventory account for the one unit purchased.

The difference of 20 is posted to the variance account.

## Stock Movements with Standard Cost



No matter what the actual cost of the item was initially, the unit value of item in the inventory account is always equal to the standard cost. In this case, the unit cost of 100.

Therefore, when the item is issued out of the warehouse, on a goods issue, delivery or A/R invoice, the cost of goods sold for each unit will always be the same as the standard cost, in this example 100.

## Set standard cost

The screenshot shows the SAP Inventory Revaluation window. At the top, it displays 'Number' (ST1000), 'Series' (Primary), 'Posting Date' (01.04.), 'Document Date' (01.04.), 'Ref.' (2), and 'Inflation-Based Revaluation' (unchecked). The 'Revaluation Type' is set to 'Price Change'. The main grid shows item details: Name (ST1000), Standard Cost (100.00), Unit of Measure (GBP 0.00), In Stock (0.000), Q/L Increase Acct (500300), and Q/L Decrease Acct (500310). Below the grid are sections for 'Serial/Batch Number Filter' (Filtered By, Find, FIFO Layers), 'Remarks' (Journal Remark: Inventory Revaluation), and buttons for 'Add' and 'Cancel'.

- Set standard valuation of item cost in *Inventory Revaluation* window.
- When you add a new item with standard cost, the system prompts you to update the cost in the *Inventory Revaluation* window.
- *Inventory Revaluation* creates a journal entry automatically (when inventory exists). This will give you a clear audit trail for all changes to an item's standard cost.

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Unlike the other three methods, you need to set a standard cost for an item, rather than having the cost be set through incoming transactions.

You set the standard cost for an item in the *Inventory Revaluation* window.

When you create a new item with the standard cost valuation method, the system prompts you to open the *Inventory Revaluation* window to update the cost of the item.

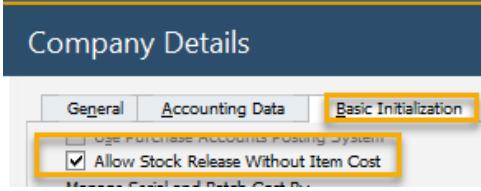
The *Inventory Revaluation* window entry creates a journal entry automatically (as long as inventory exists).

This will give you a clear audit trail for all changes to an item's standard cost giving you control and visibility for tracking inventory costs.

Note that if you are using a release prior to 9.2, you will not have this feature so you will need to enter the standard cost directly in the item master.

## Issuing Items Without a Cost

- You may have items you want to issue from a warehouse that have not yet been assigned a cost.
- The *Stock Release Without Cost indicator* permits you to do this.
- This is only possible for items set for FIFO or Average Cost valuation.
- Consult an accountant to verify business and legal requirements before selecting this option.



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Sometimes you may have items you want to issue from a warehouse that have not yet been assigned a cost.

The *Stock Release Without Cost indicator* in *Company Details* on the *Basic Initialization* tab is a setting that permits you to do this. This is only possible for items set for FIFO or Average Cost valuation.

Be cautious in selecting this option because issuing materials from a warehouse without a valuation can have a serious impact on inventory figures and value. Always check with an accountant to verify the business and legal requirements.

## Inventory Audit Report

### Generating Inventory Audit Reports:

- Provides an audit trail for the posted inventory transactions in the chart of accounts.
- Makes comparisons between the accounting view and the logistics view.
- Explains the value changes in inventory accounts.
- Does not recalculate the item cost but displays the information from the database.
- Displays only inventory related transactions in the report.



A useful report for companies using perpetual inventory is the Inventory Audit report.

This report provides an audit trail for the posted inventory transactions in the chart of accounts.

You can use this report to make comparisons between the accounting view (inventory balance accounts) and the logistics view (inventory value displayed by the audit report). The report explains the value changes in inventory accounts.

The report does not recalculate the item cost but displays the information from the database. In addition, only inventory related transactions are displayed in the report. Transactions with non-inventory items or drop-ship warehouses are not displayed.

Note that the Inventory Audit report is available only for companies using the perpetual inventory system. To create what-if scenarios, use the Inventory Valuation Simulation report.

## FIFO Layers Report by Consumption Order

### Using the FIFO Layers Report by Consumption Order:

- Provides list of open FIFO layers and their individual and cumulative values.
- Quantities reflect the current available per layer, not the original quantity
- Layers are listed in the order in which they will be consumed.
- Drill down capability to the transaction that created the FIFO layer is provided.

The screenshot shows the SAP Fiori interface with the 'FIFO' module selected. A yellow arrow points from the 'FIFO Layers Report by Consumption Order' section in the left sidebar to the report itself. The report details five FIFO layers for item 300014, warehouse 01, and location Fetham. The data is as follows:

#	Item No.	Description	Ware...	Layer ID	Creation Date	Document	Open Qty	Cost	Open Value	Cumulative Open Qty	Cumulative Open Value
1	300014	10HC 12B 08		01	24.04	HD 740	1,094.00	15.00	29,910.00	1,094.00	29,910.00
2						HD 741	10,000.00	15.00	150,000.00	11,094.00	150,000.00
3						HD 742	10,000.00	9.75	97,500.00	21,594.00	252,410.00
4											
5											

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This report supplies useful information for companies using FIFO Valuation for some or all of their items. It lists available FIFO Layers by Item, by Warehouse. Selection criteria can be used to focus only on certain Items, certain Item groups, Items with certain Properties and specific Warehouses. Layers are presented in the order in which they will be consumed.

The number of layers displayed can be constrained, in the event that a user might only wish to see the cost for the next layer to be consumed by a contemplated Delivery or AR Invoice.

Drill down capability is provided to enable a user to view the Marketing Document that created the FIFO Layer. Quantities displayed are the remaining available quantities and not the original quantity.

The report is display only – in order to change the cost in any layer you would use the Inventory Revaluation function.

## Non-Perpetual Inventory System



### Definition:

- An inventory management system in which costs of inventories are not maintained on a constant basis.
- Transactions which reflect the inventory levels do not generate inventory-related monetary entries directly into the general ledger.

We have talked a lot about perpetual inventory. Let us take another look at the alternative method. A non-perpetual inventory system is an inventory management system in which costs of inventories are not maintained on a constant basis.

In a non-perpetual inventory system, sales, purchasing, inventory, and production transactions, which reflect the inventory levels, do not generate inventory related monetary entries directly into the general ledger.

Therefore, the inventory value of a company is not revalued on every inventory release or receipt. Instead, the inventory account balance is updated by manual journal entry once in every accounting period or after a physical inventory count.

The inventory value can be calculated using the inventory valuation report.

You must set up a non-perpetual inventory system during the basic initialization of the company, before any transactions have been posted. Once transactions have been posted, you cannot change the inventory system used for that company.

Note that some countries have a non-perpetual inventory system as their default inventory management system, such as Germany, Israel, Italy, Panama, South Africa, and Switzerland.

## Summary (1/2)



Here are some key points:

- You have two choices for defining inventory valuation: perpetual inventory or non-perpetual inventory.
- A perpetual inventory system automatically controls both stock levels and stock value by creating automatic journal entries for accounts in the general ledger when items defined as inventory items are received or released from stock.
- In a non-perpetual inventory system, inventory transactions are automatically created but affect only the inventory levels and have no effect on the stock value.
- Three methods are available for calculating item cost: Moving Average, First In First Out (FIFO), and Standard Cost.

You have two choices for defining inventory valuation: perpetual inventory or non-perpetual inventory. A perpetual inventory system automatically controls both stock levels and stock value by creating automatic journal entries for accounts in the general ledger when items defined as inventory items are received or released from stock.

In a non-perpetual inventory system, sales, purchasing, inventory, and production transactions automatically create inventory transactions which affect only the inventory levels and have no effect on the stock value. However, it is possible to get an estimate of inventory value using different inventory reports.

Three methods are available for calculating Moving average, FIFO, and Standard Cost.

## Summary (2/2)



- Using Moving Average: Item cost = total inventory divided by on-hand quantity.
- With FIFO, item cost is managed by layers. Each receipt transaction creates a new layer. Each issuing transaction uses the first available open layer.
- The Standard Cost Method assumes a constant stock value. Item cost remains the same regardless of purchase price. Any difference between purchase price and standard cost posts to a variance account.
- The inventory audit report is useful for viewing changes to inventory quantity and value in inventory accounts caused by inventory transactions.

Using the Moving Average method: Item cost equals total inventory divided by on-hand quantity. With FIFO, item cost is managed by layers. Each receipt transaction creates a new layer. Each issuing transaction uses the first available open layer.

- The Standard Cost Method assumes a constant stock value. Item cost remains the same regardless of purchase price. Any difference between purchase price and standard cost posts to a variance account. The inventory audit report is a useful way to view changes to inventory quantity and value in inventory accounts caused by inventory transactions. You can use this report to make comparisons between the accounting view (inventory balance accounts) and the logistics view (inventory value displayed by the audit report).

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## Items and Inventory: Serial Numbers and Batches

SAP Business One  
Version 10.0

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Welcome to the overview topic on serial numbers and batches.

## Objectives



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

- List the business reasons for using serial numbers and batch management
- Create and use a batch-managed item
- Create and use an item managed by serial numbers

- In this topic, we will explore two of the methods for tracking items you purchase, make or sell: serial numbers and batches.
- We will look at how to create and use a batch-managed items.
- We will look at how to create items and use items managed with serial numbers.

## Business Scenario



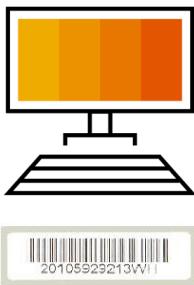
- Your company would like to more closely track items that they make, buy and sell throughout each item's lifecycle.
- Some of the items, such as computers, are managed by serial numbers. Each individual computer has a serial number to track sales and service for that item.
- Other items, such as printer cartridges, are purchased in lots and are managed by batches in order to track expiration dates.

Imagine that:

Your company would like to more closely track items that they make, buy and sell through their lifecycle. Some of the more expensive items, such as laptops and desktop computers, are managed by serial numbers. Each individual laptop or computer has a serial number so that you can easily track sales and service for that particular laptop or computer.

Others items, such as printer cartridges, are purchased in lots and are managed by batches in order to track expiration dates.

## Serial Numbers



### Serial Numbers

- Used to track individual objects

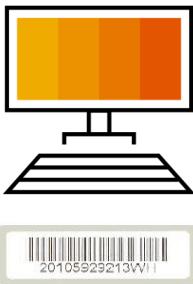
Serial numbers can help you track items down to the level of each individual object in your warehouse, so you know exactly which one was sold to a customer.

Serial numbers are also very useful as a way to track service history for a customer's purchase.

Here are two criteria that can be used to decide if an item should be serialized:

- Is the item a high value item?
- Should the item be tracked for security or repair reasons?
- If the answer to both questions is yes, then the item is a good candidate for serial numbers.

## Serial Numbers and Batches



### Serial Numbers

- Used to track individual objects

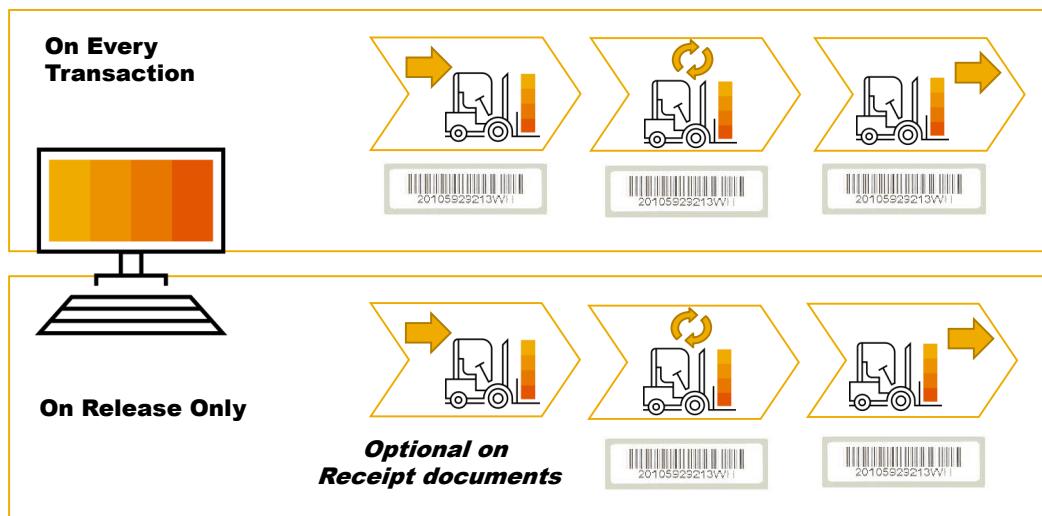
### Batches

- Used to track groups of items with common characteristics

In contrast, batches are used to track a quantity of an item with characteristics in common. These characteristics might be attributes you define, such as a shade of color, granularity or PH balance. The characteristics could be dates, such as expiration dates, manufacturing date, or the date the items were received into inventory.

A good example of a batch-managed item would be milk. Each batch of milk has a sell-by date. It is very important to track this date and make sure the milk is sold before its expiration date.

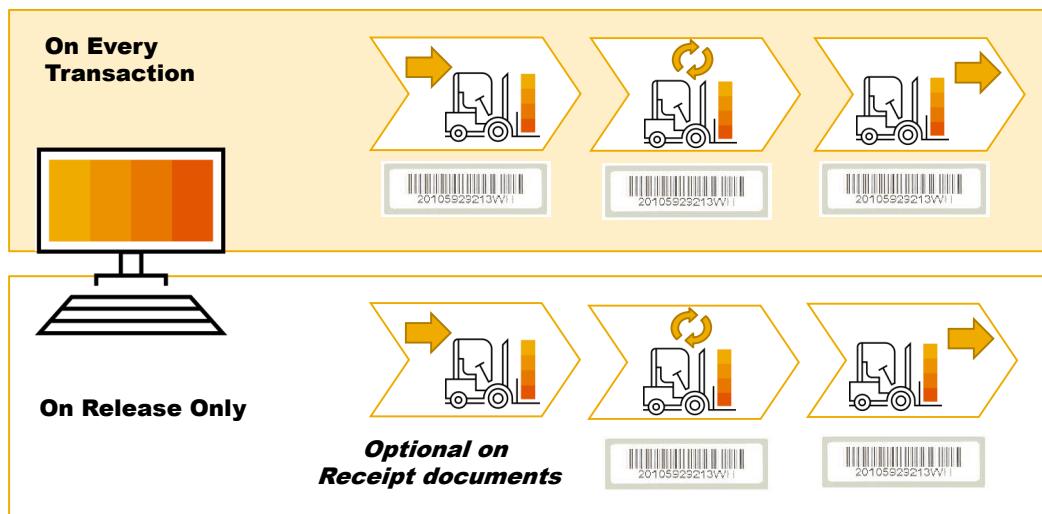
## Management Method



You have the option to set the serial numbers or batch numbers to be assigned on every transaction or to be assigned on release only.

This is controlled by the “management method” field on the item master record. The two options are called “on every transaction” and “on release only”.

## On Every Transaction



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If you choose “on every transaction” then you must assign serial number attributes for every single unit at the first point it enters inventory.

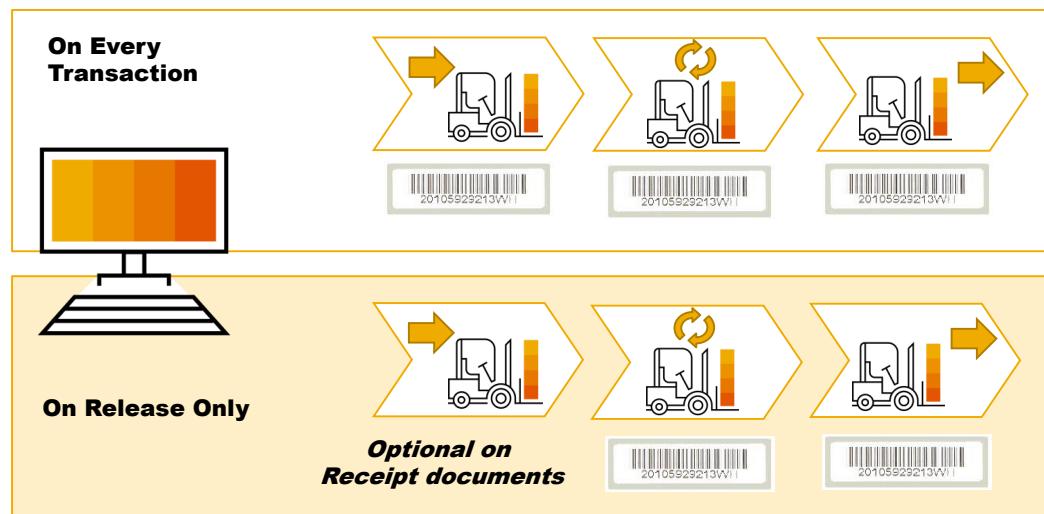
Thereafter, the system will prompt you for a serial number on every transaction where the item is issued out of inventory or returned to inventory.

This way you know exactly which objects are in inventory and which objects have been shipped to a customer.

This method is useful when you need to track the individual objects at all times, and where the receiving personnel have the appropriate information at the time the units are received.

When you first receive the serialized items into stock, you can choose the option to enter serial numbers manually or to create serial numbers automatically using a serial number string of your choice.

## Release Only



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"On release only" means that serial numbers are only required on documents that issue an item out of a warehouse.

Release documents not only include: goods issue, delivery, A/R invoices and goods issues to production, but also inventory transfers between warehouses and return and credit documents.

When you use "On Release Only" at the time of purchase, there is no need to enter serial number attributes. However, when you remove the item from inventory, the serial numbers for these objects must be created first using the Serial Item Management window.

An alternate option is to choose "automatic serial numbering creation on receipt". When you purchase the serialized item, the system automatically creates successive numerical serial numbers for the quantity you have purchased. With this option, you can immediately release these objects without further operations. You can update the serial number attributes at a later stage, using the Serial Item Management window. This is especially useful when a large quantity is produced or purchased.

Why might you choose "on release only"?

One example might be if you manufacture an item and would like to issue it into inventory without a serial number. This way, you can wait to assign the serial number until item is picked for delivery. "Release Only" gives you the flexibility to not worry about serial numbers inside the warehouse.

## Optional Allocation



Create  
Sales Order



Allocate or review serial  
number details

Unlike release documents that issue stock from inventory, serial and batch information is always optional on sales orders, because sales orders do not have any effect on inventory, except to create a commitment. If you would like this commitment to capture information about a specific serialized item or specify a batch to be sold, then you can do so in the sales order.

Reserving specific serial numbers or batches at the time of the sales order allows for better control and inventory planning. Perhaps you build some customized computers as special orders for customers. In that case, you may wish to designate a serial number in the sales order that will follow the computer through the customizing process until the delivery.

This optional assignment is also possible in an inventory transfer request or an A/R reserve invoice.

## Optional Allocation



Create Sales Order

Allocate or review serial number details

Delivery includes serial number

If the invoice references a delivery, then you can no longer change serial numbers.

Once you have allocated the serial number in the sales order, the serial information will be copied to target documents for picking, delivery or invoicing

After the serial number is assigned to a sales order, you cannot select it for another document, without canceling the serial number allocation in the original document. Closing or canceling the sales order automatically cancels its serial number allocation.

When you copy the sales order to a target document, such as a delivery, the Serial Number window will open automatically so that you can confirm that this is the serial number you wish to use or you can update it with a new serial number.

However, once the serialized item leaves the warehouse on a delivery document, you can no longer view or change the serial numbers on an A/R invoice. If a credit memo is created, then you will be able to view the serial number window to confirm or update serial numbers.

## Summary



Here are some key points:

- Serial numbers track each individual unit of an item.
- Batches track a quantity of an item with characteristics in common.
- You have the option to set the serial numbers or batch numbers to be assigned on every transaction or to be assigned on release only.
- The management method “on every transaction” mandates that you assign serial number attributes for every single unit at the first point it enters inventory.
- “On release only” means that serial numbers are only required on documents that issue an item out of a warehouse.
- You can optionally assign serial and batch information on sales orders, inventory transfer requests and A/R reserve invoices.

Serial numbers track each individual unit of an item.

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You can optionally assign serial and batch information on sales orders, inventory transfer requests and A/R reserve invoices.



## Bin Location: Bin Locations Overview

SAP Business One  
Version 10.0

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Welcome to the Bin Locations Overview course topic.  
This course is part of a series of courses available for the bin locations unit  
and presents a high level overview.  
Detailed information will be provided in all other courses.

## Objectives



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

- List the benefits of using bin locations
- Describe at a high level:
  - Bin locations set up process
  - Manual and automatic allocation processes

At the end of this module, you will be able to:

List the benefits of using bin locations

Describe at a high level:

- Bin locations set up process
- Manual and automatic allocation processes



## Solution Benefits and Business Example

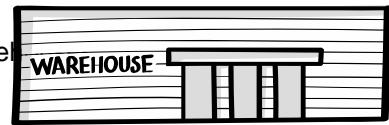


We start by going over the benefits of using bin locations and introducing a business example.

## Business Scenario



- You are working with George, the warehouse manager at OEC Computers, to analyze their logistics procedures and needs.
- He would like to improve the speed of storing and picking goods.
- OEC Computers' warehouse is very large. Often workers cannot quickly locate specific items for picking.
- Since there is no plan for where items should be stored, an item may be stored in multiple locations in the warehouse.
- You recommend using the bin location solution for his warehouse.



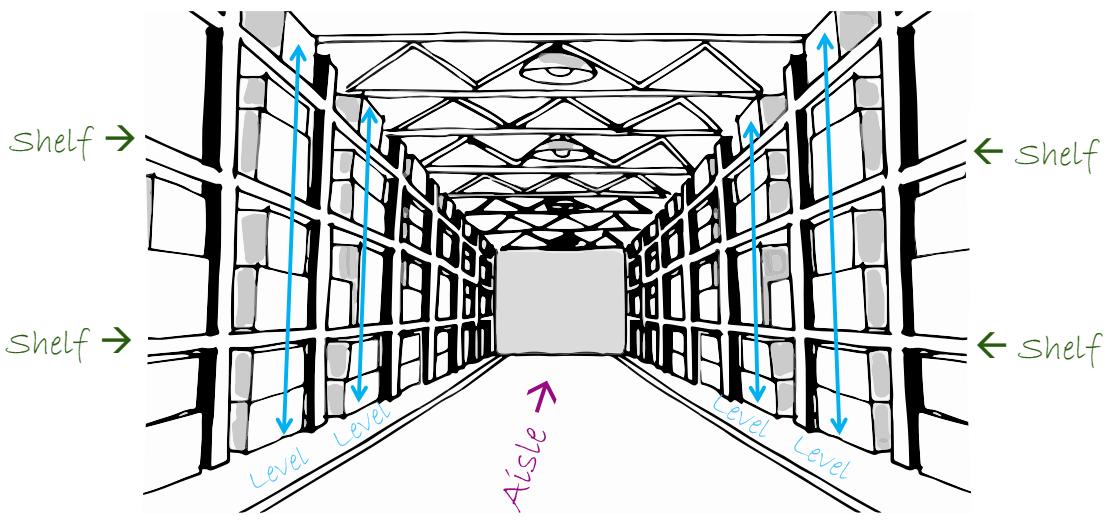
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- You are working with George, the warehouse manager at OEC Computers, to analyze their logistics procedures and needs.
- He would like to improve the speed of the logistics process, like storing and picking goods.
- OEC Computers' warehouse is very large and often workers cannot quickly locate specific items for picking.
- In addition, when receiving goods in the warehouse, another quantity of the same item may be stored in a different area of the warehouse. Because there is no record of where items should be stored, items are often stored in any empty location.
- You recommend using the bin location solution for his warehouses.

## Business Scenario

### OEC Computers Warehouse Structure



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To set up bin locations at OEC Computers, we first need to examine the structure of the warehouse. In the image, we can see the main warehouse of OEC Computers.

The warehouse is a big hangar divided into aisles. Each aisle has shelves stretching along the sides and each shelf is divided into levels, as shown in the image.



## **Warehouse Sublevels and Bin Locations Structure**



We will now discuss the structure of a bin location-managed warehouse.

We will view the bin location code formed according to this structure.

Lastly, we will see the bin location setup process.

## Warehouse Sublevels Structure

### Bin Location Code Composition - Example

#### Warehouse Level

#### Warehouse Sublevel 1 - Aisle

#### Warehouse Sublevel 2 - Shelf

#### Warehouse Sublevel 3 - Level

A unique combination of the warehouse code and the warehouse sublevel codes

## Warehouse 05



Bin Locations Code

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Let us get to know the sublevel structure of a warehouse managed by bin locations, so we understand how to define bin locations in OEC Computers' warehouse.

A warehouse structure often consists of a combination of different levels, such as an aisle, shelf, or floor. One area type can be a sublevel area of another type.

At OEC Computers, for example, a shelf is a sublevel of an aisle.

This means an aisle contains several shelves.

SAP Business One supports up to 4 warehouse sublevels.

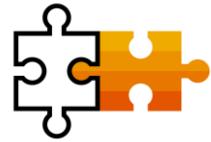
A combination of the warehouse code and warehouse sublevels codes defines the unique bin location code.

An example in the graphic can be the bin location code **05-A1-S2-L1**.

The same warehouse sublevel code can be used in many bin location codes.

We can see that level **L1** is connected to shelf **S1** and shelf **S2**.

## OEC Computers: Bin Location Code Structure



Sublevel structure	Warehouse - Sublevel1 - Sublevel2 - Sublevel3
Bin Location Code in OEC Computers	01 - A4 - S2 - L9
Details	Warehouse 01 – Aisle 4 - Shelf 2 - Level 9

Now , let us see an example of a bin location code structure.

We can see that the bin location code is a combination of the warehouse and warehouse sublevel codes.

## Bin Location Master Data

**Inventory → Bin Locations → Bin Location Master Data**

The screenshot shows the SAP interface for managing bin location master data. The window is titled 'Bin Location Master Data' and is organized into four main sections:

- Code structure:** Displays the hierarchical path: Warehouse 05 -> Aisle A1 -> Shelf S1 -> Level L1.
- Properties:** Contains fields for Inactive status, Receiving Bin Location (checkbox checked), Description (Receiving Bin Location), Item Weight, No. of Items, Alternative Sort Code, Minimum Qty, Maximum Qty, and several checkboxes for Exclude from Auto. Alloc. on Issue, Item Qty, No. of Batches/Serials, Bar Code, and Maximum Qty.
- Restrictions:** Includes Item Restrictions, UoM Restrictions, Batch Restrictions, Transaction Restrictions, Last Updated On, and Reason.
- Attributes:** Contains Further Info and Hazardous Goods Info.

At the bottom of the window are buttons for Add, Cancel, Manage Bin Locations, and Modify Bin Location Codes.

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Each bin location has one *Bin Location Master Data* record.

As on any master data window, a bin location code can be created, updated, removed, or duplicated.

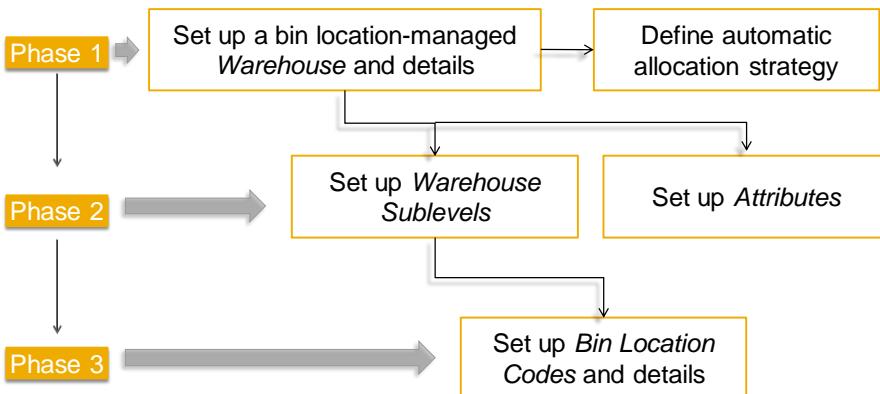
On the *Bin Location Master Data* window, you can create each bin location manually.

There is also a separate management window that allows the automatic creation of multiple bin location codes.

The *Bin Location Master Data* window can be divided into 4 logical parts: code structure, bin location properties, restrictions on bin locations, and bin location attributes.

To learn more about the different data stored in the *Bin Location Master Data*, refer to the **Bin Location Setup** course.

## Setup Process



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The diagram describes the workflow of the bin location setup process.

This setup is done in three phases:

- In phase 1 we activate and set up a bin location-managed Warehouse.
  - The bin location solution is enabled on a warehouse-specific basis on the *Warehouse Setup* screen.  
At this point, there is an option to define an automatic allocation strategy, which eliminates the need to allocate bins manually in documents.
- In phase 2 we set up *Warehouse Sublevels* and attributes.
  - An attribute is a characteristic, defined by the user, that provides additional information or meaning for the bin location.
  - After activating attribute fields, they are added as filtering and information fields in reports and other windows in the inventory module.
- In phase 3 we set up the bin location codes and bin location data.

In both phase 2 and phase 3, you have the option to create objects individually or in groups.

**Important:**

The bin location feature can be activated and set up in either a new or existing company without interfering with the regular course of work.

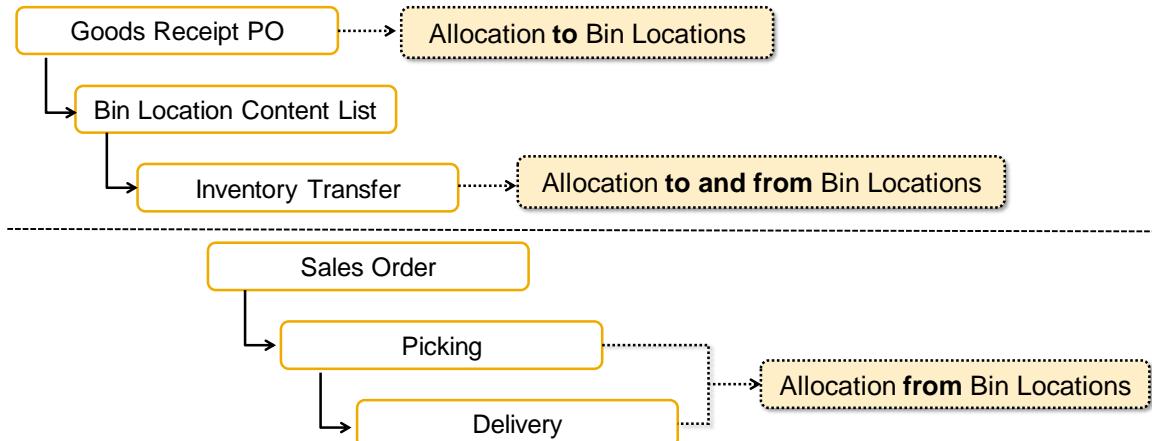


## Business Process Integrated with Bin Locations



Next we will follow a simple business scenario, starting with receiving goods in the warehouse and finishing by selling the goods.

## Business Process Scenario Integrated With Bin Locations



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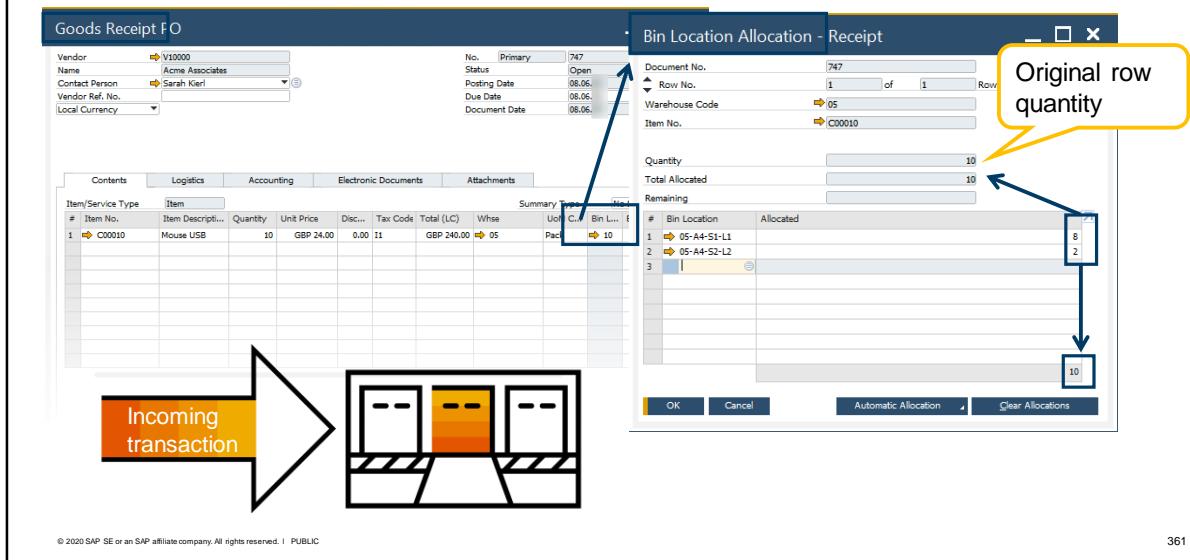
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In the next slides, we will follow an example of a business process that includes purchasing, transferring, picking, and selling an item in a bin location-managed warehouse that can be implemented at OEC Computers.

- We will start by adding a *Goods Receipt PO* to a special receiving area where inspections are made.
- Then we will have a look at the *Bin Location Content List* report.
- From this report, we will create an *Inventory Transfer* to move received goods to their storage bin location.
- On the sales side, we will review the delivery process of the item and focus on the picking procedure.
- The last step involves adding a *Delivery* document that creates an outgoing allocation from the item's bin location.

While walking through this process, we will review manual and automatic allocations.

## Allocations in Goods Receipt PO



OEC Computers purchases USB mouse units directly from the manufacturer. The purchasing manager issues a *Purchase Order* and when the goods arrive at the New York warehouse, the warehouse worker issues a *Goods Receipt PO*.

This *Goods Receipt PO* is the first time in the process where bin locations are used.

Every inventory receiving document that involves a bin location-managed warehouse requires allocation to specific bin locations.

This allocation can be manual or automatic. The allocation is made by document row.

To manually allocate the quantity in the row, choose the link arrow in the *Bin location allocation* field. The *Bin Location Allocation – Receipt* window opens for this row.

In the matrix at the bottom of the window, allocate the row quantity to the desired bin locations.

You may split the allocated quantity across multiple bin location codes.

For example when there is not enough room for all received units in one bin location, you can choose to allocate part of the quantity to another bin location.

## Automatic Incoming Allocations

### Receiving Bin Locations Option



#### 1. Creation of purchasing documents

Items are automatically allocated to the Receiving Bin Locations

#### 2. Goods receipt procedure in the Receiving bin location

(Inspection, sorting, labeling etc.)

#### 3. Inventory transfer to storage bin location

Bin Location Master Data

Warehouse	Aisle	Shelf	Level
05	A4	S6	L3
Bin Location Code: 05-A4-S6-L3			
Bin Location Properties			
Inactive	<input type="checkbox"/>	Exclude from Auto. Alloc. on Issue <input type="checkbox"/>	
Receiving Bin Location	<input checked="" type="checkbox"/>		
Description			
Item Weight			
No. of Items			
Alternative Sort Code			
Minimum Qty			
Maximum Weight			
Item Qty			
No. of Batches/Serials			
Bar Code			
Maximum Qty			

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The items were allocated manually in the *Goods Receipt PO*, but the system can allocate these items automatically according to the definitions made on the *Warehouse Setup* window.

OEC Computers has a special receiving area in the New York warehouse.

This area is defined as one or more bin locations defined as *Receiving bin location*.

The Receiving bin location is a transit bin location that is used as an inspection area for quality checks or any other receipt procedures.

When working with Receiving bin locations, all incoming transactions are placed in the Receiving bin locations unless alternative bin locations are chosen manually.

After completing the receipt, the items received can be transferred, using an *Inventory Transfer* document, to a storage bin locations.

## Automatic Incoming Allocations

### Automatic allocation strategies option

When using **Automatic allocation**, items are allocated automatically to a **storage bin location**



Automatic allocation on receipt can be defined as:

- Default bin location
- Current bin location
- The last used bin location
- Any historic bin locations

The second type of automatic allocation used for incoming inventory transactions is automatic allocation strategies.

The bin locations set by these strategies, in contrast to those used by the Receiving bin location functionality, are typically the storage bin locations, not temporary bin locations.

One of the automatic allocation strategies is the Default bin location. You can define the Default bin location at the Warehouse, Item Group, and Item levels.

When you use the Default bin location strategy, the system will automatically assign the default bin location at the document row level. The system chooses the first default bin location it finds, starting with the Item level, then the Item Group, and lastly the Warehouse default.

In addition to the Default bin location, there are three other automatic allocation strategies. These strategies allow you to automatically allocate goods to the current, last, or any historic bin locations where the item has previously been stored.

## Bin Location Content List



**Bin Location Content List**

Report View List  Display Batch/Serial Numbers

#	Select	Bin Location	Item No.	Item Qty	Receiving Bin ...
1	<input type="checkbox"/>	05-A1-S1-L1	A00005	10	Yes
2	<input type="checkbox"/>	05-A1-S1-L1	C00001	100	Yes
3	<input type="checkbox"/>	05-A1-S1-L1	C00002	100	Yes
4	<input type="checkbox"/>	05-A1-S1-L1	C00003	100	Yes
5	<input type="checkbox"/>	05-A1-S2-L1	I00013	100	Yes
6	<input type="checkbox"/>	05-A1-S3-L1	I00013	1,000	Yes
7	<input type="checkbox"/>	05-A1-S4-L2	B00002	4	No
8	<input type="checkbox"/>	05-A3-S4-L2	B00001	10	No
9	<input type="checkbox"/>	05-A4-S1-L1	C00010	96	No
10	<input type="checkbox"/>	05-A4-S2-L2	C00010	24	No

1,544

OK Inventory Posting List Inventory Transfer Set as Default Bin Loc.  
Clear Inventory Replenish Bin Locations

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George wants to see how many USB mouse items are left in the *Receiving* bin locations and then transfer them to their storage bin location.

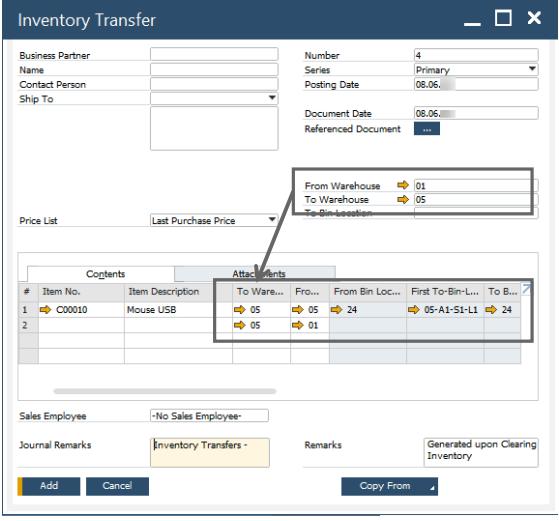
He generates a *Bin Location Content List* report. This report displays the quantity balance for each bin location per item.

Directly from the report you can:

- Run other inventory reports, filtered by the selected bin locations.
- Create an *Inventory Transfer* involving the selected bin locations, by choosing the *Inventory Transfer* button.
- Set selected bin locations as defaults, directly from the report.

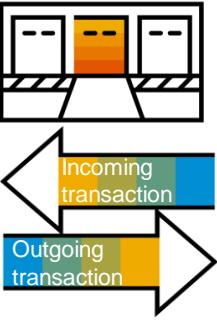
George selects the USB Mouse row in the report and chooses the *Inventory Transfer* button and then *Clear Inventory* to issue an inventory transfer for this item.

## Allocation in Inventory Transfer



The screenshot shows the SAP Inventory Transfer screen. At the top, there are header fields like Business Partner, Name, Contact Person, Ship To, Number, Series, Posting Date, Document Date, and Referenced Document. Below the header is a grid table with columns: #, Item No., Item Description, To Ware..., Fro..., From Bin Loc..., First To-Bin-Loc..., To Bin Loc... . Two rows are visible: Row 1 has item C00010 (Mouse USB) with From Ware: 05, To Ware: 05, From Bin Loc: 24, First To-Bin-Loc: 05-A1-51-L1, To Bin Loc: 24; Row 2 has item 2 with From Ware: 05, To Ware: 01. A callout bubble points to the 'From Warehouse' and 'To Warehouse' fields in the grid.

These fields contain the default values for the fields in the grid



The diagram illustrates the flow of an inventory transfer. It shows two warehouse locations represented by dashed boxes. An arrow labeled "Incoming transaction" points from the left warehouse to the right warehouse, indicating the movement of goods from one warehouse to another. Another arrow labeled "Outgoing transaction" points from the right warehouse back to the left warehouse, representing the return or further distribution of goods.

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George wants to transfer the USB mouse items from the Receiving bin location to the storage bin location.

When George chooses the *Clear Inventory* option in the *Bin Location Content List*, an *Inventory Transfer* opens.

The warehouse, bin locations, and quantities are copied from the selected rows of the *Bin Location Content List*.

This transfer is also possible within a warehouse, from one bin location to another.

Look at the image, where you see two bin location columns in the *Contents* table: *From Bin Location* and *To Bin Location*.

The header contains fields with default values. You can overwrite these values in the rows.

This enables the *Inventory Transfer* document to be created from multiple originating warehouses simultaneously.

This functionality is available even if the bin location functionality is not activated for a warehouse.

## Bin Locations in the Picking Process



#	Trans. T...	Doc. No.	BP Code	BP Name	Doc. Row	Delivery/Due Date	Number	Description	UoM Code	UoM Name
04	OR	1239	C30000	Maxi-Tec	1	22.04.	1	A00001 J.B. Offprint Manual		
05	OR	1240	C42000	Mashina Corp1	1	22.04.	1	A00001 J.B. Offprint Manual		
06	OR	1240	C42000	Mashina Corp2	1	22.04.	1	R0001 Printer Paper A4 Pack		
07	OR	1241	C30799	34 Technologi1	1	22.04.	1	A00001 J.B. Offprint Manual		
08	OR	1241	C30000	Maxi-Tec	1	23.04.	1	A00001 Rainbow 1200 L Manual		
09	OR	1228	C30000	Microchips	1	30.04.	1	A5000 J.B. Offprint Manual		
10	OR	1239	C30000	Parameter Tec1	1	05.05.	1	A00001 J.B. Offprint Manual		
11	OR	1239	C30000	Maxi-Tec	1	16.05.	1	A00001 J.B. Offprint Manual		
12	OR	1239	C30799	34 Technologi1	1	16.05.	1	A00001 J.B. Offprint Manual		
13	OR	1237	C30000	Parameter Tec1	1	16.05.	1	A00001 J.B. Offprint Manual		
14	OR	1238	C30000	Microchips	1	16.05.	1	A00001 J.B. Offprint Manual		
15	OR	1247	C30009	Liz Computers1	1	20.05.	1	C30004 Network Card1 Manual		
16	OR	1248	C30009	Liz Computers1	1	20.05.	1	C30001 Motherboard P Manual		
17	OR	1249	C30009	Liz Computers1	1	20.05.	1	A00001 Rainbow Color Manual		
18	OR	1228	C30000	Microchips	1	30.05.	1	A00001 Rainbow Color Manual		
19	OR	1251	C30000	Maxi-Tec	1	09.06.	1	C00010 Mouse USB Each		

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saMichael, the sales manager, issues a sales order for 25 USB Mouse items.

At this stage, no allocation is done.

George, the warehouse manager, begins the picking process by generating pick lists for his workers. In the *Open* drawer, he selects items and releases them to the pick list.

The *Pick List Generation Wizard* opens. From here he can:

- Filter by warehouse sublevels and attributes of bin locations he wants to pick from
- Split pick lists by warehouse sublevel or attributes
- Choose automatic allocation

And, of course, issue a pick list.

George chooses *Create* to generate a delivery for the Mouse USB item

## Allocations in Delivery

The screenshot shows the SAP Delivery document window. At the top, it displays customer information: Customer C20000, Name Maxi-Teq, Contact Person Norm Thompson, and Customer Ref. No. (empty). To the right, there are fields for Primary No. (1352), Status (Open), Posting Date (09.06.), Delivery Date (09.06.), and Document Date (09.06.). Below this, a table lists items: Item No. C00010, Item Description Mouse USB, Quantity 25, No. of Packages 25, Unit Price GBP 3.00, Total (LC) GBP 75.00, and Qty... 25. A dropdown menu next to the last column shows 'Bin Location Allocation' and 'No Summary'. A red box highlights the 'Bin Location Allocation' option. Below the table, a diagram illustrates an 'Outgoing transaction' from a warehouse rack containing three bins (one orange, two white) to a delivery truck.

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Every inventory-issuing document that involves a warehouse with managed bin locations requires an allocation of items to issue from specific bin locations.

In our example, we created a *Delivery* document during the picking process, containing the items and quantity picked.

Let us see how items are allocated when copying the *Delivery* from a *Sales Order* or when it is added directly.

The *Bin Location Allocation – Issue* window structure is similar to the *Bin Location Allocation – Receipt* window.

On this window we can see a list of bin location codes with quantities available to allocate from.

You may allocate from any row with available quantities to allocate.

The quantity can be entered manually from any available bin location, to combine the total.

In the displayed image, we can see the *Delivery* document George created from the Pick List.

- George needs to issue a quantity of **25** from warehouse **05**.
- There are two bin locations with a positive quantity of the item in the row.
- George wants to empty the first bin locations, to minimize the number of bin locations for this item.  
He chooses **10** from the first bin location and **15** from the second.
- An automatic allocation can be performed by choosing *Automatic Allocation*.

Note that the system can also perform automatic allocation when issuing goods.

Several automatic allocation methods are available. For example, the system can allocate the oldest entrance date of the item or according to a code sequence.

In this case, to allocate from the bin location with the least quantity first, an Ascending Quantity method should be defined.

To learn more about allocation method on issue, refer to the course: **Allocation Process in Bin Location**.

## Summary (1/2)



Here are some key points:

- A warehouse structure is represented as a hierarchy in SAP Business One.
- The elements of the structure can be divided into area types, like aisle or shelf.
- Each area type can be defined as a warehouse sublevel.
- Sublevels are defined in a hierarchy where sublevel\_A may contain several of sublevel\_B.
- The bin location is always the bottom level of the hierarchy.
- The bin location code is a combination of the warehouse code and each of the sublevels in the hierarchy for a specific bin location.
- Every document that generates an inventory transaction and involves a warehouse with bin location requires allocation of items to issue or receive from specific bin locations.

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Here are some key points to take away from this session:

- A warehouse structure is represented as a hierarchy in SAP Business One.
- The elements of the structure can be divided into area types, like aisle or shelf.
- Each area type can be defined as a warehouse sublevel.
- Sublevels are defined in a hierarchy where sublevel\_A may contain several of sublevel\_B.
- The bin location is always the bottom level of the hierarchy.
- The bin location code is a combination of the warehouse code and each of the sublevels in the hierarchy for a specific bin location.
- Every document that generates an inventory transaction and involves a managed bin location warehouse requires allocation of items to issue or receive from specific bin locations.

## Summary (2/2)



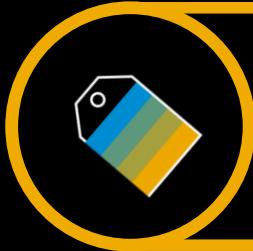
Here are some key points:

- Both incoming and outgoing allocation can be done manually or automatically according to a predefined set of rules.
- Manual allocation is done on the *Bin Location Allocation* window (*Issue* or *Receive*)
- A Receiving bin location is a transit bin location that is used as an inspection area for quality check or any other receipt procedures
- The *Bin Location Content List* displays quantity balances for each bin location and item.  
From this report, you can perform different actions, such as:
  - Create an *Inventory Transfer*
  - Display an *Inventory Posting List* report for selected bin locations
- An *Inventory Transfer* moves items to a different bin location within the same warehouse or to another warehouse

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- Both incoming and outgoing allocation can be done manually or automatically according to a predefined set of rules.
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# Pricing: Concepts

SAP Business One  
Version 10.0

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Welcome to the topic on pricing concepts.

## Objectives

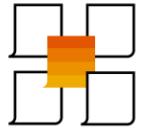


At the end of this topic, you will be able to:

- Describe the concepts behind pricing in SAP Business One:
  - Types of prices and discounts
  - Items and price lists
  - Associating prices with business partners
  - Pricing in a document

- In this topic, we will explore how pricing is handled in SAP Business One. We look at types of prices and discounts that can be set up for items in the system. We talk about items and price lists. We will look at how those prices are associated with a business partner and how the prices are brought into a document.

## Business Scenario



- Your company has multiple price lists which are used for different groups of customers.
- Some customers receive special prices because of their relationship with your company
- Customers may also receive discounts based on properties of the items sold
- Periodically you give discounts on the list price based on volume purchases or during sales events

Imagine that:

- Your company has price lists for different groups of customers.
- Some customers, such as your best customers, receive special pricing.
- Customers can additionally receive discounts based on item groups or properties of the items sold
- Periodically you give discounts on the list price based on volume purchases or during sales events

## Pricing in Business One



Businesses have needs for flexibility in pricing. Different customers receive different prices based on the circumstances of the sale.

For example, a one-time customer pays a higher price than a regular customer or one of your resellers. Similarly a customer buying a larger volume will get a better price than a customer buying only one. Internet customers get a lower price than customer who need customer service in a store environment. That is why SAP Business One has several ways to handle pricing.

Let us look at some of the different tools available to set up pricing.

In SAP Business One, we have price lists, period and volume discounts, discount groups, special prices for business partners and specific blanket agreements.

## Pricing in Business One: Price Lists

Price Lists

The basic way of pricing: Enter prices into price lists and assign the appropriate price list to a business partner.

Period and Volume Discounts

Discount Groups

Special Prices  
for BPs

Blanket  
Agreements

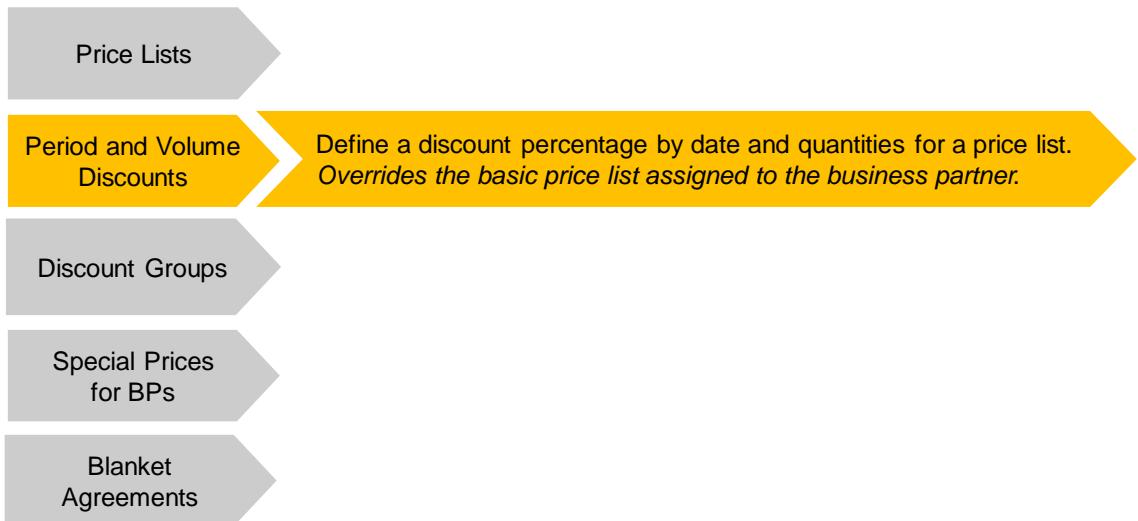
The first and most basic way of pricing is price lists.

You can set up price lists for different groups of customers.

On each price list you can enter a price for each item and unit of measure.

Then when a business partner who belongs to that price list buys an item, they get the right price for their customer group.

## Pricing in Business One: Period and Volume Discounts



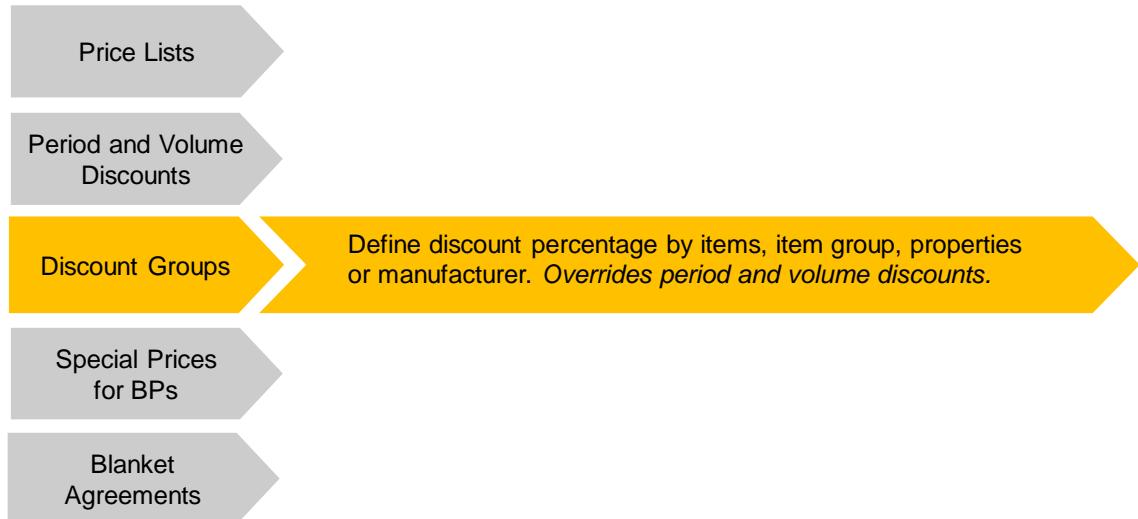
A basic price for the product may not be enough.

You may want to set up sale prices for a limited time period. You may want to give a discount when a customer buys in volume.

Period and volume discounts allow you to define discounts by dates and based on volume based on an existing price list. The discounts entered here will override the basic price in the business partner's assigned price list.

The unit of measure defined in the period and volume discounts must match the unit of measure specified in the document row for the discount to apply.

## Pricing in Business One: Discount Groups

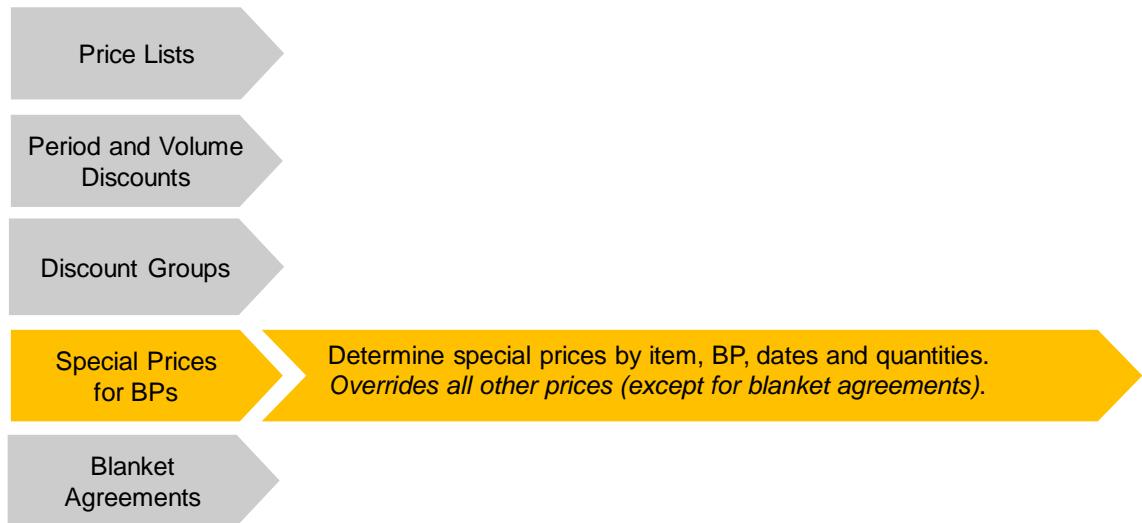


The next level of pricing is the discount groups.

You can add discounts based on item group, item properties, and item's manufacturer. These types of prices are called discount groups.

If a sales order line item is relevant for a discount group price, then that price will override a discount based on a period or volume discount or a price list price.

## Pricing in Business One: Special Prices for Business Partners



Some times you want to give an even better deal to your favorite customers. In that case, you can use special prices for business partners.

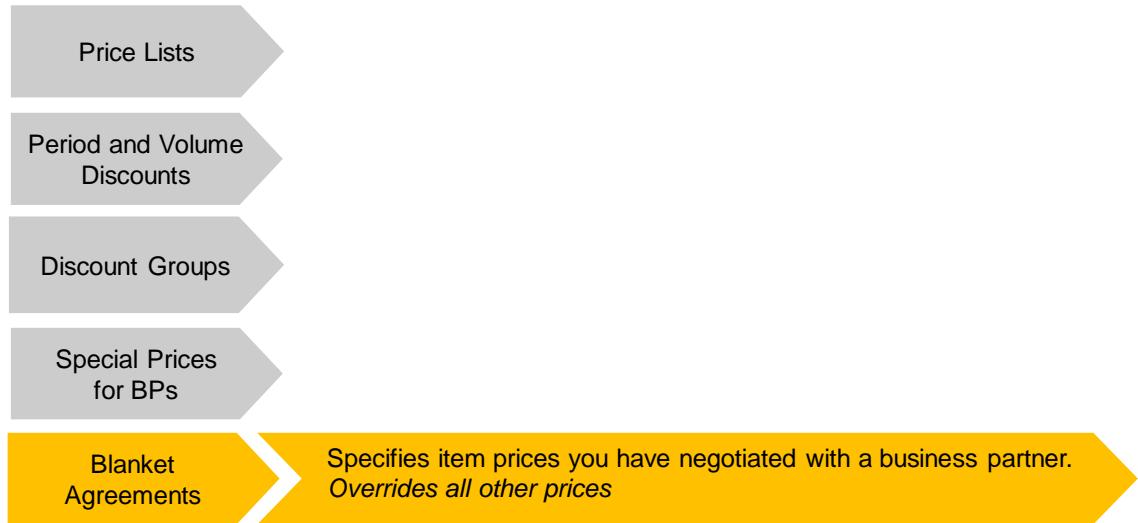
You can base your discounts on any price list, or simply enter them manually.

You can define discounts by date range and quantities and units of measure.

Special prices defined for a business partner override all other prices except blanket agreements.

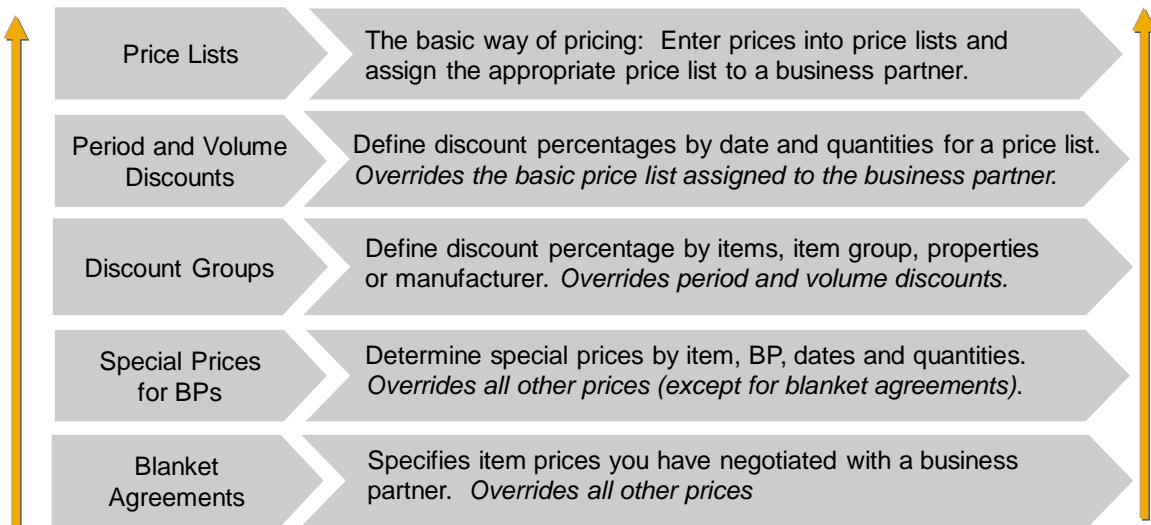
However, please note that the unit of measure defined in the special price must match the unit of measure specified in the row for the discount to apply.

## Pricing in Business One: Blanket Agreements



Blanket Agreements (with the type Specific) allow you to negotiate items, quantities and prices with a business partner for a certain validity period. This negotiated price will override all other types of pricing in a marketing document.

## Pricing in Business One



You will notice that the four types of prices range from the most general “price lists” to the most specific “special prices for business partners”.

When the system searches for a price, it looks for the most specific type of price first. So, that means it starts with the types of prices listed in the opposite order of how they have been introduced in this graphic.

The system starts looking for an applicable specific blanket agreement containing a price.

If there is no specific blanket agreement that applies, then it looks for a special price for that business partner.

If no special price exists for that business partner, it looks for discount groups.

If no discount group applies, it looks for period and volume discounts.

If no period and volume discount, it uses the price list assigned to the business partner to find the price.

The system also looks for pricing associated to the unit of measure used in the row.

## Price Lists

Price Lists

The basic way of pricing: Enter prices into price lists and assign the appropriate price list to a business partner.

- Price lists provide flexibility in pricing
- Price lists are used in both sales and purchasing

Let us start by focusing on price lists, because they are the most basic way of pricing.

Managing multiple price lists allow you to provide flexibility in pricing.

For example, you want to offer customers that make regular purchases from you or who purchase large quantities a lower price than customers who only make occasional purchases or purchase small quantities of an item. Pricing could also be based on the size of a customer.

Price lists are not only used in sales, but like all of the pricing functionality, they are used in purchasing as well. Typically you will have one or more price lists set up to represent your vendors' prices for regularly purchased items.

## Item Prices

- Every item in your system is automatically linked to every price list.
- In the *Item Master Data* window, you can use a dropdown to view each price list and assigned price.
- Two price lists are automatically maintained by the system:
  - Last Evaluated Price
  - Last Purchase Price

Item Master		
Item Number	A1001	
Price List	Purchase Price List	299.00
	Price List Low Volume	599.00
	Price List High Volume	499.00
	Price List 04	799.00
	Price List 05	299.00
	Price List 06	349.00
	...	

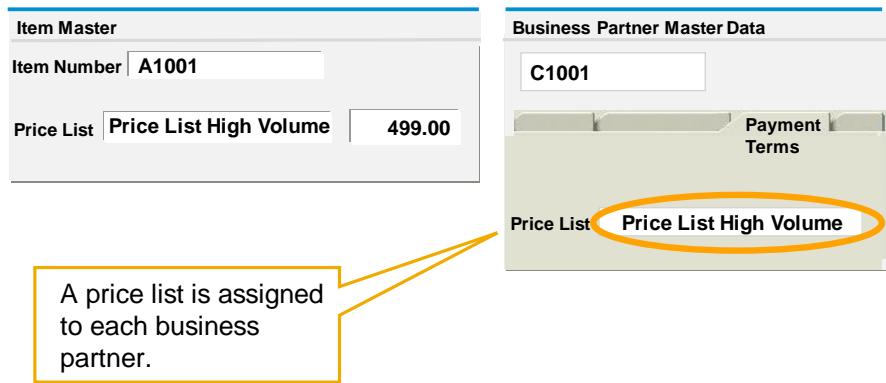
Every item in your system is automatically linked to every price list. You can set an indicator in General Settings that removes items without prices from price lists.

When you look in an item master, you will see that you can view prices for multiple price lists directly in the item master. Only one price list will show at a time, but you can access each one and view the assigned price.

You can assign prices for the item in all but two of the price lists. Two of the default price lists are maintained by the system and cannot be maintained by users: Last Evaluated Price and Last Purchase Price.

However, even though it is possible, you may not wish to maintain pricing for the other price lists directly in the item master because this overrides automatic pricing in a price list.

## Price list concept

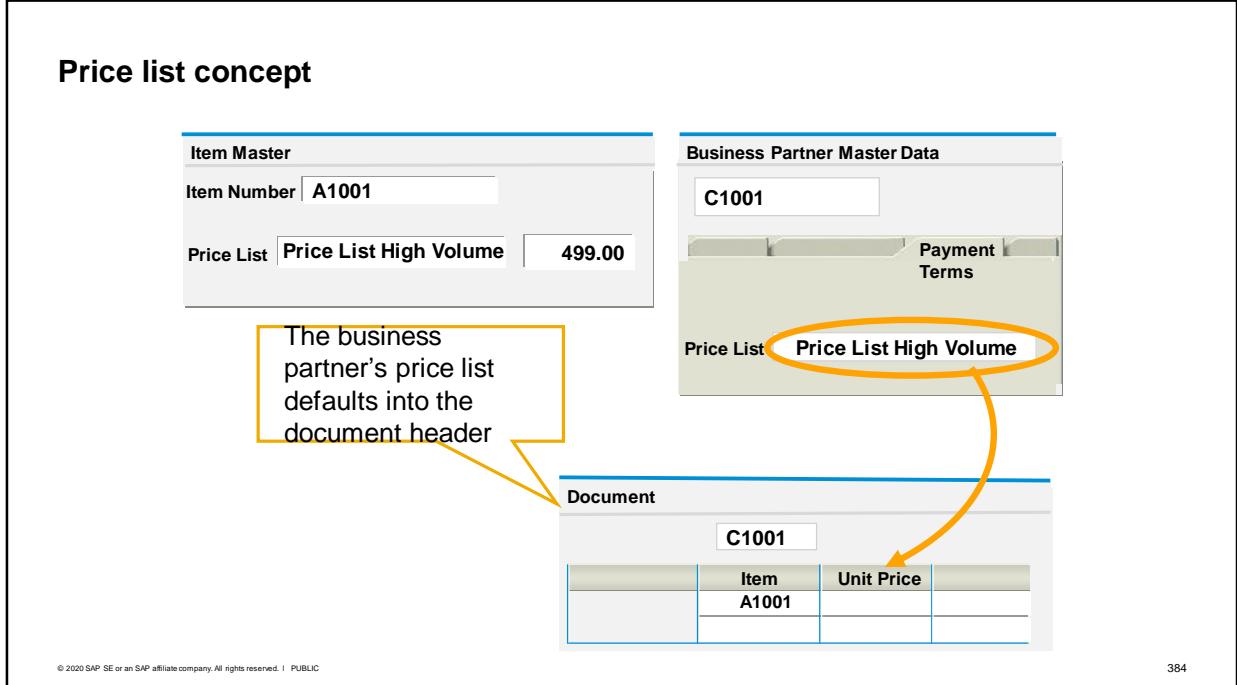


When you create a business partner, a price list is assigned to each business partner. Price lists can default from the customer's customer group or from the assigned payment terms if no price list is assigned to the customer group.

A business partner is assigned to only one price list.

You can view and change the defaulted price list in the business partner master.

## Price list concept



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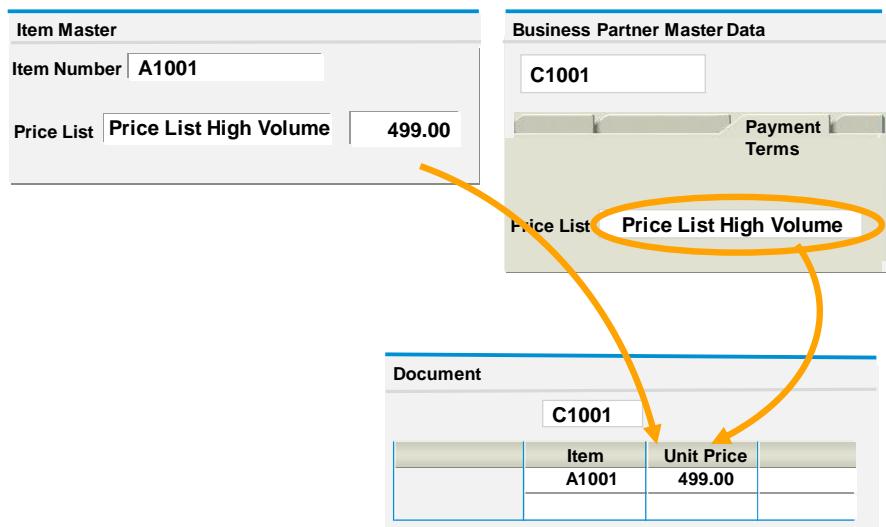
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When you create a marketing document, the system brings in the price list associated with the business partner to the header of the document.

You can see the assigned price list in the *Form Settings* window for the document.

You can override the assigned price list in the document either by changing it directly in *Form Settings* or by changing the price list assigned in the payment terms in document's *Accounting* tab. If you change the payment terms, the system will prompt you to ask if you want to change the payment terms assigned to the business partner.

## Price list concept



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As you enter items in the document, the system proposes a price for each item based on the price list or any discounts or special prices you have defined.

## Two Fields Controlling Pricing in Rows

- There are two fields controlling pricing in the rows of marketing documents.
  - Unit Price field
  - Discount % field.

Unit Price	Discount %	Total
300	10	270

- These two fields work together to give you the total price for the row.
- The system will look for a price and determine if any discounts are to be applied.

There are two fields controlling pricing in the rows of marketing documents. The Unit Price field and the Discount % field. These two work together to give you the total price for the row. The system will look for a price and determine if any discounts are to be applied.

## Price Determination in SAP Business One

Document		
Item	Unit Price	Discount
	???	???

1. Does a valid specific blanket agreement exist for the item?
2. Does a BP and item-specific special price exist for the item and unit of measure?
3. Does a discount group exist?
4. Do period and volume discounts for the Price List exist?
5. Price List

Since you can define several prices in the system for the same item, the system needs to use a certain logic to find the valid price, starting with the most specific price. The system uses the above list of priorities to find the valid price. Once it has found the price and any applicable discounts, it enters the results in the document.

The first place to look is in any specific blanket agreements for this customer. If there is a valid blanket agreement for this business partner and this item with a price, then the system will take that first.

## Price Determination in SAP Business One

Document		
Item	Unit Price	Discount
	???	???

1. Does a valid specific blanket agreement exist for the item?
2. Does a BP and item-specific special price exist for the item and unit of measure?
3. Does a discount group exist?
4. Do period and volume discounts for the Price List exist?
5. Price List

NO

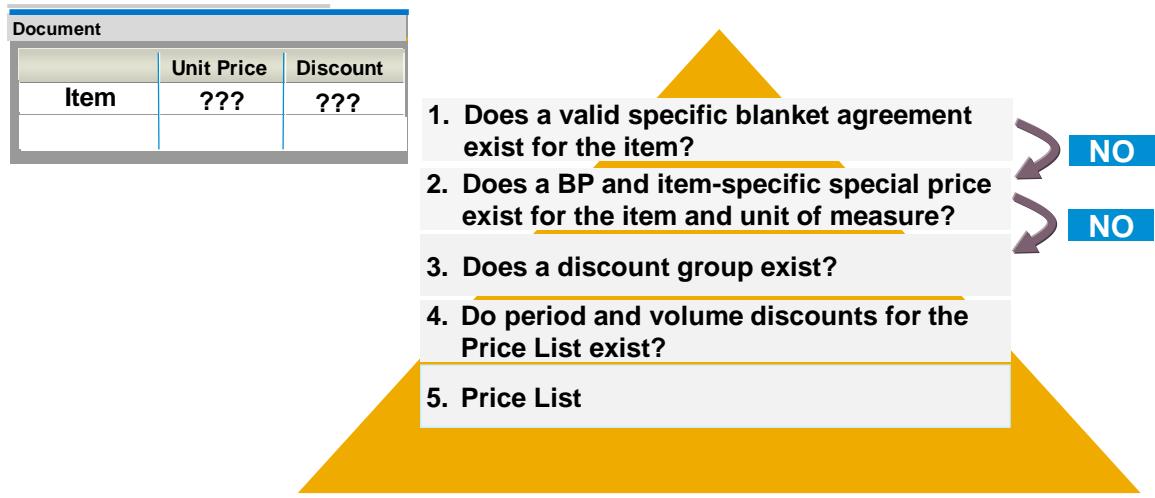
If there is no valid blanket agreement, then the system will look for special prices for this business partner.

The business partner, item and unit of measure in the special prices for business partners must match those in the document.

If a price is found, it is entered in the document.

The special prices for business partner price can also have an associated discount percentage in addition to a price. If there is a discount percentage, that is also entered.

## Price Determination in SAP Business One



If no price exists in the special prices for business partners, then the system looks for a discount group associated with that business partner.

A discount group will have a discount percentage associated with it, but a discount group will not contain a price.

If there is a discount group, then the discount will be entered.

Even if a discount is found, the system will still continue to search further to find a price for the discount to apply to. The system looks first for a price in any period and volume discounts pricelist assigned to the customer. If one is found there the discount group discounts will apply to the period and volume pricelist price. If there is no valid period and volume record for that customer, then it will apply the discount group discount to the price in the customer's assigned price list.

## Price Determination in SAP Business One

Document		
Item	Unit Price	Discount
	???	???

1. Does a valid specific blanket agreement exist for the item?
2. Does a BP and item-specific special price exist for the item and unit of measure?
3. Does a discount group exist?
4. Do period and volume discounts for the Price List exist?
5. Price List

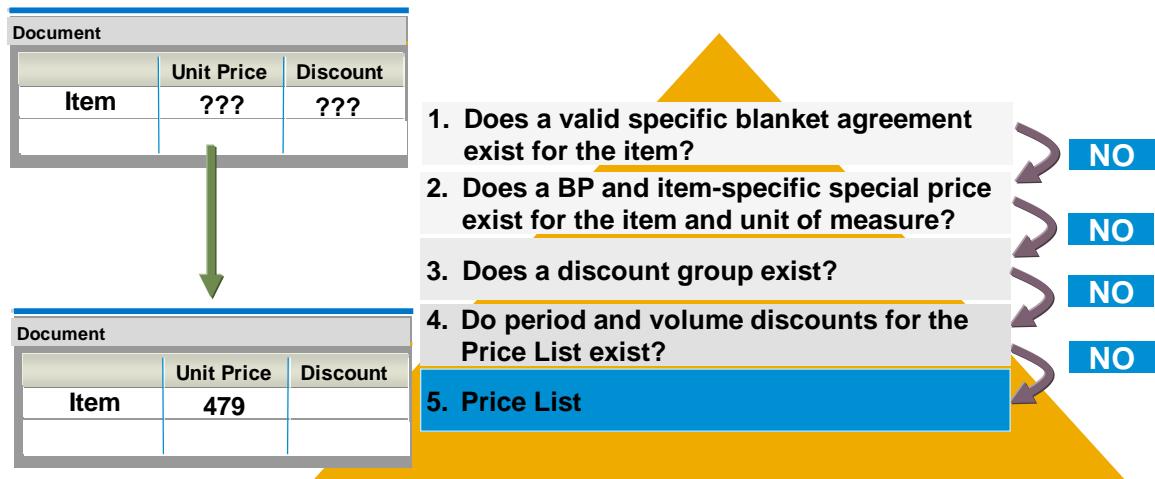
NO  
NO  
NO

The next place the system looks is for a period and volume discount.

The system looks to see if the item and unit of measure specified in the row match the period and volume discount for the pricelist.

If both an applicable discount group and a period and volume discount are found, the discount percentage is applied to the Discount field and the period and volume discount price is applied to the Unit Price field.

## Price Determination in SAP Business One



If no valid period and volume discount for this price list exists for this item and unit of measure, then it uses the basic price list assigned to the document to determine the unit price.

If a specific price exists for the unit of measure in the document, then that price will be used. However, the price list does not need to contain an entry for the specific unit of measure used in the document. A price will be automatically calculated for the item based on the relationships in the unit of measure group. If there had been an applicable discount group but no period and volume discount, then the discount would be taken from the discount group and the unit price from the price list.

## Price Source in Documents

Price source field provides information about the source of a price or discount on the item

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Since a document can contain prices not only from the price list, but also from other types of special pricing: period and volume discounts, discount groups and special prices for business partners, it is useful to be able to identify the source of the price.

The price source field provides information on the source of prices and discounts on the item row.

The field can contain one of the following values:

- Inactive Price list. This indicates that the price list for the business partner is inactive.
  - Active Price List. This means that the price is taken from the business partner price list, with no discounts.
  - Active Price List, Discount Groups. In this case, the discount is taken from the discount group and the price comes from price list.
  - Special Prices for Business Partners. This means that the price is taken from the Special Prices for Business Partners window.
  - Period and Volume Discount. This shows that the price is taken from the Period and Volume Discounts window.
  - Period and Volume Discount, Discount Groups, the discount is taken from the Discount Group and the price is taken from the period and volume discount

This field can be especially useful to check if everything is working properly when you first set up pricing. To view the price source field, set it as visible in Form Settings.

## Effective Price Field

The screenshot shows the SAP Business Partner Master Data screen. The 'Payment Terms' tab is selected. A yellow arrow points from the 'Effective Price' dropdown in the 'Effective Discount Groups' section to a summary table on the right. Another yellow arrow points from the 'Lowest Price' option in the dropdown to the same table.

	Unit Price	Discount
Special Prices for BP	270	
Discount Group	None defined*	
Period & Volume Disc	300	20%
Price List Price	300	

Unit Price	Discount %	Total
300	20	240

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Many companies want to use the pricing hierarchy that searches for the most specific price first. In most cases, this will lead to the best price being chosen for the business partner. However if a company is one that has a lot of “flash sales” that offer deep discounts for a short period of time, there may be situations where a customer with business partner specific pricing will not receive the best discount. If this is likely occurrence, you have the option to use a setting on the *Business Partner Master Data - Payment Terms* tab, that allows you to have the system search all the possible prices available and always choose the lowest price. This case is described in the example shown on this slide. The *Effective Price* field defaults to *Default Priority*, but you can switch it to *Lowest Price* or *Highest Price*.

## Effective Price Field

The screenshot shows the SAP Business Partner Master Data interface. In the center, there's a large input field labeled "Effective Price" which has a dropdown menu open. The options shown are "Lowest Price" and "Effective Price Considers All Price Sources". The second option, "Effective Price Considers All Price Sources", is checked and highlighted with a red border. Below this field, there is a section titled "Effectvie Discount Groups" with a dropdown set to "Lowest Discount". To the right of the main form, there are several status indicators and summary tables.

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- When the *Lowest Price/ Highest Price* option is selected in the *Effective Price* field, the *Effective Price Considers All Price Sources* option becomes available.
- To apply this definition for all business partners, select the *Effective Price Considers All Price Sources* checkbox on *Administration -> System Initialization -> General Settings -> Pricing* tab.

When the *Lowest Price/ Highest Price* option is selected in the *Effective Price* field, the *Effective Price Considers All Price Sources* option becomes available.

To apply this definition for all business partners, select the *Effective Price Considers All Price Sources* checkbox on *Administration -> System Initialization -> General Settings -> Pricing* tab.

## Effective Price Field

The screenshot shows the SAP Business Partner Master Data interface. In the 'Effective Price' dropdown, 'Default Priority' is selected. A yellow arrow points from this dropdown to a list of five questions on the right.

Business Partner Master Data	
Code	Manual C23900 Customer ▾
Name	Parameter Technology
Foreign Name	
Group	High Tech ▾
Currency	US Dollar ▾
Federal Tax ID	US54-837635
General Contact Persons Addresses Payment Terms	
Payment Terms	2P10Net30 ▾
Interest on Arrears %	
Price List	Regular Sales Price ▾
Total Discount %	
Credit Limit	0.00
Commitment Limit	0.00
Dunning Term	Standard ▾
Automatic Posting	No ▾
Effective Discount Groups	Lowest Discount ▾
<input checked="" type="checkbox"/> Effective Price	Default Priority ▾
<input type="checkbox"/> Effective Price Considers All Price Sources	
Business Partner Bank	
Bank Country	USA
Bank Name	HSBC Bank
Bank Code	HSBC
Account	45-816-43598
BIC/SWIFT Code	
Bank Account Name	

1. Does a valid specific blanket agreement exist for the item?
2. Does a BP and item-specific special price exist for the item and unit of measure?
3. Does a discount group exist?
4. Do period and volume discounts for the Price List exist?
5. Price List

Note! when the *Default Priority* is selected in the *Effective Price* field, the system uses the logic explained earlier to find the valid price, starting with the most specific price (blanket agreement).

## Gross Pricing Option

**Setting on Company Details:**  Enable Separate Net and Gross Price Mode

**Settings on business partners and price lists:** Price Mode field with dropdown options: Net vs. Gross  
Assign gross price lists to BPs using gross pricing

**Effect in Marketing Documents:** Document marked in Price Mode field as Gross  
Unit Pricing grayed out, instead use Gross Price fields

Gross Price	Discount	Gross Price Total

We have been explaining basic pricing that calculates a net price. You also have the option to use gross prices.

In the Company Details window, you can choose the option to work with both Net and Gross Pricing. There is a checkbox Enable Separate Net and Gross Price Mode. This setting is irreversible.

Once you have enabled this setting, you can control which price lists and which business partners use gross pricing. All price lists have a field called *Price Mode* which allows you to set the pricelist either for Net or Gross pricing. This field is also in the Business Partner Master Data window on the Payment Terms tab.

When gross price is enabled for a business partner, the unit price field is disabled in documents. Instead the gross price column and gross price total columns are used. You can have gross prices with discounts in pricing.

## Summary



Here are some key points:

- There are 5 types of prices: price lists, period and volume discounts, discount groups, special pricing for business partners and specific blanket agreement prices.
- When you create a document, the system brings in the price list associated with the business partner. You can change the assigned price list in the document.
- The system proposes a price for each item in the document. The system looks first for the most specific price and continues until it finds an applicable price. If a discount is found, the discount must be applied to a price.
- The pricing hierarchy order is: specific blanket agreements, special prices for a business partner, discount groups, period and volume discounts, price list.
- The Price Source field shows the source of prices on the row.
- You have the option to use the *Effective Price* setting on the *Business Partner Master Data* to have the system search all the possible prices available and always choose the lowest or highest price.

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There are 5 types of pricing in SAP Business One: price lists, period and volume discounts, discount groups, special pricing for business partners and specific blanket agreement prices.

When you create a marketing document, the system brings in the price list associated with the business partner to the header of the document. You can view the assigned price list in the Form Settings window.

The system proposes a price for each item in the document. You can change the assigned price list in the document either by changing it directly or by choosing different payment terms. If you change the payment terms, the system will prompt you to ask if you want to change the price list or not.

As you enter items in the document, the system proposes a price for each item based on the price list or any special prices you have defined. The system looks first for the most specific price and continues until it finds an applicable price. If a discount is found, then the discount must be applied to a price.

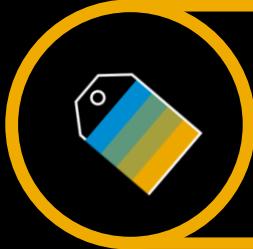
The pricing hierarchy order is: specific blanket agreements, special prices for a business partner, discount groups, period and volume discounts based on the price list associated with the marketing document, and finally prices in the price list.

The price source field shows the source of prices and discounts on the document row.

You have the option to use the *Effective Price* setting on the *Business Partner Master Data* to have the system search all the possible prices available and always choose the lowest or highest price.

There is an option to use gross pricing in addition to net pricing. Both pricelists and business partners can be set to use either gross pricing or net pricing.

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## Pricing: Create a Pricelist

SAP Business One  
Version 10.0

THE BEST RUN **SAP**

Welcome to the topic on creating pricelists.

## Objectives



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

- Describe how to create pricelists in SAP Business One

In this topic, you learn how to create pricelists in SAP Business One.

## Business Scenario



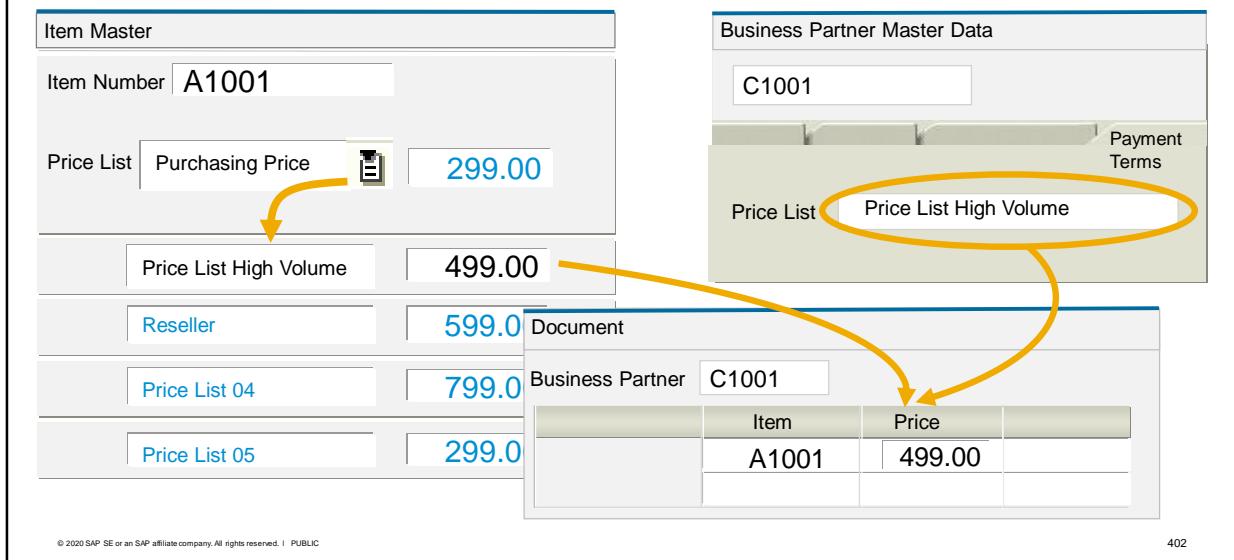
Your company maintains multiple pricelists to give appropriate pricing for different types of customers. Therefore you tie the pricelists to customer groups. When a new customer master record is created, the pricelist defaults from the customer group assigned to the customer master.

You set some pricelists to update automatically when a base pricelist changes.

Some pricelists are seasonal so they are managed with validity dates. New pricelists are marked as inactive until they are ready to be used.

- Your company maintains multiple price lists to give appropriate pricing for different types of customers. Therefore you tie the price lists to customer groups. When a new customer master record is created, the price list defaults from the customer group assigned to the customer master.
- You set some pricelists to update prices automatically when a base pricelist changes. For example, you base some sales prices on a pricelist based on purchase price.
- Some price lists are seasonal so they are managed with validity dates. New price lists are marked as inactive until they are ready to be used.

## Pricelist Concept



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- SAP Business One uses price lists as the basis for pricing in the sales and purchasing process.
- Price lists contain the pricing for items.
- Each business partner has a price list assigned. You can see the assigned price list in the business partner master record.
- When a business partner is entered into a marketing document, the price list is associated with the document. When you enter an item in the document, the price for that item is drawn from the price list associated with that document.

## Pricelists



- SAP Business One provides 10 price lists.
- You can add, change or delete prices in price lists to maintain your pricing strategy.
- You can use:
  - all 10 price lists
  - just a few of them, or
  - create additional as needed.

- SAP Business One provides 10 pricelists.
- You can add, change or delete prices in these lists to manage your pricing strategy.
- You can use all 10 pricelists, use just a few of them or create additional as needed.

## Ways to Create Price Lists



### Import Price Lists

- Import from Excel, or
- Data Transfer Workbench

### Create Individual Price Lists

- Create a price list and enter prices manually, or
- Base a price list on another price list for automatic updates

Most new SAP Business One customers will import the price lists they are using in their business. The price lists may be on spreadsheets or in a legacy system.

There are two main ways to import master data, the Import from Excel tool and the Data Transfer Workbench. These tools are covered in course topics on Data Migration Tools.

In this course topic we will focus on how to create individual price lists.

When you create a price list, you can enter the prices manually or base a price list on another price list so that prices are automatically updated when the base price list changes.

Let's look at how this is done.

## Create pricelists

Inventory → Price Lists → Price Lists.

#	Price List Name	Group
0	Last Evaluated Price	
0	Last Purchase Price	
1	Base Price List	Gr.1
2	Schools	Gr.2

To add a new price list:

- Open context menu, choose *Add Row*.
- Enter the name of the new price list.

You can control authorization for the price list with authorization groups

- Price lists are created and maintained in the Inventory module under the menu area for price lists.
- To add a new price list, open the context menu by right-clicking and choose Add Row.
- Then enter the name for your new price list.
- In this example we are creating a new price list for customers who are schools.
- You can control who is authorized to change the price list by using authorization groups.

## Base a price list on another price list

#	Price List Name	Default Base Price List	Default Factor	Rounding Method	Group
0	Set a default base price list			We set prices for schools to be double (2x) the prices on the base price list.	
1	Base Price List	Base Price List	1.0		Gr.1
2	Schools	Base Price List	2.0	No Rounding	Gr.2

Anytime the base price list changes, the Schools price list is automatically updated.

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- One useful option for price lists is to base a price list on another price list.
- In our example, the price list for schools will be based on our base price list that we have previously set up.
- We would like the prices on the schools price list to always be double the prices on the base price list.
- We set the default base price list to be our “base price list”. We set a default factor of 2.0.
- Each priced item on the base price list will appear a price set at 200% of the item price on the base price list. For example, if an item is price at 10 on the base price list, the same item on the schools price list will be priced at 20.
- Anytime prices are changed on the base price list, the corresponding price on the schools price list is automatically updated so that the price is always double the base price.

## Drill down to price details

#	Name	Base Price List	Factor	Rounding Method	Group
2	Schools.	Base Price List	2	No Rounding	Gr.2



double-click

- You can double-click a row to open the price list to view and maintain the individual item prices.

## Drill down to price details

#	Name	Base Price List	Factor	Rounding Method	Group
2	Schools.	Base Price List	2	No Rounding	Gr.2

↓

#	Item number	Description	Base Price List	Factor	Base Price	Price
1	A0001	Printer	Base Price List	2	45	90
2	A0002	Tablet	Base Price List	2	270	540
3	A0003	Laptop	Base Price List	2	1200	2,400
4	A0004	Scanner	Base Price List	2	50	100

- Once you open a price list, you see all the items in the system and the prices assigned.
- Here we see the Schools price list is based on the Base Price list.
- The prices are calculated using a factor of 2.
- Notice that the tablet currently has an automatic price calculation of 540 which is twice the base price of 270.

## Drill down to Unit of Measure (UoM) Prices

#	Name	Base Price List	Factor	Rounding Method	Group
2	Schools.	Base Price List	2	No Rounding	Gr.2

 double-click

#	Item No.	Description	Base Price	Factor	Price	Man.
29	B00320	Copy Paper	1	2	2	<input type="checkbox"/>

 double-click

#	UoM Code	Base Price	Reduce By %	Unit Price	Auto
1	Pack	1		2	<input type="checkbox"/>
2	6Pack	12		12	<input type="checkbox"/>
3	Carton	48		48	<input type="checkbox"/>

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- You can maintain prices for each unit of measure for an item that has an assigned unit of measurement group.
- To set the unit of measure pricing, select the pricelist, then *double-click* the item row in the price list to open the *Unit of Measure Prices* window.
- Both the pricing base unit of measure will appear in the *Unit of Measure Prices* window but it will be grayed out. Its price is set in the price list window for items. The pricing unit of measure is chosen in the item master and cannot be changed in the pricelists.
- You have the option to add any units that belong to the item's assigned unit of measure group to *Unit of Measure Prices* window and set their prices.
- For more information on units of measure and how they are set up, see the e-learning courses on units of measure.

## Maintain unit of measure prices

- When you add a unit of measure, the system automatically calculates the unit price based on the unit of measure group definitions.
- If you choose not to enter a unit and price for this price list, a price for the unit will be automatically calculated when the unit is used in a document.

You can adjust the unit price: enter a new unit price or set a percentage reduction.

The checkbox allows you to keep the reduction when prices change.

UoM Prices window for Item B00320 - Sales Price List					
#	UoM Code	Base Price	Reduce By %	Unit Price	Auto
1	Pack	2		2	<input type="checkbox"/>
2	6Pack	12	5	11.40	<input checked="" type="checkbox"/>
3	Carton	48	15	40.80	<input checked="" type="checkbox"/>

- When you add a row for a unit of measure, the system automatically calculates the unit price for each unit of measure based on the unit of measure group definitions.
- If you choose not to enter a unit and price for this price list, it is still possible to use that unit in a sales or purchasing document. A price for the unit used in the document will be calculated automatically based on the relationship of that unit to the pricing base unit and its price.
- One reason to add a unit of measure price in this window is that you can enter a different unit price or modify the unit price with a percentage discount or surcharge in the *Reduce By Percentage* column. The reduction or surcharge is calculated immediately and reflected in the unit price.
- Select the Auto checkbox in the row if you want the unit of measure prices to be updated according to the discount reduction, whenever the inventory unit of measure prices are updated in the Price List window. If the Auto checkbox is not selected in the row, the unit of measure prices are not updated when you update the prices of the inventory unit of measure in the Price List window.

## Copy 'Reduce By' Percentages

- Copy **Reduce By Percentages** for unit of measure prices to multiple items and price lists.
- All items must belong to the same unit of measure group.

The screenshot shows two windows side-by-side. On the right is the **UoM Prices** window for Item B00320 - Schools Price List. It displays a table of unit of measure prices:

#	UoM Code	Base Price	Reduce By %	Unit Price	Auto
1	Pack	2		2	<input type="checkbox"/>
2	6Pack	12	5	11.40	<input checked="" type="checkbox"/>
		48	15	40.80	<input checked="" type="checkbox"/>

A yellow box highlights the **Reduce By %** column. A yellow arrow points from the **Copy Reduce By** button in the selection criteria dialog to this column.

**Copy UoM Reduce By - Selection Criteria**

**Copy From:**

- Price List: Schools
- Item No.: B10000
- UoM Code: 6Pack

**Copy To:**

- Price List: (dropdown menu)
- UoM Group: (dropdown menu)
- Item No.: From: (dropdown menu) To: (dropdown menu)
- Properties
- Ignore

**Options:**

- Replace All UoM Prices (radio button selected)
- Update Only Existing UoM Prices
- Add New UoM Prices Without Updating Existing Prices
- Add New UoM Prices and Update Existing Prices
- Only Copy to UoM with "Auto" Selected

**Buttons:** Update, Cancel, Preview

- Another nice feature in the unit of measure price window is that you can copy the Reduce By percentages to other items that share the same unit of measure group.
- You can use the Copy Reduce By button to copy the percentages defined in the *Reduce By %* column for an item's unit of measure prices to multiple items in multiple price lists as long as all the items belong to the same unit of measure group.
- For example, if we had multiple types of copy paper, and we always give a discount of 5% on a 6Pack and 15% on carton, we could copy these discount percentages from one item to all others copy paper items with the same units of measure.
- Note that the new button appears in the *UoM Prices* window only when you access the unit of measure prices from the item row in the price list. If you access the *UoM Prices* window from the item master data by choosing *Browse*, the new button is inactive.

## Price Lists Validity

- Set pricelists as inactive until ready to use.
- Pricelists can be active for specific date range

#	Price List Name	Base Price List	Factor	Rounding Method	Group	Active	Valid From	Valid To
0	Last Purchase Price					<input checked="" type="checkbox"/>		
1	Base Price	Base Price	1.0	No Rounding	Gr.1	<input checked="" type="checkbox"/>		
2	Schools	Base Price	2.0	/	Gr.2	<input checked="" type="checkbox"/>		
3	Small Customers	Base Price	1.5	/	Gr.2	<input type="checkbox"/>		
4								

- You can set a price list as inactive until you are ready to use it. A company can set up pricing in advance, and activate a price list when required.
- You can also set a price list to be active for a specific date range. This allows companies to offer price changes for a limited period. The pricing will only be effective when the first validity date is reached. When the range is no longer valid, the price list becomes inactive.
- If you use an inactive price list in a document, no pricing will appear. If a marketing document refers to an *inactive* price list, such as in an order for a customer associated with an inactive price list, the item price is zero and the unit price field is shown as empty in the document row. When you add a document associated with an inactive price list, the system will warn you about the zero price. If an active price list has a date range, then the document posting date must fall within the date range, otherwise the price list will be considered inactive. For other windows such as the item master data, the system date is used for the comparison with the price list date range.
- A price list can be deactivated at any time, even if it is already assigned to a business partner.

## Exact Pricing for Additional Currencies

Primary Currency

Additional Currency 1

Additional Currency 2



- For each entry in the price list, you can maintain 3 prices with different currencies:
  - The Primary currency
  - Additional Currency 1
  - Additional Currency 2

- For each entry on the price list, you can maintain up to 3 prices with different currencies (the primary currency and two additional currencies). This is useful when you want an exact price in a different currency rather than depending on the currency conversion done inside a document.
- You can maintain the pricing in alternate currencies not only at the item level, but also for each unit of measure for an item.
- The additional currency fields are hidden initially, but you can display them using *Form Settings*.

## System-maintained price lists

Two price lists automatically maintained:

- Last Evaluated Price – updated by Inventory Simulation Report
- Last Purchase Price – updated when an item enters inventory with its original price

The screenshot shows the SAP 'Price Lists' window. At the top, there are two radio buttons: 'Update Entire Price List' (selected) and 'Update by Selection'. Below this is a table with columns: #, Price List Name, Multiple Base Price List..., Default Base Price List, Default Factor, and Rounding Method. The table contains several rows, including 'Last Evaluated Price' and 'Last Purchase Price', which are highlighted with a yellow background. A callout bubble points to these rows with the text: 'Grayed out because you cannot change these price lists'. At the bottom of the window are 'OK' and 'Cancel' buttons, and a status bar that reads 'Prices Update Wizard'.

#	Price List Name	Multiple Base Price List...	Default Base Price List	Default Factor	Rounding Method
1	Last Evaluated Price	No	Base Price	▼ 1	No Rounding ▼ Group 1 ▾
2	Last Purchase Price	No	Base Price	▼ 0.5	No Rounding ▼ Group 1 ▾
3	Regular Purchase Price	No	Base Price	▼ 0.75	No Rounding ▼ Group 1 ▾
4	Distributor Sales Price	No			
5	Regular Sales Price	No			
6	Small Account Sales Price	No			
7	Test	No			

- There are two price lists that are automatically created and you cannot maintain:
  - The Last Evaluated Price list
  - The Last Purchase Price list
- The system maintains these price lists automatically.
- The Last Evaluated Price List is automatically updated when you run the Inventory Valuation Simulation Report. This price is calculated only for the item's inventory unit of measure and only in primary currency.
- The Last Purchase Price is automatically updated when an item enters inventory with its original price.
- These 2 price lists are grayed out in the Price Lists window because you cannot change these price lists.

## Last Purchase Price Pricelist



When you post one of the following transactions in the system, the system updates the *last purchase price*:

- A/P Invoice
- Miscellaneous goods receipts
- Entering a positive inventory balance
- Landed Cost Document
- Manufacturing a product with automatic calculation of last purchase prices for all components

Last purchase price is updated by: accounts payable invoices, goods receipts and goods receipt POs, inventory postings for initial quantities or adjustments for positive stock differences, landed costs documents and automatic calculation of last purchase price for bills of materials used in production. Canceling any of the documents will not affect this price.

If none of these actions listed in the graphic have been performed in the system for an item, the *Last Purchase Price* pricelist will not contain a price for the item.

You can base other price lists on the *Last Purchase Price*. You cannot, however, change the prices in the *Last Purchase Price* pricelist manually.

## Configuration Settings for Price Lists

**Administration → System Initialization → General Settings → Pricing Tab**

- Inactive Price Lists:
  - Display zero prices in documents if price source is based on inactive price lists
  - Display inactive price lists in:
    - Reports
    - Sales, Purchasing and Inventory Documents
    - Settings
- Unpriced Items: Remove unpriced items from price lists tables
- UoM Pricing: Set a default for handling changes to unit of measure conversion rules

- There are a number of controls for pricing on the Pricing Tab in General Settings. These controls cover three main areas: inactive price lists, unpriced items and unit of measure pricing.
- You can control whether prices are displayed in documents when a price source is based on an inactive price list for three types of prices. Three separate checkboxes control the display for special prices for business partners, period and volume discounts and price lists prices.
- You also have the option to hide or display inactive pricelists in three areas: in reports, in sales, purchasing and inventory documents, and in settings. Each area has a checkbox that when checked tells the system to display inactive price lists for that area.
- Some companies may have a large number of unpriced items that are neither sold nor purchased. Because every item by default appears on every price list, companies with a large number of items may wish to remove unpriced items from price list tables. By selecting this checkbox, all items with zero price will be immediately removed from the items table (ITM1). This will substantially reduce the size of this table and improve performance. Be aware that this action is not recorded in the log file, since there are no price changes. When the checkbox is selected there are no UI changes for the user. If the checkbox is subsequently deselected, all the removed items will be restored to the ITM1 table so they can be used in normal business operations. Note that no backup is needed before the restore is made. This checkbox is not relevant for the *Last Purchase Price* and the *Last Evaluated Price* pricelists. All items remain associated with these two price lists. Items with no prices are still displayed to users when they view the price lists. If you would like to view the price lists without seeing these items, choose the option, Hide Unpriced Items, in the *Price list – Selection Criteria* window. A similar

option exists in price list reports.

- Since unit of measure pricing is based on unit of measure groups and their rules for converting one unit to another, you may wish to have any changes in the relationship between the units affect your company's prices. You have several options – to update prices accordingly, to remove the unit of measure pricing, to keep the corresponding unit of measure price, or to keep all prices unchanged. After making this choice, you have an additional option to set a checkbox that tells the system to remove or update unit of measure prices based on changes in the system maintained price lists: last purchase price and last evaluated price list.

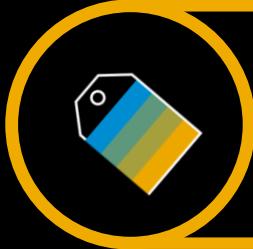
## Summary



Here are some key points:

- You maintain purchasing and sales prices in pricelists.
- There are 10 default price lists. You can define more.
- You can define prices for all pricelists except the last purchase price and evaluated price pricelists.
- You can maintain prices for each unit of measure for an item's unit of measure group..
- Every item is linked to every pricelist, however you have the option to remove zero price items from all pricelists except system maintained price lists.
- Prices in a pricelist can be based on another pricelist by using a factor. In this way prices can be automatically updated when the base pricelist changes.
- If a pricelist price is changed manually, it can no longer automatically change.
- You can set validity dates for pricelists or mark a pricelist as inactive.

- You maintain purchasing and sales prices in pricelists.
- There are 10 default price lists. You can define more.
- You can define prices for all pricelists except the two system maintained price lists: the last purchase price and evaluated price pricelists.
- You can maintain prices for each unit of measure for an item for an item's assigned unit of measurement group.
- Every item is linked to every pricelist by default. However, you have the option to remove zero price items from all pricelists except the system maintained price lists.
- A pricelist can be based on another pricelist by using a factor. In this way prices can be automatically updated when the base pricelist changes.
- If a pricelist price is changed manually, it can no longer automatically change.
- You can set validity dates for pricelists or mark a pricelist as inactive. Configuration settings allow you to control where inactive price lists and their prices are displayed.



# Pricing: Updating Pricelists

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Version 10.0

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Welcome to the topic on updating pricelists.

## Objectives



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

- Describe the options for updating pricelists in SAP Business One

In this topic, you will be able to describe the available options for updating price lists in SAP Business One.

## Business Scenario



The sales manager at OEC Computers has been using factors for setting up relationships between price lists. A number of sales price lists are based on one base price list. When the base price lists changes, the other sales price lists are automatically updated. When he needed to adjust individual prices, he maintained them directly in the price list windows.

He has just learned that he can systematically maintain item prices in multiple price lists using the prices update wizard.

The wizard will allow him more selection parameters and more visibility of the effect of changes before they occur.

The sales manager at OEC Computers has been using factors for setting up relationships between price lists. A number of sales price lists are based on one base price list. When the base price lists changes, the other sales price lists are automatically updated. When he needed to adjust individual prices, he maintained them directly in the price list windows.

He has just learned that he can systematically maintain item prices in multiple price lists using the prices update wizard.

The wizard will allow him more selection parameters and more visibility of the effect of changes before they occur.

## Two methods for maintaining pricelists

### Maintain in Price List Window

- Use factors for automatic price updates
- Make manual changes to individual prices in a price list
- Change prices for multiple items in a price list using the *Update by Selection* option

### Prices Update Wizard

- Make systematic changes to prices in one or more price lists
- Mass convert prices into different currencies
- Preview changes in simulation mode

There are two methods for maintaining prices in your price lists.

The first method is to maintain prices directly in the price list window.

As we saw in the previous lesson, you can use factors for automatic price updates.

You also have the option to make manual changes to individual prices within the price lists. You can open the entire price list to update items or change prices for multiple items within one price list by using the *Update by Selection* option.

The second method is to use the prices update wizard.

The prices update wizard provides multiple methods to make systematic changes to prices in one or more price lists or to mass convert prices into different currencies.

The wizard guides you through the process and allows you preview changes in simulation mode before making irreversible changes.

In this lesson we will explore the two methods and discuss how they are used.

## Example 1: Maintaining Prices in the Price List

The sales manager currently has a number of price lists that are based on a base price list. He uses factors to manage the percentage differences between the base price list and all other price lists.

The advantage of this method is that percentage increases are easy to manage in the multiple price lists based on the base price list.

When prices need to vary from a standard percentage, he makes changes directly in the price list. He can make changes to one item or use selection criteria to choose multiple items to change.



The sales manager currently has a number of price lists that are based on a base price list. He uses factors to manage the percentage differences between the base price list and all other price lists. For example, prices in the seasonal price list are set to always be double the prices on the base price list. The advantage of this method is that percentage increases are easy to manage in the multiple price lists based on the base price list. The only issue is when some prices need to vary from the standard percentage. In those cases, he makes changes directly in the price list. He can make changes to one item price or he can use selection criteria to choose multiple item prices to change.

## Automatic Pricing for a Price List

In the course on creating price lists, we saw you can base a price list on another price list.

#	Price List Name	Default Base Price List	Default Factor
0	The Schools price list is based on another price list (Base Price List)		
1	Base Price List	Base Price List	1.0
2	Schools	Base Price List	2.0

**Annotations:**

- The Schools price list is based on another price list (Base Price List)
- The factor is used as a multiplier. Every price on the Schools price list is 2x the price on the Base Price list.
- Anytime the base price list changes, the Schools price list is automatically updated.

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- In the previous course on creating price lists, we saw how you can base a price list on another price list by using a factor.
- For example, when the company decided they needed a new price list for schools, the manager created a price list based on the base price list with a factor of 2.
- The factor is used as a multiplier. Every price on the Schools price list is 2x the price on the Base Price List.
- Anytime the base price list changes, the Schools price list is automatically updated.
- This is a useful way to have automatic pricing updates.

## Manually Update Individual Prices

**Price Maintenance** 


double-click

#	Name	Base Price List	Factor	Rounding Method	Group
3	Schools.	Base Price List	2	No Rounding	Gr.1

#	Item number	Description	Base Price List	Base Price	Factor	Price	Man.
1	K0001	Printer	Base Price List	85	2	190	<input type="checkbox"/>
2	K0002	Tablet	Base Price List	270	2	540	<input type="checkbox"/>
3	K0003	Laptop	Base Price List	1200	2	2,400	<input type="checkbox"/>
4	K0004	Scanner	Base Price List	50	2	100	<input type="checkbox"/>

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- Although the automatic update feature has been useful, the sales manager has found that sometimes certain products on a price list may need to be changed in order to sell better in the marketplace.
- The tablet on the base price list is set at 270 so the automatic pricing from the factor sets the price at 540.
- However, the sales manager feels that this product would sell better to schools at a regular price of 500.

## Manually Update Individual Prices

#	Name	Base Price List	Factor	Rounding Method	Group
3	Schools.	Base Price List	2	No Rounding	Gr.1

## Price Maintenance

#	Item number	Description	Base Price List	Base Price	Factor	Price	
1	K0001	Printer	Base Price List	85	2	190	
2	K0002	Tablet	Base Price List	270	2	540	<input checked="" type="checkbox"/>
3	K0003	Laptop	Base Price List	1200	2	2,400	<input type="checkbox"/>
4	K0004	Scanner	Base Price List	50	2	100	<input type="checkbox"/>

A manual price is no longer maintained automatically.

- Therefore, he sets the price to 500 directly in the school price list.
- Once he changes this price, the manual checkbox is set and the price is no longer maintained automatically.
- This method works well when there are only a few changes at a time.

## Set a Different Base Price List / Factor at Item Level

Additionally, you can do automatic pricing for individual items in a price list.

Here the price list is based on the base price list with a factor of 2,  
but the tablet is based on the discount price list with a factor of 2.5.

#	Item number	Description	Base Price List	Base Price	Factor	Price	Man.
1	K0001	Printer	Base Price List	85	2	190	<input type="checkbox"/>
2	K0002	Tablet	Discount Price List	200	2.5	500	<input type="checkbox"/>
3	K0003	Laptop	Base Price List	1200	2	2,400	<input type="checkbox"/>
4	K0004	Scanner	Base Price List	50	2	100	<input type="checkbox"/>

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Another option is to set an item to use a different base price list or factor for automatic pricing.

Here again, we see a price list based on a base price list with a factor of 2.

This time the tablet has been set to be based on a different price list. The tablet is based on the discount price list with a factor of 2.5.

The tablet price will not change when the other items change, instead the price of this item will change whenever the discount price list changes.

## Set a Different Base Price List / Factor at Item Level

Additionally, you can do automatic pricing for individual items in a price list.

Number	Item	Base Price List	Base Price Factor	Price	Man.		
1	K0001	Printer	Base Price List	85	2	190	<input type="checkbox"/>
2	K0002	Tablet	Discount Price List	200	2	400	<input type="checkbox"/>
3	K0003	Laptop	Base Price List	1200	2	2,400	<input type="checkbox"/>
4	K0004	Scanner	Discount Price List	50	3	150	<input type="checkbox"/>

The price list is based on the base price list with a factor of 2, so all rows default to that factor.

The scanner is based on the discount price list with a factor of 3

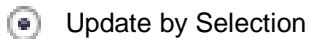
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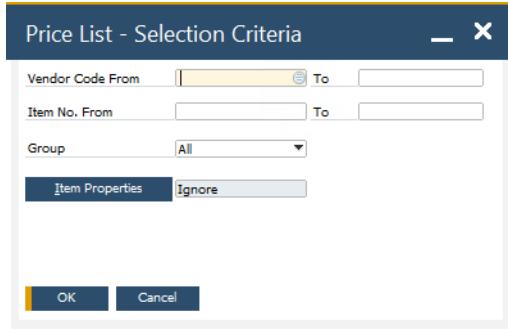
Another option is to set an item to use a different base price list or factor for automatic pricing. Here again, we see a price list based on a base price list with a factor of 2. The factor and base price lists are set at the header level so all rows default to the same base price list and factor. This time the scanner has been set to be based on a different price list. The scanner is based on the discount price list with a factor of 3. The scanner price will not change when the other items change due to a change in the base price list, instead the price of this item will change whenever the discount price list changes.

## Update Price List by Selection

In the *Price Lists* window, choose:



- Choose the price list to maintain
- Use the selection criteria to choose which prices to maintain
- All changed prices are marked as Manual.



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A third option for maintaining prices inside the *Price List* window is the *Update Price List By Selection*. In the *Price Lists* window, choose the radio button for *Update by Selection*.

Then double-click on the price list you wish to maintain.

Use the selection criteria to choose which prices to maintain. You can choose item prices by vendors, item numbers, item groups and properties.

The selection of item prices will appear and you can make any changes.

All prices changed will be marked as manual and will no longer be automatically updated when a base price list changes.

## Prices Update Wizard

### Item Prices

Update item prices using mathematical operations or by setting a value

### Base Price List

Change the factor and/or base price list for a price list

### Convert To

Convert prices from one currency to another

### UoM Reduce By

Adjust prices based on units of measure by changing the *Reduce By %* field value

When one or more price lists need more extensive updates, a better practice is to use the prices update wizard.

The prices update wizard is very flexible and will allow you to change selected items on one or more price lists by 4 methods.

1. You can use the Item Prices method to update items prices using a mathematical operation or by setting a value for the price.
2. You can use the Base Price List method to change the factor and/or base price list for one or more price lists.
3. You can use the Convert to method to convert prices in a price list from one currency to another.
4. You can use the UoM Reduce By Percentage method to make a mass adjustment to prices based on a unit of measure by changing the Reduce By Percentage field value.

Let's look through some examples that will make the wizard's capabilities clearer.

## Example 2: Setting percentage price changes in the wizard

The sales manager wants to adjust all products for a particular manufacturer by 5%.

All products manufactured by Rainbow should be increased by 5% on all sales price lists, except the Web price list.

No unpriced items should be updated. No inactive items should be updated.

We will use the Prices Update wizard to make these changes.



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The sales manager wants to adjust all products for a particular manufacturer by 5%.

All products manufactured by Rainbow should be increased by 5% on all sales price lists, except the Web price list.

No unpriced items should be updated. No inactive items should be updated.

We will use the Prices Update wizard to make these changes.

## Example 2: Choose Update Method

The screenshot shows the 'Update Methods' screen of a wizard. On the left, a callout box contains the text: 'He chooses the *Item Prices* method to adjust prices by a percentage.' The main interface has a title 'Update Methods' and a subtitle 'Select the method for price update'. A radio button group is selected for 'Item Prices'. To the right is a dropdown menu with options: Multiply (selected), Divide, Add, Subtract, and Equal To. Below the dropdown are four input fields: 'Value' (containing '1.05'), 'Factor' (empty), 'Exchange Rate' (empty), and 'Reduce By %' (empty).

The Item Prices method gives him the option to multiply, divide, add, subtract or set a value. He chooses "multiply" and enters the value 1.05.

The first step in the wizard is to choose the update method.

In our first example, the sales manager wants us to increase the item price by 5 percent.

Therefore we choose the Item Prices method to make this adjustment.

The Item Prices method gives us the option to multiply, divide, add, subtract or set a value.

We choose multiply and enter the value 1.05.

## Example 2: Item Prices – operations available

Initial Price	Operation	Value Entered	Resulting Price
10	Multiply	2	20
10	Divide	2	5
10	Add	2	12
10	Subtract	2	8
10	Set Value	2	2

In our example, we used the option to multiply the price, however there are 4 other options. Let's look at how they work.

Let's assume we have an item currently priced at 10 and let's see how the other options work if we are entering the value of 2.

If we choose multiply and enter the value 2, 10 is multiplied by 2 and the resulting price is 20.

If we choose divide, 10 is divided by 2 and the resulting price is 5.

If we choose add, the system adds 2 and results in a price of 12.

If we choose subtract, the system subtracts 2 and results in a price of 8.

If we choose the Set Value operation, then it doesn't matter what the initial value was. The value entered is used as the resulting price.

## Example 2: Select Items

### 2. Selection Criteria: Item Selection

Item Selection  
Select items for price update

Preferred Vendor Code      From [ ] To [ ]

Item No.      From [ ] To [ ]

Item Group      All [ ]

Manufacture      Rainbow [ ]

Do Not Update Unpriced Items

Do Not Update Inactive Items

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The second step is for selection criteria.

In this step, we first select the items that need a pricing change.

We have options to select items based on a range of preferred vendors, a range of item numbers, by item group, by manufacturer, or by item properties.

If choosing items or vendors by range, remember to pick both a beginning and end of a range. For example, if you only want item A1000, you need to choose From A1000 to A1000 or else if you choose from A1000 you will get all items that follow such as A1001 and so on.

This window also allows us to exclude items that are unpriced or inactive.

In our example, the sales manager wants to change prices for the items manufactured by Rainbow, while excluding any unpriced or inactive items.

Then we choose Next to go to the second part of the Selection Criteria step.

## Example 2: Select Price Lists to Change

### 2. Selection Criteria: Price Selection

Use the *Browse* button  
to choose multiple  
price lists

Price Selection

Price List: Multiple

Primary Currency:  Additional Currency 1:  Additional Currency 2:

Currency: All Currencies

UoM: Both Manual and Other UoM

Price Lists		
<input type="radio"/> Update Entire Price List	<input checked="" type="radio"/> Update by Selection	
#	Price List Name	Default Base Price List
1	Base Price	Base Price ▾ 1
2	Discount Purchase Price	Base Price ▾ 0.5
3	Regular Purchase Price	Base Price ▾ 0.75
4	Distributor Sales Price	Base Price ▾ 1.25
5	Regular Sales Price	Base Price ▾ 1.5
6	Small Account Sales Price	Base Price ▾ 1.75
7	VIP	Base Price ▾ 1
8	Schools	Base Price ▾ 2

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Within the Selection Criteria step, you also need to change the types of prices you wish to change.

First we choose the price list or price lists we want to include.

In our example the sales manager wants to change all the sales price lists except the Web price list. To do this, we choose the *Browse* button to open the Price Lists window to select multiple price lists.

Another option on this window allows you to decide whether you are changing prices for the primary currency or for additional currencies. In our example, we only want to change prices in the primary currency.

## Example 2: Select Unit Prices to Change

2. Selection Criteria:  
Price Selection

**Price Selection**

Define the conditions for the prices you want to update. Only prices that meet all conditions below are included.

Price List:

Primary Currency  Additional Currency  Additional Currency 2

Currency:

UoM:

You can choose Manual, Other or both types of UoM Groups

#	Choose	UoM Code	UoM Name
1	<input checked="" type="checkbox"/>	6Pack	6 Pack
2	<input type="checkbox"/>	Carton	Carton

Then choose which units' prices to include

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A third option within the price selection window is which units of measure prices should be included in the change.

You can choose to include only the manual unit of measure group, only other unit of measure groups or both types of unit of measure groups. When you choose other or both, the Units of Measure window will open.

Here you can choose to update prices inventory units of measure or specific units. Once you've made that choice you can then search for and choose the specific units you wish to update.

## Example 2: View Simulation

3. Simulation

View simulation by item or by price list.

Once you choose *Execute*, you cannot reverse the changes.

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The third step in the wizard is view a simulation of the price changes.

You can view the simulation by Items or by Price Lists.

If you view by Items, you can choose which items to update.

If you view by Price List, you can choose whether or not to update that price list, but not choose specific items to include or exclude within the price list.

You can expand or collapse the report and move between pages.

If the simulation shows you something you would like to change, you can use the Back button to go back to previous steps to make changes.

The final step is to select the checkbox for the rows you wish to change, and then choose Execute. You will receive a message that warns you that if other users are making changes to the database, you may receive different results than shown in the simulation. In general, it is a best practice to make changes with the pricing wizard during times you know that other users will not be updating prices.

Once you choose Execute, you cannot reverse the changes.

## Example 2: View Results

The screenshot shows the '4. Results' step of a wizard. It includes a 'Summary' section with a message about displaying relevant messages for update results. Below is a table of results:

#	Message	Date / Time
1	Prices for item number "A00004" were updated successfully	02-29 22:00:39
2	Prices for item number "A00005" were updated successfully	02-29 22:00:39
3	Prices for item number "A00006" were updated successfully	02-29 22:00:39
4	Prices for item number "100007" were updated successfully	02-29 22:00:40
5	Prices for item number "100008" were updated successfully	02-29 22:00:40

Annotations highlight the 'Information' checkbox (selected) and the 'Manual' checkbox (selected) in the table header.

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The fourth step of the wizard displays the results of your changes.

You can view information on what has changed with a date and time. If there are errors, you will see them as well.

We saw before that making individual changes in a price list causes the system to set the manual checkbox. The manual checkbox is also set for changes to item prices when using the prices update wizard. This means these prices will no longer be automatically maintained using factors.

## Example 3: Changing base price list and factors

Let's look at a scenario that uses another option in the Prices Update Wizard.

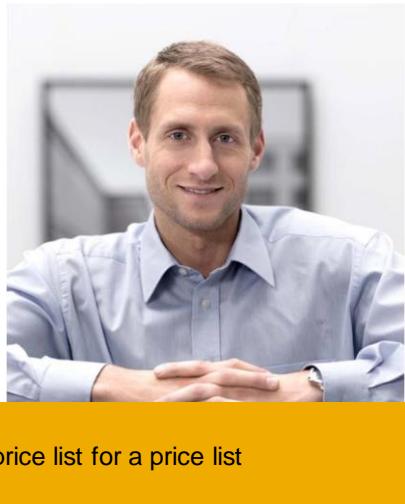
Currently the discount purchase price list is based on the base price list with a factor of 0.5.

The sales manager wants to change the factor for the accessories item group to 0.75.

In the Prices Update Wizard, we choose:

Base Price List

Change the factor and/or base price list for a price list



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Let's look at a scenario that uses another option in the Prices Update Wizard.

Currently the discount price list is based on the base price list with a factor of 0.5.

The sales manager wants to change the factor for the accessories item group to 0.75.

In the Prices Update Wizard we choose the option Base Price List. This option allows us the ability to change both the factor of a price list, and if we want, the price list that is used as a base pricelist.

### Example 3: Base Price List option



Base Price List

Current Base Price List

- Base Price
- Discount Purchase Price
- Distributor Sales Price
- Regular Sales Price
- Seasonal Sales Price
- Schools
- Last Purchase Price
- Same as Target

Keeps the same price list as base price list

Sets a new base price list

Bases a price list on itself

Once you choose the Base Price List option, you have the choice of both the current or a new base price list.

If you choose Current Base Price List, the base price list remains the same and you can choose a new factor. This is what we would do in example 3. We want to keep the base price list but just adjust the factor.

Or you can choose a different price list as a new base. You can pick any existing price list as the base.

Another option is to base a price list on itself. Typically you would do this when you no longer want to have a price list automatically updated. Once you choose Same as Target and a factor of 1, you can maintain that price list directly either in the wizard or directly in the price list window.

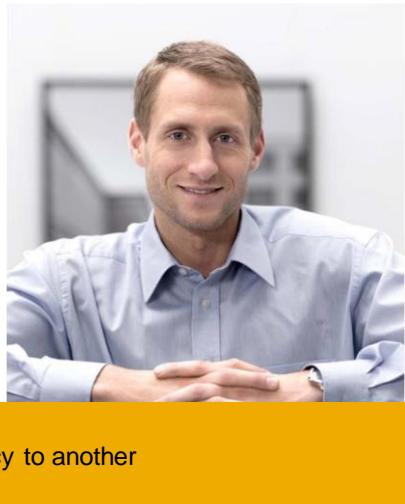
## Example 4: Converting currency for a price list

You have a sales price list that you would like to reuse for some new international customers.

Currently the price list has prices in 3 currencies, but you need a fourth currency.

You can use the price list wizard to convert a price list's currency.

In the Prices Update Wizard, we choose:



Convert To

Convert prices from one currency to another

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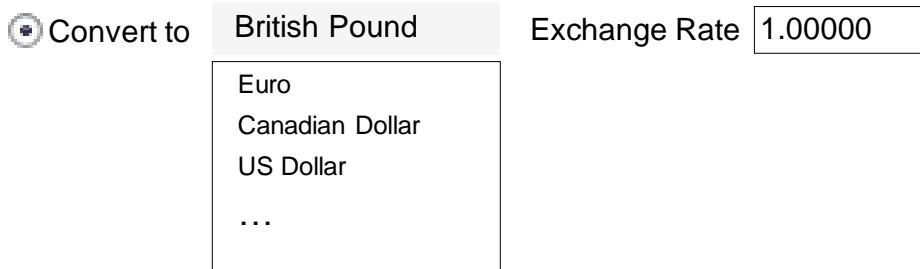
Another use of the Prices Update Wizard is to convert a price list's currency.

In example 4, you have a sales price list that you would like to reuse for some new international customers. Currently the price list has prices in 3 currencies – one main currency and two additional ones. You need to a fourth currency for this price list.

You can choose the Convert to option. This option will convert prices from one currency to another.

## Example 4: Convert to option

Open the *Prices Update* wizard and choose the *Convert to* option.  
Choose the currency from the dropdown and select the exchange rate.



When you select the price list to be changed, you can choose whether you are changing the primary currency or the additional currency 1 or additional currency 2.

In our example we wanted to duplicate an existing price list and change the main currency. Once we have the new price list, we can open the Prices Update wizard and choose the 'Convert to' Option. Choose the new currency from the dropdown. The default rate is taken from the rate set in the Exchange Rates and Indexes window. Users can change the rate manually.

In the following windows you can choose to change selected items or an entire price list. In our example, we would choose our new price list.

Then you can choose whether to change the primary currency or one of the additional currencies.

## Example 5: Adjust Unit of Measure Pricing

The sales manager decides to make additional price reductions for cartons of printer paper.

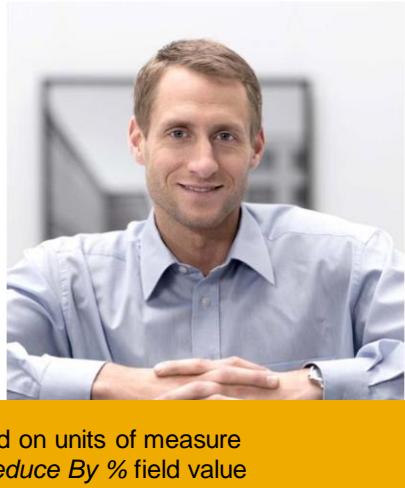
He would like to offer a 10% reduction for cartons of printer paper in two price lists. Currently the cartons only have a 5% discount from the price of packs.

To do this, we will set 10 in the *UoM Reduce By %* field for selected items on these price lists.

In the Prices Update Wizard, we choose:

UoM Reduce By %

Adjust prices based on units of measure by changing the *Reduce By %* field value



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Another the last option in the Prices Update Wizard allows you to adjust unit of measure pricing.

In example 5, the sales manager decides to make additional price reductions for sales of cartons of printer paper.

He would like to offer a 10% reduction for cartons of printer paper in two price lists, the Schools price list and the Small Account price list. Currently cartons only have a 5% discount in those price lists over the price to purchase the number of packs equal to a carton.

To do this we will change the value 5 to the value 10 in the UoM Reduce By % field for selected items of printer paper on the two price lists.

In the Prices Update Wizard, we choose the 'UoM Reduce By Percentage' option.

## Example 5: Reduce By % Field

UoM	Base Price	Reduce By %	Unit Price
Pack	2.00		2.00
Carton	48.00	5	47.10



10      44.20

In our example, the price of a pack of printer paper is 2 on our Schools Price List.

A carton is comprised of 24 packs. The base price of a carton is 48.

The Reduce By % field allows us to give a discount from that price.

Currently the discount is 5%, so the price of a carton is 47.10.

If we give a discount of 10%, the price of a carton will change to 44.20.

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The *Reduce By %* field in Unit of Measure Prices allows us to give a discount for specific units.

In our example, let's assume the price of a pack of printer paper is 2 on our Schools Price List. A carton is comprised of 24 packs.

Therefore, the base price of a carton (without any discount) is 48.

The *Reduce By %* field allows us to give a discount from that price.

Currently the discount is 5%, so the price of a carton is 47.10.

So if we give a discount of 10%, the price of a carton will change to 44.20.

We could make this change manually in a price list, but for multiple items on multiple price lists, it is much easier to make the change in the *Prices Update* wizard.

## Example 5: Changing the UoM Reduce By %

In the Prices Update wizard:

<input checked="" type="radio"/> UoM Reduce By %	Equal To	Reduce by %	10
	<input type="button" value="Multiply"/>		
	<input type="button" value="Divide"/>		
	<input type="button" value="Add"/>		
	<input type="button" value="Subtract"/>		

In the selection criteria windows, we choose the printer paper items, the two price lists, and choose the unit of measure.

In the Prices Update Wizard: We set the unit of measure reduce by percentage to be equal to 10. This will give a 10% discount for cartons.

Next, in the selection criteria windows, we select the printer paper items and then choose the two affected price lists and the unit of measure.

In the simulation, we will see the current price and suggested price and can choose to execute the change.

## Prices Update Wizard vs. Copy UoM Reduce By %

### **Prices Update Wizard**

- To change existing *UoM Reduce By %* Amounts
- Units of measure must already have an entry with an amount to be updated

### **Copy UoM Reduce By%**

- To enter a large number of new *UoM Reduce By %* Amounts
- You can use *UoM Reduce By %* values for one item as a source to copy to other products and/or other pricelists.

The *Prices Update Wizard* cannot create a new *Unit of Measure Reduce By %* entry. The wizard can only change existing entries.

Use the *Prices Update Wizard* to change existing amounts. Each units of measure must already have an entry with an amount to be updated.

So if there is currently no *UoM Reduce By %* amount for a specific unit of measure in a pricelist, the wizard will have no effect.

In cases where you want to enter a large number of new *UoM Reduce by %* amounts for units of measure, use the *Copy Reduce By %* function.

Enter *UoM Reduce By %* values for one item in a price list, then you can use those values as a source to copy to other products and/or other pricelists.

## Summary

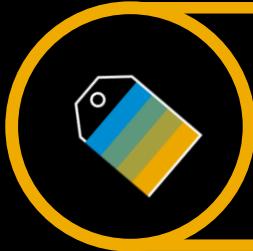


Here are some key points:

- You can base a price list on another price list and use factors as a multiplier. When the base price list is changed, all price lists based on it will change.
- You can make manual changes directly in a price list. When you make a manual change to a price on a price list that uses factors, that changed price is no longer updated automatically.
- The *Prices Update* wizard allows you to make mass changes to multiple price lists at the same time.
- Options in the wizard include changing item prices, setting new base price lists and factors, converting currency for a price list, and adjusting UoM prices.
- Prices changed with the *Item Prices* option will be set as *Manual*.
- The *Prices Update* wizard includes a simulation step so that you can double-check your changes before they take effect.

Here are some key points:

- You can base a price list on another price list and use factors as a multiplier.
- When the base price list is changed, all price lists based on it will change.
- You can make manual changes directly in a price list.
- When you make a manual change to a price on a price list that uses factors, that changed price is no longer updated automatically.
- The *Prices Update* wizard allows you to make mass changes to multiple price lists at the same time.
- Options in the wizard include changing item prices, setting new base price lists and factors, converting currency for a price list, and adjusting unit of measure prices using the Reduce By Percentage field.
- Prices changed with the *Item Prices* option in the *Prices Update Wizard* will be set as *Manual* and no longer subject to automatic pricing updates.
- The *Prices Update* wizard includes a simulation step so that you can double-check your changes before they take effect.



## Pricing: Period and Volume Discounts

SAP Business One  
Version 10.0

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Welcome to the topic on period and volume discounts.

## Objectives



At the end of this topic you will be able to:

- Set up period and volume discounts for price lists.

In this topic, we will set up period and volume discounts for price lists.

## Business Scenario



- Your company periodically gives discounts on the list price based on volume purchases or during sales events.
- Period and volume discounts on particular price lists are set up in advance for seasonal sales.

Imagine that: Your company periodically gives discounts on the list price based on volume purchases or during sales events. Period and volume discounts on particular price lists are set up in advance for seasonal sales.

## Discounts for Time and Quantity



A basic price for the product may not be enough.

You may want to set up sale prices for a limited time period. You may want to give a discount when a customer buys a large quantity.

Period and volume discounts allow you to define discounts by dates and based on volume based on an existing price list.

The discounts entered here will override the basic price in the business partner's assigned price list as long as the unit of measure specified in the discount matches the unit of measure in the row.

The discounts will not apply if a blanket agreement price, a special price for the business partner or a discount group is applicable for the customer or item.

If a discount group is found, the discounts from the discount group apply, however a price from a period and volume discount pricelist may also be applied.

## Seasonal Sale Example



5% off all office furniture in month of September

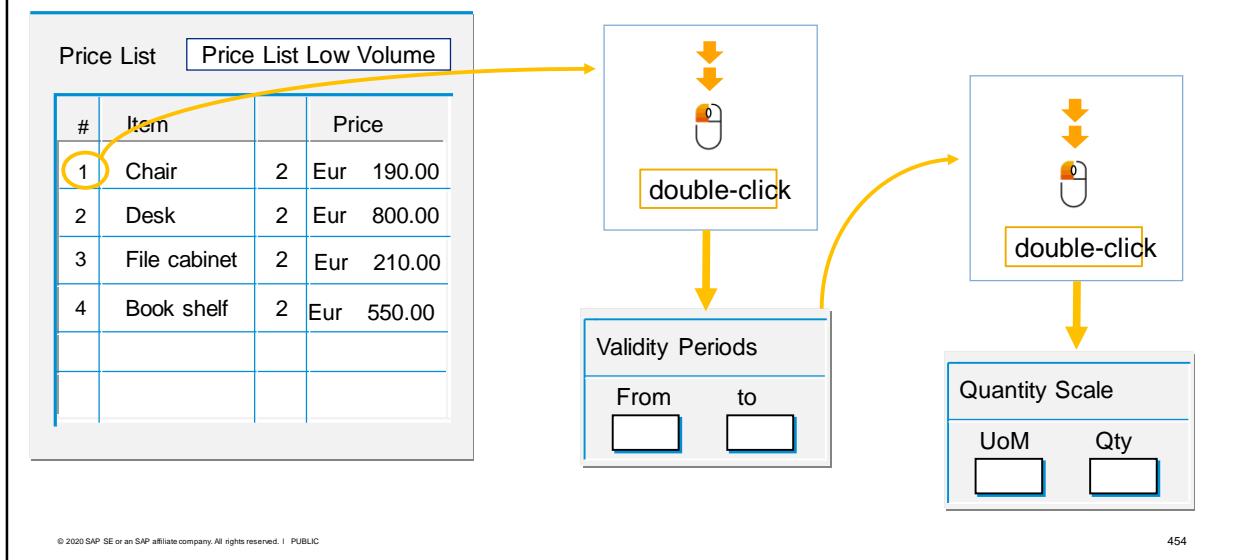


3% additional for set of 4 chairs

You can use period and volume discounts to define special prices for price lists. A special price can apply to a defined period or to a quantity scale.

For example, you decide to have an autumn sale on office furniture. You want to give a 5% discount off of the price of desks and chairs on the small accounts sales price list for the month of September. During that period you will also give an additional discount of 3% for anyone who buys a set of 4 chairs or more.

## Entering Period and Volume Discounts



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In SAP Business One, time-based discounts are set up first then the volume discounts are defined for those validity periods. Select the price list, then double-click to open the validity period window. After entering the validity, double-click again to open the window to set the quantity needed for the discount. When a marketing document uses this price list, the business partner will be eligible for the period and volume discounts.

## Setting up the discount

The screenshot shows two overlapping SAP Fiori application windows. The top window is titled 'Period and Volume Discounts' and has a dropdown menu 'Price List' set to 'Small Account Sales Price'. The bottom window is also titled 'Period and Volume Discounts' and has a dropdown menu 'Price List' set to 'Small Account Sales Price'. Both windows have a 'Find' input field and a search icon. The main area of both windows contains a table with columns: #, Item No., Item Description, Primary Currency, Source Price, and Pricing Unit. In the bottom window, row 1 shows item 'OF2003' (Office Chair) with source price 'Price - Pri. Curr.' and pricing unit 'Manual'. Row 2 is empty. At the bottom of the bottom window are buttons for 'Add', 'Cancel', and 'Add Items'.

1. Select Pricelist  
2. Select Items  
3. Select Source Price

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In the Periods and Volume Discounts window, you first select the pricelist for which you want to define discounts.

Then add the items individually or by ranges and groups.

Then select a source price for the discount. Since a pricelist price can be defined in a primary currency and two additional currencies, the dropdown box allows you to name which currency's price is used as a base for the special price in the Period Discount and Volume Discount windows.

In our scenario, we want to set up a discount for office chairs for the primary currency price in Small Accounts Sales Price List. So we choose the price list, select the item for office chairs and select the unit price in the primary currency.

## Enter Validity Dates

	Valid From	Valid To	Price List	Discount %	Price after Disc...	Auto
1	30.06	30.07.	Small Account Sale:	5.00	GBP 166.25	<input checked="" type="checkbox"/>
2			Small Account Sale:	0.00		<input checked="" type="checkbox"/>

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Then double-click to open the Period Discounts window.

Enter the date range for the discount.

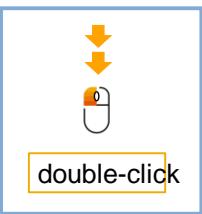
You can enter the discount by percentage or by changing the price after discount.

The Auto checkbox controls whether the discount will be automatically recalculated when the price list is updated.

In our example, we enter the dates for our autumn sale then add the 5% discount for the period.

If we wanted to make sure the price did not increase during the sale period, even if the price list changes, then we could uncheck the Auto checkbox.

## Entering Volume-based Discounts



	Quantity	Discount %	Special Price
1	4.000	0.00	GBP 161.00
2	0.000	0.00	GBP 175.00

- Enter the quantity required to receive the discount.
  - Then enter total discount percentage or special price for each unit of quantity.

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To add further discounts based on volume, double-click on a row to open the Volume Discounts for Pricelist window.

Enter the quantity required to receive the discount. Then enter the total discount percentage or special price for each unit of quantity.

Here we can enter the additional 3% discount for the 4 chairs.

We enter 4 for the quantity and then, since our base discount is 5%, we enter 8% to give the additional 3% off of the price list price.

## Entering Volume Per Unit Discounts

Volume Discounts For Price List					
UoM Code	UoM Name	Quantity	Discount	Special Price	
1	Carton	1.000	3.00	GBP 203.70	
2	Carton	4.000	4.00	GBP 201.60	
3	Carton	0.000	0.00	GBP 210.00	

Volume discount for each UoM

- Define volume based discounts for each unit of measure for an item
- Add a new row to bring in additional units
- You can add discounts for units even if they are not defined in the *Period Discounts* window.

If you have multiple units of measure set up for an item, you can define volume based discounts and prices for each unit of measure in the item's Unit of Measurement Group.

In the same window (Volume Discounts for Price List), just add a new row to bring in each additional unit of measure.

You can add a volume discount for any of the item's units of measurement, even if the unit is not defined in the selected price list in the Period Discounts window for this item.

However, if the unit is deleted later on from the unit of measurement group for the item, then the discount will also be removed from this table.

## Copying existing discounts

The screenshot shows the SAP Fiori Period Discounts interface. On the left, there's a table with two rows. Row 1 has 'Valid From' as 30.06, 'Valid To' as 30.07, 'Price List' as 'Small Account Sales', 'Discount %' as 5.00, and 'Price after Disc' as GBP 166.25. Row 2 has the same values. Below the table are 'Update' and 'Cancel' buttons. In the center, there's a modal titled 'Period Discounts - Items - Selection Criteria'. It contains two checkboxes: 'Select Items Without Period Discounts' (unchecked) and 'Select Items of Same UoM Group' (checked). A large table lists items with columns for Select, Item No., Item Description, UoM Group, and Period Discounts. An 'OK' button is at the bottom of the modal. A yellow box highlights the 'Copy Discounts' button in the bottom right corner of the main screen area.

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Once you have some period and volume discounts set up for some items you may wish to copy these discounts to other items.

In the Period and Volume Discount transaction, begin by selecting a price list from the dropdown box. Use the *Add Items* button to add all the items that will receive the copied discount. The default is to select all the items.

Then select the item whose definition of period or volume discount you wish to copy by double-clicking the row.

Choose the *Copy Discounts* button.

You have two additional options for defining how the copy is done:

The first option is: *Select Items Without Period Discounts* – This is used to copy the discounts only to items that do not yet have any period and volume discounts.

The second option is: *Select Items of the Same UoM Group* – This allows you to limit the copying of the discounts to items with the same unit of measurement group and only for the units defined for the target items.

For example, if we have a period discount on packs of one type of paper, we could decide to copy the same discount to other paper with the same units of measure.

## Summary



Here are some key points:

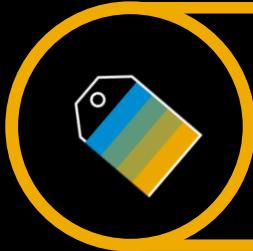
- Period and volume discounts allow you to define discounts by validity dates and volume for an existing price list.
- The discounts entered here override the basic price in the business partner's assigned price list.
- Setting up a period and volume discount involves multiple windows. First you choose an item and its price from the price list, then set up a validity period before opening a third window to define volume discounts for the validity period.
- You can add a volume discount for any of the item's units of measurement, even if the unit is not defined in the selected price list in the *Period Discounts* window for this item. However, the unit of measure in the discount must match the unit of measure in the document row for the discount to apply.
- You can copy period and volume discounts to other items.

Period and volume discounts allow you to define discounts by validity dates and based on volume for an existing price list.

The discounts entered here override the basic price in the business partner's assigned price list.

Setting up a period and volume discount involves multiple windows. First you choose an item and its price from the price list, then set up a validity period before opening a third window to define volume discounts for the validity period.

You can add a volume discount for any of the item's units of measurement, even if the unit is not defined in the selected price list in the Period Discounts window for this item. However, the unit of measure specified in the discount must match the unit of measure in the document row for the discount to apply. You can copy period and volume discounts to other items, either by selecting all items, specific items or by using the options to select items without period discounts or items of the same UoM group.



## Pricing: Discount Groups

SAP Business One  
Version 10.0

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Welcome to the topic on discount groups.

## Objectives



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

- Set up discount groups to meet your pricing needs

In this topic, you will learn how to set up discount groups to meet your pricing needs.

## Business Scenario



Your company wants to introduce some new discounts.

Some of these offers will be based on specific customer groups.

Other offers will be available to all business partners but based on specific items or manufacturers.

Some customers will be eligible for multiple discounts on the same product, but others will receive only one of the discounts.

One offer will be a “pay for 2 – get 1 free” deal for a range of products.

To create these discount offers, they will use discount groups.

Imagine that your company wants to introduce some new discounts.

Some of these offers will be based on specific customer groups, other offers will be available to all business partners but based on specific items or manufacturers.

Some customers will be eligible for multiple discounts on the same product, but others will receive only one of the discounts.

One offer will be a “pay for 2 – get one free” deal for a range of products such as mobile phones, ink cartridge refills and discs.

To create these discount offers, you can use discount groups.

## Discount Basis



Discount groups are the most flexible type of pricing.

You can assign a discount group to a specific business partner, a business partner group or even to all business partners.

The discounts are defined for specific items or item groups, a combination of item properties or an item manufacturer.

Multiple discounts can be defined within the discount group. For example, within the same discount group you can have a discount on an item group as well as a discount for a specific manufacturer.

Discounts can be set at a percentage or be calculated by quantity purchased.

Let us go through the different combinations of discounts you can create using discount groups.

## Creating discount groups

- 5% off item group for printers
- 1 free case of recycled paper when buying two cases



Retail customers

- 2% off products manufactured by Rainbow
- 3% off items with the item property of business products



Large Customers

The first step in creating a discount group is to think of the kinds of discounts that would be appropriate to one or more business partners and group them together inside the discount group.

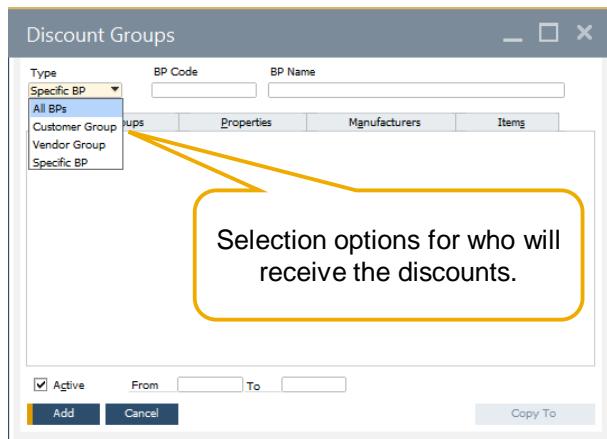
For example you may wish to give retail customers 5% off printers and an offer of 1 free case of recycled paper when they buy 2 cases. A different set of discounts may apply to the customer group for large customers. For them, you might offer 2% off products from the manufacturer Rainbow and 3% off any items that have the item property of business products.

Once you know the type of discounts you wish to group together, the first step in creating the discount group is to choose the business partners that the discounts will apply to.

## Assigning Discount Groups

Assign to:

- Specific BP
- Customer Group
- Vendor Group
- All BPs



Discount can be assigned not only to specific business partners, but to business partner groups (such as vendor or customer groups) or even be assigned to all business partners.

Because you can assign a discount for groups and for all business partners, SAP has provided the option to exclude specific business partners from discount groups. We will come back to that later on in this topic.

Now we will take a look at the specific types of discounts available in every discount group and how they are applied.

## Discount Groups for Item Groups

The screenshot shows the SAP Discount Groups interface. At the top, there is a navigation bar with tabs: Item Groups, Properties, Manufacturers, and Items. The 'Item Groups' tab is selected. Below the tabs is a table with columns: #, Group, and Discount %. The table contains seven rows, each representing an item group with a corresponding icon. At the bottom of the table, there are buttons for Active, From, To, Add, Cancel, New Group, Reset, and Copy To. A large yellow bracket on the left side of the table groups all the rows under the heading 'All Item Groups defined for the company'. A yellow callout bubble points to the 'Tab for Item Group discounts' at the top right. Another yellow callout bubble points to the 'Set discount amount for item groups' button.

All Item Groups defined for the company

Tab for Item Group discounts

Set discount amount for item groups

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Four tabs are available in every discount group for defining discounts: Item Groups, Properties, Manufacturers and Items.

First we will look at item groups.

The item group tab displays all the item groups defined for the company.

You enter the discount you desire on the row for each item group.

The default form settings show only the option for percentage discounts, however, you can add the fields for giving free items based on quantity purchased in the Form Settings window.

Once you have set a discount based on an item group, all items belonging to that item group are automatically included in the discount.

This means that when a new item master is assigned to an item group, it will automatically be added to any discount group that is based on that item group.

## Discount Groups for Properties

The screenshot shows the SAP Business One 'Discount Groups' interface. At the top, there's a header with 'Type' (set to 'Customer Group') and 'Group Name' ('Large Accounts'). Below this is a navigation bar with tabs: 'Item Groups', 'Properties' (which is active), 'Manufacturers', and 'Items'. The main area contains a table with columns '#', 'Properties', and 'Discount %'. The table lists items from 'Items Property 1' to 'Items Property 17'. To the right of the table is a dropdown menu titled 'Disc. Relations' with options: Lowest Discount (selected), Highest Discount, Average, Total, and Discount Multiples. At the bottom of the screen are buttons for 'Active' (checked), 'From' (empty), 'To' (empty), 'Add', 'Cancel', and 'Copy To'.

Set rule for:

- Highest
- Lowest
- Average
- Total of all discounts
- Multiplying the discounts

Another option is to use item properties as way to indicate items that should be discounted. A nice feature of discount groups at the item properties level is that SAP Business One allows you to define a discount for several properties at once.

Additionally, you can use a rule to decide which discount is used by the system for the calculation:

- The highest discount -The property with the highest discount will determine the overall discount calculated for the item.
- The lowest discount -The property with the lowest discount will determine the overall discount calculated for the item.
- The average discount -The system calculates the average of all the discounts for the properties. The average is used as the discount.
- Discount totals - The system adds together all discounts of the properties that apply to the item. The total (up to 100%) is used as the discount.
- Discount multiples – The system multiplies the discounts of the properties that apply to the item.

## Discount Groups for Manufacturers

The screenshot shows the SAP Discount Groups interface. At the top, there's a header bar with tabs: 'Item Groups', 'Properties', 'Manufacturers', and 'Items'. The 'Manufacturers' tab is highlighted. Below the tabs is a table with columns '#', 'Manufacturer', and 'Discount %'. The table contains the following data:

#	Manufacturer	Discount %
1	A+ Electronics	
2	AccentInc	
3	I-Tech	
4	J.B.	
5	LeMon	
6	OEC Computers	
7	PCM	
8	Prosoft	
9	Rainbow	2.00

Below the table, there are buttons for 'New Manufacturer', 'Reset', 'Copy To', and checkboxes for 'Active', 'From', and 'To'. At the bottom left are 'Add' and 'Cancel' buttons. A yellow callout box points to the 'Rainbow' row with the text 'Set a discount for products from a specific manufacturer'. Another yellow callout box points to the 'New Manufacturer' button with the text 'Can add new manufacturers to the list'. The footer of the screen includes the text '© 2020 SAP SE or an SAP affiliate company. All rights reserved. I PUBLIC' and the number '470'.

Another way to define a discount group is by manufacturer.

For example, imagine that you sell Rainbow-brand printers and accessories. The manufacturer, Rainbow, offers you a lower price as a distributor for all their products. You would like to pass on some of these savings by discounting all Rainbow products by 2% for large customers.

You can set up a discount group for the large accounts customer group which includes a 2% discount for all products manufactured by Rainbow.

## Discount Groups for Items

The screenshot shows the SAP 'Discount Groups' dialog box. At the top, there are tabs for 'Item Groups', 'Properties', 'Manufacturers', and 'Items'. The 'Items' tab is selected, indicated by a blue border. Below the tabs is a table with columns: '#', 'Item Code', 'Item Description', and 'Discount %'. Three rows are listed:

#	Item Code	Item Description	Discount %
1	R00001	Printer Paper A4 White	2.00
2	R00002	Printer Paper A4 Recycled	3.00
3	R00003	Yellow copy paper	2.00

Below the table are buttons for 'Clear Table', 'Add', and 'Reset'. At the bottom left are 'OK' and 'Cancel' buttons, and at the bottom right is a 'Copy To' button. A yellow callout points to the 'Items' tab with the text 'Tab to define discounts by item code'. Another yellow callout points to the 'Add' button with the text 'Add items to the table'. The footer of the dialog box contains the text '© 2020 SAP SE or an SAP affiliate company. All rights reserved. I PUBLIC' and the page number '471'.

The fourth tab is the Items tab.

Here you can list individual items that you want to discount. Unlike the other tabs, the list is empty until you add the items you wish to discount. This makes sense if you think about the large number of items that a company can have.

Here we see a discount group set up for schools to promote copy paper sales.

## Free Goods

The screenshot shows two SAP Fiori screens. On the left is the 'Form Settings - Discount Groups' dialog, which includes a 'Table Format' configuration table with columns for 'Column', 'Visible', and 'Active'. On the right is a 'Discount Groups' table titled 'All BPs' with tabs for 'Item Groups', 'Properties', 'Manufacturers', and 'Items'. The 'Items' tab is selected, showing two entries for 'I0000 Rainbow Inkjet Cartridge' and 'I0000 Rainbow Ink 6-Pack and Photo P...', each with fields for 'Discount %', 'Paid Qty', 'Free Qty', and 'Max. Free Qty'. A yellow box highlights the 'Items' table, and a yellow callout points from it to the text 'Discount according to quantity purchased'. Another yellow box highlights the first item entry in the table.

#	Item ...	Item Description	Discount %	Paid Qty	Free Qty	Max. Free Qty
1	► I0000 Rainbow 95 Inkjet Cartridge		0.00	2.000	1.000	4.000
2	► I0000 Rainbow Ink 6-Pack and Photo P...		0.00	4.000	2.000	8.000

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Companies often need to offer incentive pricing with free goods. Discounts can be based according to the quantity purchased.

Free goods discounts can be set on all four tabs.

There are 3 fields for setting a variable discount according to the quantity purchased.

The fields are hidden until you select them in Form Settings and then widen the window or scroll to view the additional fields.

## Free Goods

The screenshot shows a SAP Fiori application window titled "Discount Groups". In the top left, there's a dropdown menu set to "All BPs". Below it is a table with four tabs: "Item Groups", "Properties", "Manufacturers", and "Items". The "Items" tab is selected. The table has columns: #, Item ..., Item Description, Discou..., Paid Qty, Free Qty, and Max. Free Qty. Two rows are present:

#	Item ...	Item Description	Discou...	Paid Qty	Free Qty	Max. Free Qty
1	► I0000	Rainbow 95 Inkjet Cartridge		0.00 2.000	1.000 2.000	4.000 8.000
2	► I0000	Rainbow Ink 6-Pack and Photo P...		0.00 4.000		

On the right side of the table are three buttons: "Clear Table", "Add", and "Reset". Below the table is a "Copy To" button. A yellow callout box contains the text: "Buy 3 cartridges, get 1 of them free. Maximum 4 free cartridges." A yellow arrow points from this callout to the "Free Qty" and "Max. Free Qty" columns in the table.

To set up a variable discount according to the quantity purchased:

- You specify the paid quantity in the first column. This is the quantity that a customer will pay or that you would purchase from a vendor. In this example the paid quantity is 2.
- The second column specifies the quantity that is given for free when the paid quantity is purchased. In this example, the customer receives 1 free item for every two purchased.
- The last field is optional, but specifies a limit for the free items. In the example this is set to 4. A customer will receive up to 4 free items with 8 paid items. If there are more than 8 paid items, the customer still receives only 4.

Note that purchased items and the free items must have the same item code. The functionality does not cover the purchase of items with a different item as the free item.

## Free Goods Discount Calculation

Item #	Paid Qty	Free Qty	Max. Free Qty
I00031	2	1	4

Quantity Purchased	Discount %	Total (LC)	Comments
2	0	Unit Price * 2	No discount
3	33.33	Unit Price * 2	Pay for 2 and get 1 free
4	25	Unit Price * 3	Pay for 3 and get 1 free
5	20	Unit Price * 4	Pay for 4 and get 1 free
6	33.33	Unit Price * 4	Pay for 4 and get 2 free
12	33.33	Unit Price * 8	Pay for 8 and get 4 free
15	26.67	Unit Price * 11	Pay for 11 and get 4 free

Let us explore how the discount is actually calculated.

In the example shown, the discount group is set up as follows:

- The paid quantity is set to 2
- The free quantity is set to 1
- The maximum number of free items is 4.

If the customer purchases a quantity of 2, no discount is applied.

If the customer purchases a quantity of 3, the discount is applied giving 33.33% off of the regular price.

In other words, the customer buys 3 but gets 1 of the 3 for free.

If the customer purchases 4 items, they only get the discount based on a quantity of 3 purchased, therefore the discount percentage is reduced from a third to a quarter.

If the customer purchases a quantity of 6 items, the discount is 33.33%. The customer pays for 4 items and gets 2 items for free.

The customer essentially gets 1 free item with every 3 items purchased, up to the maximum limit of 4 free items.

So, if the customer purchases 12 items (4 \* 3 items), they will get the maximum number of free goods.

## Free Goods in the Sales Order

The screenshot shows the SAP Sales Order interface. At the top, customer details are entered: Customer C23900, Name Parameter Technology, Contact Person Daniel Brown, and BP Currency GBP. The status is Open. A yellow callout box points to the quantity field in the item row, stating: "Discount is automatically applied based on purchased quantity". Another yellow callout box points to the quantity value '3...', stating: "When quantity is entered as 3...". The item row details are: Item No. 100007, Item Description Rainbow 95 Inkjet Cartridge, Quantity 3, Unit Price GBP 25.50, Discount 33.33 %, Total (LC) GBP 51.00. The bottom right corner shows the total breakdown: Total Before Discount GBP 51.00, Discount %, Freight GBP 0.00, Rounding checked, Tax GBP 10.20, and Total GBP 61.20.

If the item is returned, customer will receive refund based on the discounted price.

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We can see the effect of the multiple quantity discount in a sales order.

When the item quantity is entered in the row, the system automatically enters the calculated discount percentage in the row.

When the item quantity entered is 3, the system automatically enters a discount of 33.33% in the Discount field in the sales order row.

If the customer later returns one of the items, the customer will receive a refund based on the discounted purchase price.

In this example, the customer would receive one third of the total price paid for the three items.

## Free Goods or Percentage

The screenshot shows a SAP Fiori application window titled "Discount Groups". The interface includes a header with "Type" and "All BPs" buttons, and tabs for "Item Groups", "Properties", "Manufacturers", and "Items". The "Items" tab is active, displaying a table with three rows:

#	Item Code	Item Description	Discou...	Paid Qty	Free Qty	Max. Fre...
1	A00004	Rainbow ColorJet 5	1.00	0.000	0.000	0.000
2	I00007	Rainbow 95 Inkjet Cartridge	0.00	2.000	1.000	4.000
3	I00008	Rainbow Ink G-Pack and Photo P	0.00	4.000	2.000	8.000

Below the table are filters for "Active", "From", "To", and buttons for "OK" and "Cancel". To the right of the table is a sidebar with "Reset" and "Copy To" buttons. A yellow callout box points to the first row's "Discou..." column with the text "Discount by percentage". Another yellow callout box points to the second and third rows' "Discou..." column with the text "Discount according to purchased quantity". A third yellow callout box on the right contains the text "Mutually exclusive discounts:" followed by a bulleted list:

- Fixed discount by percentage
- Variable discount according to purchased quantity

At the bottom left of the main area is the copyright notice: "© 2020 SAP SE or an SAP affiliate company. All rights reserved. I PUBLIC". At the bottom right is the page number "476".

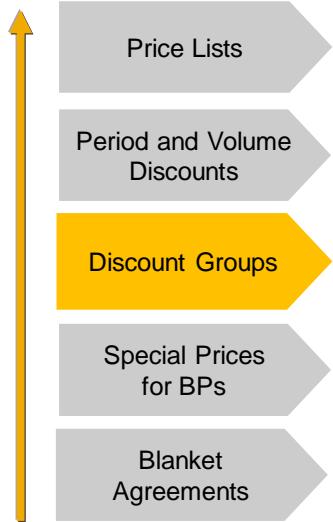
For any given row, you define the discount either by a fixed discount percentage or a variable discount according to the purchased quantity.

In other words, the two types of discount are mutually exclusive.

In the example, we see the free goods columns are grayed out for the first row where the fixed discount percentage is defined.

In the next two rows, the discount percentage column is grayed out because we have defined discount according to purchased quantity for these items.

## Price Determination



**Is there a blanket agreement price or a special price for the business partner in this marketing document?**

**No?** Then check for discount groups that apply to:

- **This business partner**
- **The business partner group of the business partner, or**
- **All business partners**

**If a discount group is found, the system applies the discount(s), then continues to search for a price in period and volume discount list or price list records.**

When the system searches for a price, it looks for the most specific type of price first.

First the system looks for a price in a valid blanket agreement. If none is found, the system checks for special prices for business partners.

If none exist, then the system searches for discount groups.

The system will look for discount groups that apply this business partner, the business partner groups associated with that business partner or a discount group that applies to all business partners.

Once discount groups are found, the system applies the discount(s) and then looks for a price in the Period and Volume Discounts or Price List for the discounts to apply to.

There are some factors controlling whether a discount group will be found when a marketing document is created.

## Price Determination and Discount Groups

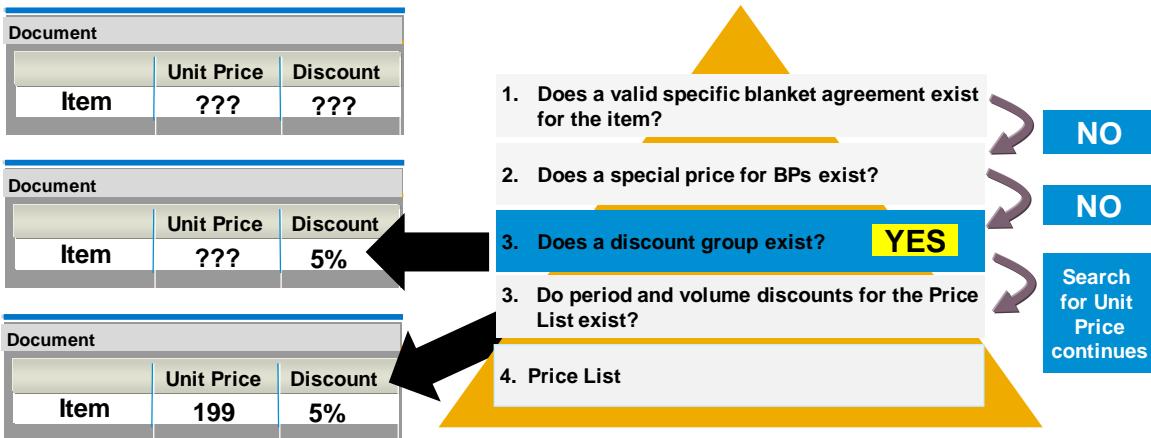


When the system searches for a price, it looks for the most specific type of price first.

First the system looks for applicable blanket agreements or special prices for business partners. If none exist, then the system searches for discount groups.

The system will look for discount groups that apply this business partner, the business partner groups associated with that business partner or a discount group that applies to all business partners.

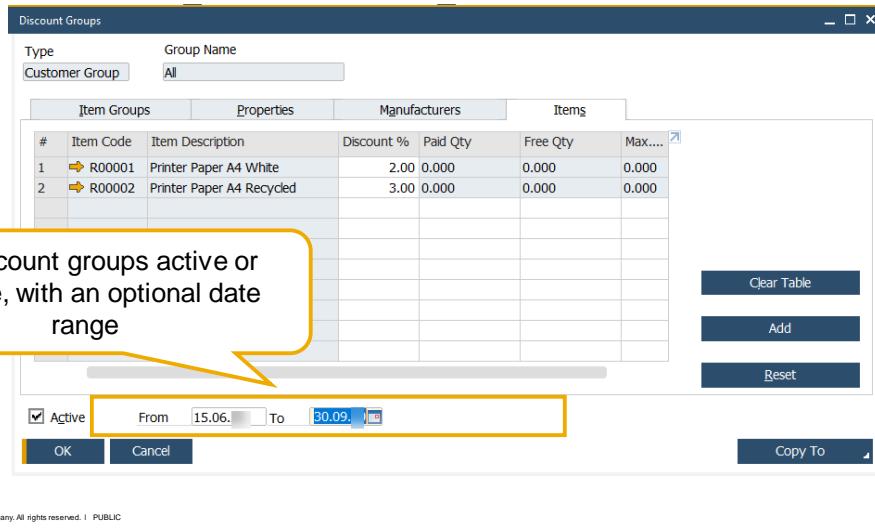
## Price Determination and Discount Groups



A discount group contains discounts, but a discount group does not contain a price. When a discount group is found, the applicable discount or discounts will be entered.

The system will continue to look for a price in the price list assigned to the customer.

## Validity settings



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There are some factors controlling whether a discount group will be found when a marketing document is created.

One of the factors controlling whether a discount group is applied in a document is the validity settings. Like all prices, you have the option to mark a discount group as inactive or set a range of validity dates for a discount group.

You can mark the discount group as active or inactive. Discount groups are active by default.

If a date range is set for an active discount group, the discount will apply to a marketing document if the document posting date falls in the active date range.

## Excluding BPs or Items



Another factor for applying a discount group in a marketing document may be that an a business partner or item is excluded from discount groups.

Even though you set up a discount group to apply to all business partners you have the option to exclude a business partner from all discount groups.

Perhaps this customer has some very specific contractual agreements or you perhaps choose not to apply any discount groups for new customers until they have purchased a certain amount.

Similarly you have the option to exclude an item from all discount groups even if that item would normally be included in a discount based on item group, item properties or manufacturer. Perhaps it is a seasonal item that you never discount during peak season sales.

In any of those cases you can choose to exclude the business partner or item in the master data record.

## Excluding BPs

The screenshot shows the SAP Business Partner Master Data interface. On the left, there's a sidebar with various tabs like General, Addresses, Payment, etc. The main area shows a business partner record for 'ADA Technologies'. A callout box on the left points to the 'Payment Terms' tab, which is highlighted with a yellow border. Another callout box on the right points to a checkbox labeled 'Do Not Apply Discount Groups' located on this tab. The 'Do Not Apply Discount Groups' checkbox is checked, indicated by a yellow border around it. To the right of the checkbox, there are other options like 'Allow Partial Delivery of Sales Order', 'Endorseable Checks from This BP' (which is checked), and 'This BP Accepts Endorsed Checks'.

**Do Not Apply Discount Groups**  
checkbox located on the *Payment Terms* tab.

- If selected, any discount group that would apply is ignored in documents.
- Checkbox affects only discount groups not other special prices.
- You can still set discounts manually in documents.
- Does not affect discounts copied from base

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The checkbox is located on the Payment Terms tab of the business partner master data. The checkbox is unchecked by default.

If you select the Do Not Apply Discount Groups checkbox, any discount group that would apply normally will be ignored in marketing documents for this business partner.

This checkbox affects only discount groups and not other special prices.

Even if the checkbox is marked for a business partner, you can still set a discount manually in the header area or the row of a document.

This setting does not affect discounts copied from base documents. When copying a document to a target document, the discounts from the base document are still copied to the target document regardless of what is defined in the Do Not Apply Discount Groups checkbox.

For example, there could be a sales order created before the checkbox was marked for a business partner.

## Exclude Item from Discount Groups

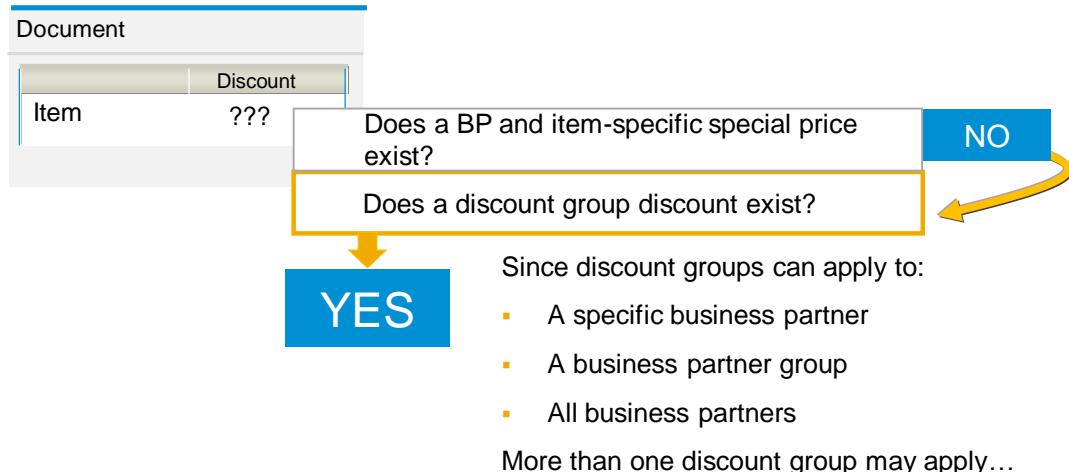
The screenshot shows the SAP Item Master Data dialog box. At the top right is a checked checkbox labeled 'Inventory Item'. In the lower-left area, there is an unchecked checkbox labeled 'Do Not Apply Discount Groups'. A yellow box highlights this checkbox. To the right of the dialog, a callout box contains the following text:

- Same checkbox on item master.
- You can still manually apply discounts in documents.
- Discounts are copied to target documents even if checkbox is set.

The same checkbox appears in the item master data to exclude a specific item from discount groups. This might be useful for a seasonal item which you do not want to discount during the prime season. As with the business partner setting, you can still manually apply discounts for the item in marketing documents.

Discounts from a base document are copied to the target document even if the Do Not Apply Discount Groups checkbox is set.

## Multiple Discounts



After the system has eliminated a special price for the business partner and item in a sales document row, the system looks for a discount group.

However, since discount groups can apply to a specific business partner, a business partner group and to all business partners with overlapping validity periods, the system may find more than one discount group.

In fact, even within a discount group, multiple discounts could apply, for example if a discount group contains a 3% on an item group that contains items that are also eligible for a 5% discount by manufacturer.

In all those cases, the system must determine how to apply the multiple discounts found.

The way to handle the issue of multiple discounts is to set a rule for determining the effective discount.

## Effective Discount Rule

The screenshot displays two SAP application windows side-by-side. On the left is the 'Business Partner Master Data' window for partner C50000, ADA Technologies. It shows various fields like Name, Group, Currency, and Payment Terms. A dropdown menu under 'Effective Discount Groups' is open, showing options: Lowest Discount, Default Priority, Highest Price, Lowest Price, and Multiplied. The 'Default Priority' option is highlighted. On the right is the 'Customer Groups - Setup' window, which lists groups like Customers, Large Accounts, Distributors, etc., each associated with a price list and an effective discount group. A yellow box highlights the 'Effective Discount Groups' column, showing values like 'Lowest Discount' for most groups and 'Total' for VIP. A large orange box encloses the 'Effective Discount' section on the right.

#	Group Name	Price List	Effective Discount Groups
1	Customers		Lowest Discount
2	Large Accounts		Lowest Discount
3	Distributors	Distributor Sales Price	Lowest Discount
4	Small Accounts	Small Account Sales Price	Lowest Discount
5	Government		Lowest Discount
6	High Tech		Lowest Discount
7	Construction	Regular Sales Price	Lowest Discount
8	Production		Lowest Discount
9	Non-Profits		Lowest Discount
10	VIP	VIP	Total
11	Schools		Lowest Discount

### Effective Discount:

- Lowest (default)
- Highest
- Average
- Total
- Multiplied

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You can set the rule for effective discount for a business partner or for a business partner group. You can select one of five settings for the effective discount – Lowest, Highest, Average, Total or Multiplied:

- Lowest Discount - The lowest available discount is taken (This is the default).
- Highest Discount - The highest available discount is taken.
- Average - The average of all available discounts is taken.
- Total - The sum of all available discounts is taken
- Multiplied - The system multiplies all available discounts and uses the result as the discount.

When you create a new business partner record, the system will ask if you want to bring in the effective discount from the business partner group. If you say "no", the new business partner will default to the lowest effective discount. You can change this at any time in the business partner master data.

Note: effective discount is obviously disabled if you have checked the Do Not Apply Discount Groups checkbox.

You can also change the effective discount in the business partner groups setup windows. If you select a new effective discount value, you will be asked whether to update all existing business partner records for the group.

## Advantages of Discount Groups

Discount groups are very flexible

- New items automatically included in applicable discount groups
- Can include or exclude items
- Can include or exclude business partners
- Can set up pricing for free goods
- Reporting for discount groups



A big advantage in using discount groups is when you create new items, they are automatically included in any discount groups that apply.

For example, let us say you have a discount group for products assigned to the item group for scanners. Anytime you create a new item and assign it to the item group for scanners, it will automatically belong to the discount group for scanners.

You can include or exclude items and business partners

You can set up free pricing for goods based on quantities purchased as well as fixed percentage discounts.

Additionally, reporting is available for discount groups.

## Summary



Here are some key points:

- Discount Groups can be set up for specific BPs, BP groups or all BPs.
- Within a discount group you can set discounts on item groups, properties, manufacturers or items. If multiple discounts for properties are set in a discount group, a rule is used to determine how to apply the discounts.
- Discounts can be based on a fixed percentage or on a variable quantity purchased. The latter is used for giving free goods.
- New items are automatically added to any applicable discount groups based on item groups, properties or manufacturers.
- Items and business partners can be excluded from discount groups.
- Discount groups can have validity periods or be marked as inactive.
- Effective discount rules resolve situations where multiple discount groups apply in a marketing document.
- Discount Groups contain only discounts, not unit prices. Once a discount group is applied to a document row, the system will continue to look for a unit price on a pricelist.

Here are some key points that show the advantages and flexibility of discount groups.

Discount Groups can be set up for specific BPs, BP groups or all BPs.

Within a discount group you can set discounts on item groups, properties, manufacturers or items.

If multiple discounts for properties are set in a discount group, a rule is used to determine how to apply the discounts.

Discounts can be based on a fixed percentage or on a variable quantity purchased. The latter is used for giving free goods.

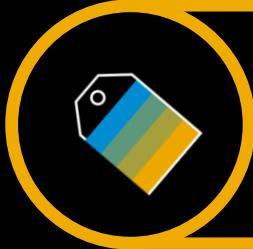
New items are automatically added to any applicable discount groups based on item groups, properties or manufacturers.

Items and business partners can be excluded from discount groups.

Discount groups can have validity periods or be marked as inactive.

Effective discount rules resolve situations where multiple discount groups apply in a marketing document.

Discount Groups contain only discounts, not unit prices. Once a discount group is applied a document row, the system will continue to look for a unit price on a pricelist.



## Pricing: Special Prices for Business Partners

SAP Business One  
Version 10.0

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THE BEST RUN **SAP**

Welcome to the topic on special prices for business partners.

## Objectives



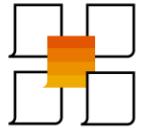
At the end of this topic, you will be able to:

- Set up special prices for business partners.

In this topic, you will learn how to set up special prices for business partners.

It is highly recommended you take the training on period and volume discounts before starting this course topic.

## Business Scenario



- Some customers receive special prices for items because of their relationship with your company.
- Sometimes these prices are set up in relation to a particular price list.
- Other times these prices are set up specifically for this business partner and item without referring to any price list.

Imagine that some customers receive special prices because of their relationship with your company. Sometimes these prices are set up in relation to a particular price list, such as the price list assigned to that business partner. Other times, the prices are set up specifically for this business partner without referring to any price list. This is done using special prices for business partners.

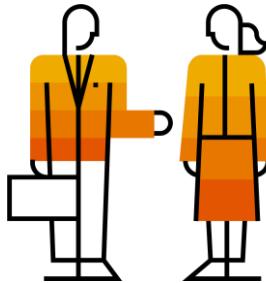
## Special Prices for Business Partners

For a specific business partner



Special prices for selected items of a business partner:

- With or without reference to a price list
- May be different price list than one assigned to BP
- Discount calculation
- Automatic update when price lists are updated



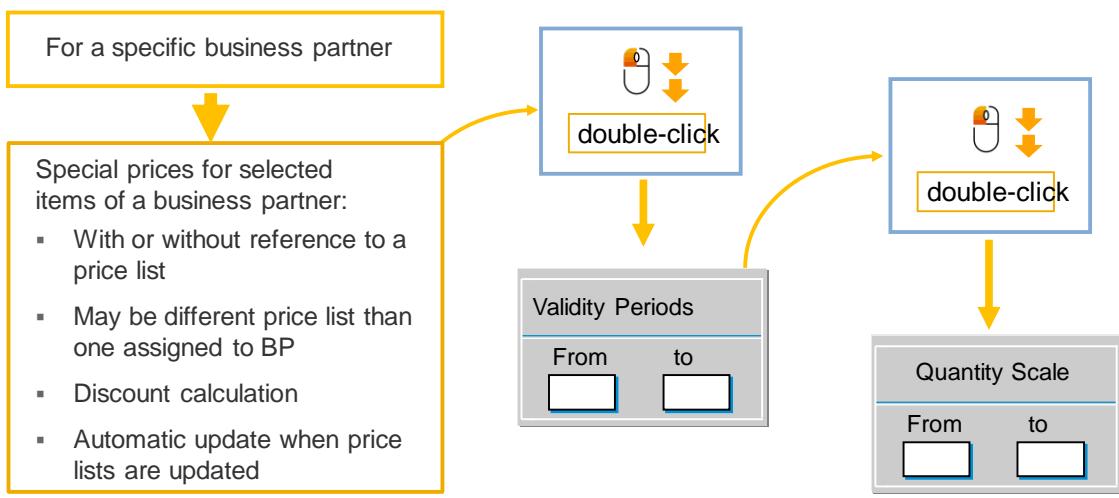
Special prices for business partners enable you to give a discount (or surcharge) on items for a specific business partner.

The special prices are very flexible. You can create a special price with or without reference to a price list, and it does not even have to be the price list associated with the business partner.

You can set a standard percentage discount or surcharge for the business partner that will default into the rows as you add items for special pricing. You can change this percentage after adding the item.

You can even set the special price to be updated and recalculated when the price list it references is updated.

## Special Prices for Business Partners



Just like period and volume discounts for price lists, special prices for business partners can have period and volume discounts.

You double-click on the special price to open up fields to enter dates for when the price is valid.

When you double-click a second time, you can then define a volume discount based on a quantity scale for the validity period you just defined.

Just as with period and volume discounts, any item belonging to a unit of measure group will allow you to set prices by units belonging to that UoM group.

Once you have defined a special price for one item, you can choose copy discounts to copy the date range and percentages for other items selected for that business partner.

## Pricing in Business One

Special Prices for Business Partners

*Overrides all other prices except specific blanket agreements*

1. Does a specific blanket agreement price exist? **NO**
2. Does a BP and item-specific special price exist? **YES** 
3. Does a discount group exist?
4. Do period and volume discounts for the price list exist?
5. Price List

Special prices defined for a business partner override all other prices in a marketing document, except for prices set in a specific blanket agreement with this business partner. This is because they are the most specific price that can be defined in SAP Business One.

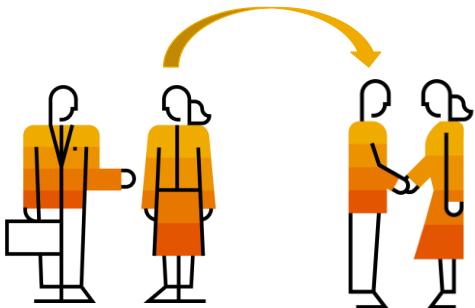
It is the first price the system searches for.

If a special price for this business partner is not found then the system will search next for discount group, then period and volume discounts for the price list assigned to the document, and finally for a price in the price list.

For a special price to apply to an item in a document, the date must be within the validity period and the unit of measure in the row must match the unit of measure in the definition of the special price.

## Copying special prices

Once you set up a special price, you can copy the price to other business partners.



### ***Copy Special Prices to Selection Criteria Options:***

- Replace all items
- Replace only existing items
- Do not replace items

One nice feature of special prices is that once you set up a special price, you can copy that price to other business partners

For copying special prices from one business partner to other ones the following copy rules exist:

- Replace All Items:  
The system copies all the special prices and possibly overwrites existing ones.
- Replace Only Existing Items:  
The system overwrites all the special prices that exist in the source business partner (BP) and target BP records. It does not add any new special prices.
- Do Not Replace Items:  
The system adds new special prices, but does not change existing ones.

In the transaction you choose the business partner who currently has the special prices you wish to copy, then choose the target business partners by code, business partner group or business partner properties.

## Update Special Prices Globally

- 4 tabs for updating special prices globally:
  - Change discount by increasing or decreasing percentage
  - Change item prices by percentage
  - Refresh special prices from linked price list
  - Delete special prices.



There is a transaction to update all the special prices globally inside SAP Business One. The transaction contains four tabs each with a different choice on how to update the prices. You select the relevant tab to: change the discount by increasing or decreasing the discount percentage, change the item prices by a percentage, refresh special prices from their linked price list or delete existing special prices.

On all these tabs you have selection criteria to choose prices by business partners, customer or vendor group, or business partner properties.

## Summary



Here are some key points:

- You can use special prices for business partners to set a discount or surcharge on items for a specific business partner.
- The special price can be with or without reference to any price list.
- You can set a default percentage for the rows. You can change this percentage after adding items.
- You can set the special price to be automatically recalibrated when the reference price list is updated.
- The same options available in period and volume discounts are available for special prices. You can set a validity period and/or prices based on a quantity scale. If an item belongs to a UoM group, you can set quantity discounts by unit of measure.

You can use special prices for business partners to set a discount or surcharge on items for a specific business partner.

The system searches first for special prices for business partners before looking for any other price type. If it finds a special price for the business partner, then that price will be used in the marketing document row.

The price can be with or without reference to any price list. The price list referenced does not have to be the price list associated with the business partner.

You can set a standard percentage for the business partner that will default into the rows as you add items for special pricing. You can change this percentage after adding the item.

You can set the special price to be automatically recalibrated when the price list it references is updated.

The same options available in period and volume discounts are available for special prices. You can set a validity period and/or prices based on a quantity scale. If an item belongs to a UoM group, you can set quantity discounts by unit of measure; however the unit of measure in the row must match the unit of measure specified in the discount in order to apply.

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## Production and MRP: Production Order with Routing

SAP Business One  
Version 10.0

THE BEST RUN 

Welcome to the Production Order – Routing Scenario training topic.  
In order to take this course, you should first complete the Bill Of Materials  
and the Basic Production Process training topic.

## Objectives



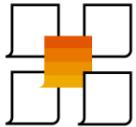
At the end of this topic, you will be able to:

- Create and manage production order with routing

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

- Create and manage production order with routing

## Business Example



- OC WoodTrend produce wooden furniture.
- For complex manufacturing, OC WoodTrend defined bill of materials with routing that include sequenced stages and date dependencies.
- They want to start producing these bill of materials.



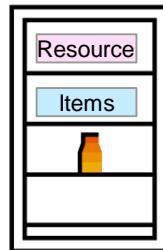
- OC WoodTrend produce wooden furniture.
- For complex manufacturing, OC WoodTrend defined bill of materials with routing that include sequenced stages and date dependencies.
- They want to start producing these bill of materials.

## Bill of Materials with Routing

### White Cabinet BOM

Route Stage	Components
Stage 1 - Cutting	Cutting Machine
	Machine Operator
	Wooden Plates
Stage 2 - Sanding	Sanding Machine
	Machine Operator
Stage 3 - Painting	Painting Machine
	Machine Operator
	White paint
Stage 4 - Assembly	Carpenter
	Hinges
	Shelves
	Handles
	Screws

White Cabinet



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In this scenario we examine the production process of a **White Cabinet** bill of materials.

There are 4 stages in the production process of the cabinet: **Cutting, Sanding, Painting and Assembly** as shown in the image.

This bill of materials is copied to the *Production Order*.

## Production Order with Routing

Production Order

#	Type	No.	Description	Base ...	Planned...	Warehouse...	Start Date	End Date	Route ...	Status
1	Route Stage	RC0001	Cutting	Cutting			09.06	09.06	1	Planned
2	Text		According to Manual M010							
3	Resource	RC0001	Cutting Machine	6	60	01	09.06	09.06	1	Planned
4	Resource	RE0001	Machine Operator	2	20	01	09.06	09.06	1	Planned
5	Route Stage	RC0002	Sanding	Sanding			09.06	09.06	2	Planned
6	Text		Move the plates to the sanding area							
7	Resource	RC0002	Sanding machine	8	80	01	09.06	09.06	2	Planned
8	Resource	RE0001	Machine Operator	4	40	01	09.06	09.06	2	Planned
9	Item	WW00001	Wooden Plate	7	70	01	09.06	09.06	2	Planned
10	Item								2	Planned

Remarks: | Pick and Pack Remarks: |

Add Cancel

Right click

- Cancel
- Duplicate
- Filter Table
- New Activity
- Related Activities
- Transfer Request
- Component Transfer
- Generate Pick List
- View Pick Lists
- Relationship Map...

Display Route Stages  
 Display Items  
 Display Resources  
 Display Tags

Choose what you want to display

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This is a production order for the **White Cabinet** bill of materials.

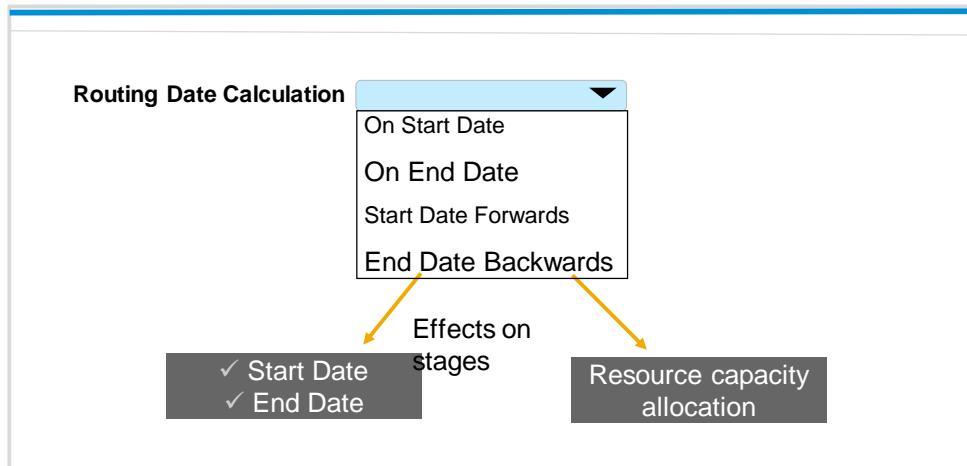
As explained in the **Bill of Materials** topic, a bill of materials with routing consists of several stages where each stage groups a set of items and resources that are relevant for the stage.

In the image we see two of the stages. Beneath each stage we can see the components related to that stage. This display can be adjusted from the context menu or from the *Go To* menu at the top of the screen.

In addition, production orders with routing allow optional automated calculation of date dependencies between the route stages. The system can automatically schedule the start and end dates of both item and resource components to more relevant dates. This will be further discussed in the next slides.

## Routing Date Calculation Field

From the production order header:



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When using production orders with routing, it is important to understand how the *Routing Date Calculation* field and function works.

This definition in the production order can affect the start date and end date of each row in the production order as well as the resource capacity allocation in the row.

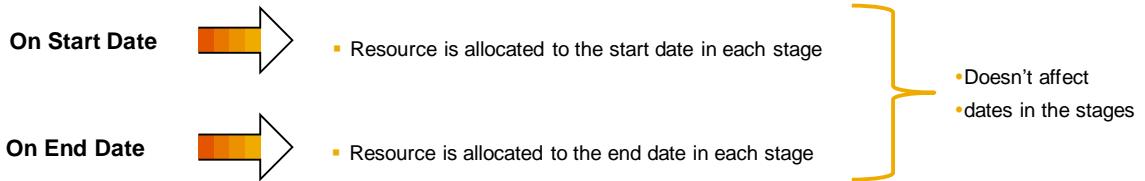
Depending on the routing date calculation value, it may also affect the start date and due date in the header.

Date scheduling is also relevant for item components because their row start date impacts the MRP. OC WoodTrend manage resource capacity to make sure a given resource is available during production and to be able to plan production ahead.

There are four methods of routing date calculation: *On Start Date*, *On End Date*, *Start Date Forwards*, and *End Date Backwards*.

Let us examine them in the next slide.

## Routing Date Calculation – Stage Dates and Resource Consumption



The start date and end date in the header are the time range for the consumption of the component in the production order.

However different calculation methods may set different start and end dates of the stages within this range.

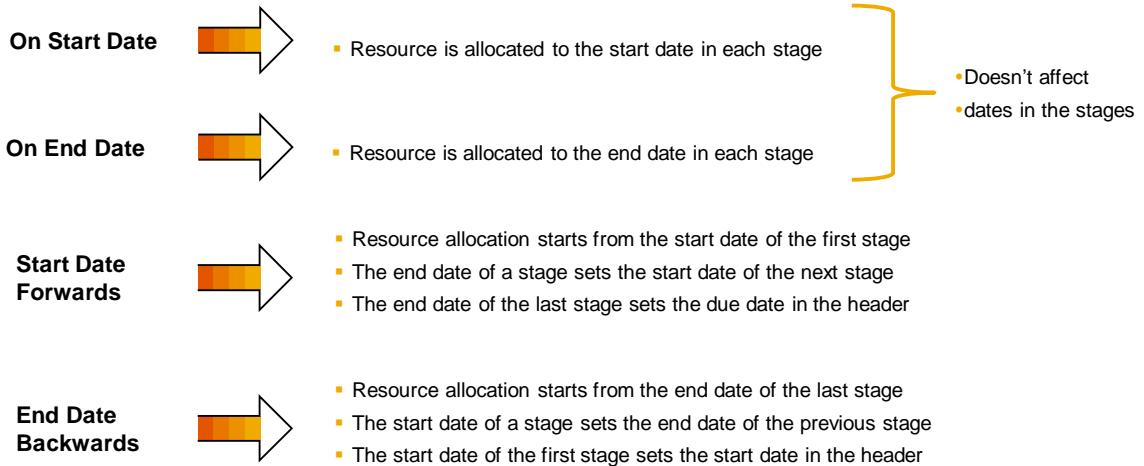
With methods: *On Start Date* and *On End Date*, there are no date dependencies between stages in the order.

The start date of all stages is defaulted from the start date of the header.

The end date of all stages is defaulted from the due date of the header.

With the *On Start Date* method, resources are allocated to the stage start date and with the *On End Date* method, resources are allocated to the end date of the stage.

## Routing Date Calculation – Stage Dates and Resource Consumption



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The other two methods are more sophisticated:

With the **Start Date Forwards** method the start date from the header is copied to the start date of the first stage. Then if there is **not** enough capacity to meet the planned quantity of the resource, the system continues to allocate resource capacity in the coming days until all planned capacity is fully allocated. The end date of this stage is the last day of capacity allocation.

The next stage start date is the end date of the previous stage.

When the last stage is reached, the end date is set to the header's due date.

Note that capacity allocation is calculated from the beginning of the day.

The **End Date Backwards** method works similarly but starting from the end date of the last stage.

The header's due date is copied to the end date of the last stage. Then if there is not enough capacity to meet the planned quantity of the resource, the system continues to allocate resource capacity for each day backwards, until all planned capacity is allocated. The start date of this stage will be the last day of capacity allocation.

The previous stage end date will be the start date of the last stage calculated.

When reaching the first stage, the start date is set to the header's start date.

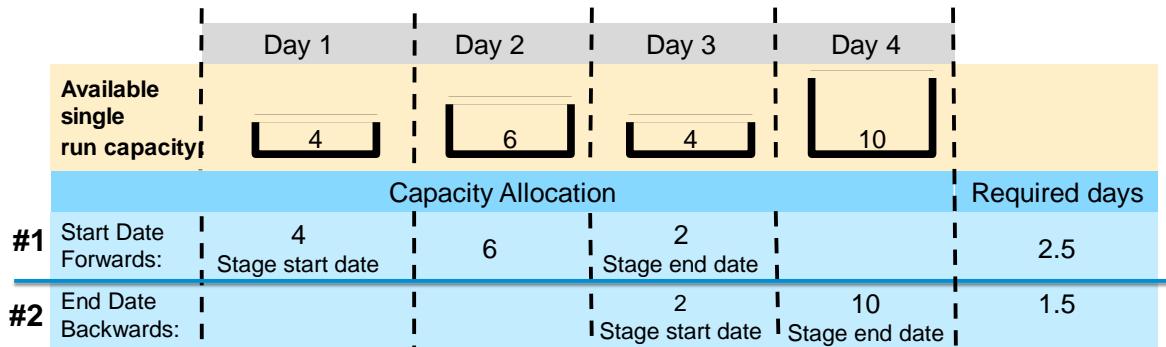
Note that capacity allocation is calculated from the end of the day.

Also note that with these two methods the production order will only consider a capacity type called: **Single Run Capacity**. This type of capacity assumes that only one resource can be used at a time. To learn more about resource capacity, refer to the **Resource Capacity** training.

## Required Days Calculation

Resource Planned

Quantity in the stage = 12



Let us examine this scenario for the *Start Date Forwards* and *End Date Backwards* methods. We examine the effect on start date and end date of a stage and on resource capacity allocation.

In our scenario, the resource planned quantity in the stage = **12**.

The available single run capacity is set to **4** in day 1, **6** in day 2, **4** in day 3 and **10** on day 4.

When using the *Start Date Forwards* routing date calculation, the system starts to allocate the available capacity to reach the capacity needed for this stage, from the start date of the stage (day 1).

To allocate **12** resource units, the system consumes the entire **4** units from day 1, then another **6** from the day 2, and lastly, another **2** of the **4** units available on day 3. This also means that it takes 2 full days of the resource available time + 2 out of 4 resource units which equals half a resource day. Therefore the required days = **2.5** days.

When using the *End Date Backwards* routing date calculation, the system starts to allocate from the end date of the stage (day 4).

The system consumes the entire **10** units available on day 4 and another **2** out of the **4** available in day 3. With this method the required days = **1.5** days.

## Total Days Calculation

Components	Required days	Waiting days	Total days
<b>Stage 3 – Painting:</b>	<b>1.5 day</b>	1	<b>2.5</b>
Resource: Painting Machine	1.5		
Resource: Machine Operator	0.5		
Item: White paint			

Total days =  
Required Days  
+ Waiting Days



There are several calculation fields in the production order that provide information about times in production. This training covers a few of them.

This is an illustration of a stage in our bill of materials – the **painting** stage.

For each resource row there are calculated required days. The required days of the stage is the maximum required days value of all resource rows in the stage.

We also learned about the *Waiting Days* field in the **Bill of Materials** training. This is a manually added value that reflects waiting times between stages.

For the cabinet, after the painting stage is done, **1** waiting day is needed for the paint to dry.

These *Waiting Days* are added to the *Required Days* and sum up to the *Total Days* value of **2.5**.

## Production Time Calculation

Components	Production time
<b>Stage 3 – Painting:</b>	<b>10 hours</b>
Resource: Painting Machine	10 hours
Resource: Machine Operator	5 hours
Item: White paint	



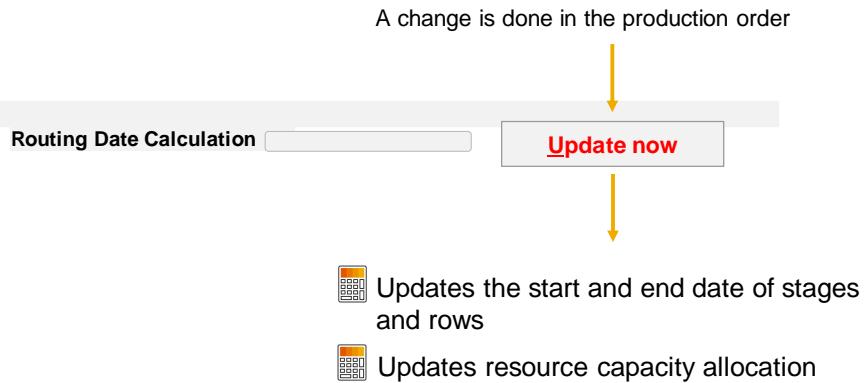
The resource *Production Time* is the planned resource quantity expressed in time (according to the time per resource unit field in the resource master data).

In this case it is a total of **10** hours for the painting machine and **5** hours for the machine operator.

To calculate the production time of a stage, the system simply takes the largest production time of all resource rows in the stage – in this case it is **10**.

It is important to understand the main difference between *Production Time* and *Required Days* values. For example, the *Production Time* in the row may represent the actual machining time of a resource whereas the *Required Days* is the total time that the resource has to be allocated to this task overall.

## Routing Recalculation



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In a production order with routing, manual changes made in the production order header or rows may require recalculation of row dates and resource capacity allocation.

The system does not trigger this update automatically, but instead allows the user to decide whether to update the rows or not.

To indicate to the user that an update is advised, the button *Update Now* turns red as shown in the image.

At OC WoodTrend there is a need to recalculate stage dates when the production start date is postponed and the routing date calculation is *Start Date Forwards*.

Once the production manager changes the start date in the header of the production order, the *Update Now* button turns red. The production manager chooses the button and a system message appears asking the user for permission to update the rows date accordingly.

A similar procedure happens, when a certain resource is replaced with another resource. Since the new resource has a different production time and available capacity, the production manager chooses the red button to update stage start and end dates and the resource capacity allocation.

Refer to the document: **How to Work with Resources and Production in SAP Business One 9.3** to find the list of conditions that trigger the button to turn red.

## Issue for Production – Routing Scenario

The screenshot shows the 'Issue Components – Selection Criteria' window. It has several input fields: 'Route sequence' (dropdown), 'Route stage' (dropdown menu open, showing 'Cutting', 'Sanding', 'Painting', and 'Assembly'), 'Status' (dropdown), and three ellipsis buttons ('...'). A callout bubble points to the 'Route stage' dropdown with the text 'Possible to issue components per route stage'.

Issue Components – Selection Criteria

Route sequence

Route stage

Cutting  
Sanding  
Painting  
Assembly

Status

Possible to issue components per route stage

...

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After a production order is released, the production manager in OC WoodTrend issues components to production one stage at a time.

Issuing components from a production order with routing, can be done per route stage.

From the *Production Order* context menu, He chooses the option *Issue Components* which displays the *Issue Components – Selection Criteria* window. From this window he can adjust the stages or components to issue.

Remember that only manual issue items are available for issue.

## Summary



Here are some key points about **production order with routing**:

- A production order with routing is based on a BOM with routing and composed of stages.
- Each stage may contain several component rows and different production calculations at the stage level.
- The routing date calculation method:
  - Can set date dependencies between the different stages and update the stage dates accordingly.
  - Can set the resource capacity allocation according to the single run capacity defined for the resource.
- Manual changes made in the production order header or rows may raise the need to recalculate row dates and resource capacity allocation. When the system recognizes this scenario, the *Update Now* button turns red, alerting the user to choose the button and thus activate this update.

Here are some key points about **production order with routing**:

- A production order with routing is based on a BOM with routing and composed of stages.
- Each stage may contain several component rows and different production calculations at the stage level.
- The routing date calculation method:
  - Can set date dependencies between the different stages and update the stages dates accordingly
  - Can set the resource capacity allocation according to the single run capacity defined for the resource
- Manual changes made in the production order header or rows may raise the need to recalculate row dates and resource capacity allocation. When the system recognizes this scenario, the *Update Now* button turns red, alerting the user to choose the button and thus activate this update.



## Production and MRP: Resources

SAP Business One  
Version 10.0

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THE BEST RUN **SAP**

Welcome to the topic on Resources.

## Objectives



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

- Explain what the three resource types are
- Create *Resource Master Data*
- Use resources in bills of materials and in the production process
- Define the *Resource Unit of Measure* of and explain the run time calculation

After completing this topic, you will be able to:

- Explain what the three resource types are
- Create *Resource Master Data*
- Use resources in bills of materials and in the production process
- Define the *Resource Unit of Measure* of and explain the run time calculation

Please note that a prerequisite for this topic is familiarity with the topic Production Concept.

## Business Scenario - Manage and Plan Resources



OC WoodTrend produces custom wooden doors and windows based on customer specifications.

To manufacture these products, OC WoodTrend has defined their employees and machinery as resources in the system. Now they can manage their availability and capacity for the production process.

In this example, we look at the company OC WoodTrend, which produces custom wooden doors and windows based on customer specifications.

To manufacture these products, OC WoodTrend has defined their employees and machinery as resources in the system. Now they can manage their availability and capacity for the production process.

## Resource Concept (1/2)

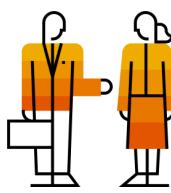
Three resource types:

Machine type



Fixed Assets

Labor type



Employees

Other type



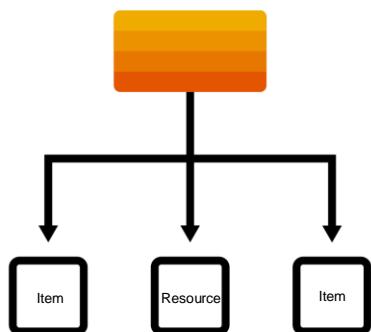
The resource is defined as master data in the system. There are three types of resources:

- Machine type – This is a resource that can be linked to one or more fixed assets, taken from the fixed assets master data list.
- Labor type - This is a resource that can be linked to one or more employees, taken from the employees master data list.
- Other type– Any other resource that is not a machine or labor.

## Resource Concept (2/2)

### Resources are used in :

#### Bill of Materials



#### Marketing documents



Resources are represented in the document by non-inventory items that are connected to resources.

Manage Resources Capacity

Much like items, resources can be used in bill of materials and marketing documents.

When a bill of materials is produced, a machine resource is often needed in a production process and an employee resource may be needed as well, for example, to operate this machine.

Much like items, resources can be ordered/purchased/sold or have other action performed in marketing documents. To do this, we first need to connect a non-inventory item to the resource. This item, which represents a resource, is then used in a marketing document.

**Unlike** items, resources are not accumulated in quantities. They are managed by capacity. In SAP Business One, we can plan and define a daily capacity for the resources. By monitoring this capacity, we can optimize the production plan and avoid bottlenecks.

## Main Resource Master Data Elements Covered in this Training

Resource Std Cost	Default Std Cost
Resource Std Cost 1	200.00
Resource Std Cost 2	0.00
Resource Std Cost 3	0.00
Resource Std Cost 4	0.00
Resource Std Cost 5	0.00
Resource Std Cost 6	0.00
Resource Std Cost 7	0.00
Resource Std Cost 8	0.00
Resource Std Cost 9	0.00
Resource Std Cost 10	0.00
Total Std Resource Cost	200.00

### Resources > Resource Master Data

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This is an image of resource master data.

Here you can define important data, such as resource type and group, resource unit of measure, and resource capacity.

In this topic, we will cover these three aspects:

- Resource types
- Resource groups
- Resource unit of measure and run time calculation

Resource capacity management is covered in the **Resource Capacity** course topic.

## Resource Types



### Machine

- The *Fixed Assets* tab is activated
- One or more fixed assets can be linked to the resource

### Labor

- The *Employees* tab is activated
- One or more employees can be linked to the resource

### Other

- No additional tabs are activated

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Let us start with the resource type. You can select the relevant resource type (Machine/ Labor/ Other) in the *Resource Type* field, in the header of the *Resource Master Data* window.

- When you select *Machine* as the resource type, the *Fixed Assets* tab is activated in the master data record. One or more fixed assets can be selected for a machine.
- When you select *Labor* as the resource type, the *Employees* tab is activated (instead of the *Fixed Assets* tab) and you can associate employees with this resource.
- The *Other* type is used for resources that are not fixed assets or employees.

Note that to work with fixed assets and see the *Fixed Assets* tab, you first need to activate this feature on the *Company Details* window in the **Administration → System initialization** menu path.

## Resource Groups

### Administration > Setup > Resources > Resource Groups

The screenshot displays two windows side-by-side. On the left is the 'Resource Master Data' window, which shows details for a resource named 'Lathe Machine' (Resource No. R00004). It includes sections for General, Capacity Data, Planning Data, Fixed Assets, Properties, Attachments, and Remarks. A 'Resource Group' dropdown is set to 'Crafting Machine'. On the right is the 'Resource Groups - Setup' window, showing a list of resource groups under 'Resource Group Name' (Crafting Machine) and a detailed view of 'Resource Std Cost' components for the 'Machine' resource type. Arrows highlight the connection between the selected resource group in the master data and the corresponding group definition in the setup window.

Resource Std Cost	Default Std Cost
Amortization	120.00
Maintenance	200.00
Overhead	100.00
Resource Std Cost 4	0.00
Resource Std Cost 5	0.00
Resource Std Cost 6	0.00
Resource Std Cost 7	0.00
Resource Std Cost 8	0.00
Resource Std Cost 9	0.00
Resource Std Cost 10	0.00
Total Std Resource Cost	420.00

Resource Type	Machine	
Resource Std Cost	User-Definable Name	Default Std Cost
Resource Std Cost 1	Amortization	120
Resource Std Cost 2	Maintenance	200
Resource Std Cost 3	Overhead	100
Resource Std Cost 4	Resource Std Cost 4	Resource Std Cost 5
Resource Std Cost 5	Resource Std Cost 6	Resource Std Cost 7
Resource Std Cost 6	Resource Std Cost 8	Resource Std Cost 9
Resource Std Cost 7	Resource Std Cost 10	

- Resource groups are used to group together machines or employees that have similar types of costs.
- When choosing a resource group, the list of resource std. cost is updated. This list is defaulted from the *Resource Groups - Setup* window.

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Each resource type can have many resource groups. The resource groups are used to group together machines, employees or other resources that have similar types of costs.

Resource groups are defined on the *Resource Groups - Setup* window. Here, you can define up to 10 user-defined cost components for each group. Each cost component can be given a meaningful name for a cost related to the resource.

The amount entered in the *Default Std. Cost* column sets the ratio of expense amount of each cost component in a journal entry made for the resource.

In the image on the right, we can see a **Crafting Machine** group definition. This group has the resource type *Machine*. Three resource std. cost components were defined for this group: **Amortization**, **Maintenance**, , and **Overhead**.

The list of default std. cost in the resource master data is taken from the resource group definition. These costs can be changed manually for each resource master data.

In our business example, OC WoodTrends has five lathe machines that they use in production. Since they have similar types of costs, they have been grouped together in the **Crafting Machine** resource group.

It is possible to define a different G/L account for each resource std. cost, which will be used in the production journal entry.

For more information about production cost, G/L account determination for production and production std. cost, see the next course topics.

## Resource Unit of Measure and Run Time

Resource Master Data			
Resource No.	Manual	R00004	Unit of Measure Text = Cycle
Description	Lathe Machine		Time Per Resource = 00:15:00 = 15 minutes
Foreign Name			Resource units per time period = 1
Resource Type	Machine		
Resource Group	Crafting Machine		
Unit of Measure Text	Cycle		
Time per Resource Units	0:15:00	Res. Units per Time Period	1

- Resource capacity is measured in a certain unit of measure.
- Resource units can be “time” or any other type of unit.
- Resource units of measure are converted into time units using the *Time per Resource Units* and the *Resource Units per Time Period* fields.
- Run time per resource unit of measure is equal to:  
$$\text{Time per Resource Units} / \text{Resource Units per Time Period}$$

The capacity of a resource is measured in the resource units of measure. This unit of measure have time-type units, such as hours or minutes, as well as any other type of unit, such as a cycle, turn, and so on. This resource unit is used during planning and consumption of the capacity in bills of materials and production orders, including all related transactions, such as the *Issue for Production*.

To translate the resource consumption time in the production process, we need to define the specific time period the unit of measure text represents. The *Time per Resource Units* field (15 minutes) represents the time needed for the *Res. Units per Time Period* (1 unit) to be consumed in production.

The run time or consumption time of a single unit of resource is equal to the *Time per Resource Units* divided by the *Resource Units per Time Period*.

Learn more about planning and consuming resource capacity in the **Resource Capacity** course topic.

## Example of Runtime Calculation

- The **Lathe** resource usually runs in 15 minute cycles.
- The **Resource Unit of Measure** is **Cycle**
- To define the run time of this resource in a *Production Order*, we need to convert the unit **Cycle** into a unit of time. Here are two options to do that:

- First option:

- Time per Resource Units = 0:15:00 (minutes)
- Resource Units per Time Period = 1 (1 cycle in 15 minutes)

Unit of Measure Text	Cycle	Res. Units per Time Period	1
Time per Resource Units	0:15:00		

- Second option:

- Time per Resource Units = 1:00:00 (hour)
- Resource Units per Time Period = 4 (4 cycles in 1 hour)

Unit of Measure Text	Cycle	Res. Units per Time Period	4
Time per Resource Units	1:00:00		

- Result

In a bill of materials, we defined that **3 cycles** are needed to produce 1 final product.

Therefore, the resource run time for producing one final product is **45 minutes**

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Let us examine this scenario: The machine resource usually runs in **15 minute cycles**. The unit of measure text for this resource is **Cycle**. The capacity of the resource is measured in **Cycles** and the quantities in the bill of materials are also in **Cycles**.

At OC WoodTrend, in the bill of materials of a wooden door, they need **3 Cycles** of the lathe machine to produce 1 door .

To define the run time of the machine in a specific production order, we need to convert **Cycle** units of measure into time. The formula of the conversion between the resource unit of measure text (**Cycle**) and time is as follows:

- When the *Time per Resource Units* is **15 minutes**, the *Resource Units per Time Period* equals **1 cycle**.
- When the *Time per Resource Units* is **1 hour**, the *Resource Units per Time Period* equals **4 cycles**.

This setting allows us to calculate the run time of the specific resource needed to produce the required quantity of the final product. In our case, **3 cycles** of the machine are needed to produce 1 door. The resource run time calculation is: bill of material quantity X (*Time per Resource Units* / *Resource Units per Time Period*). In our example, it is **45 minutes**.

Now that OC WoodTrend knows how to define the run time of the resources, they can plan and manage the capacity of these resources. The way to define and manage resource capacity is described in the course topic **Resource Capacity**.

## Production Order Run Time

Total production order run time = Maximum value of run times of the resources in the production order.

Components		Summary							
#	Type	No.	Description	Base Qty	Planned Qty	UoM Name	Warehouse	Issue Method	WIP Account
1	Item	W00001	Wooden Plate	2	2		01	Backflush	
2	Resource	R00004	Lathe Machine	3	3	Cycle	01	Backflush	
3	Resource	R00008	Operator	0.5	0.5	hour	01	Backflush	
4	Item								

The lathe machine works 3 cycles of 15 minutes = 45 minutes  
The operator employee works half an hour = 30 minutes

Planned Times	
Total Production Time	0:45:00
Total Additional Time	0:00:00
Total Run Time	0:45:00

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Because different types of resources (machine/labor/other) can be included in one production order, simplified calculation of the total production order run time is applied. The total run time of a production order is the maximum value of the production time of the resources in the production order.

This image is taken from a production order that contains two resources: a lathe machine and a machine operator.

To produce this bill of materials, three cycles of the lathe machine are needed. Since each cycle equals **15 minutes**, three cycles are equal to **45 minutes**. In addition, a half an hour(**30 minutes**) is needed from the operator.

The total run time of the production order equals the maximum resource production time, which is **45 minutes**.

Note that this scenario is for a non-routing production order. To learn more about production orders with routing, refer to the course **Production Process**.

## Summary



Here are some key points:

- There are three types of resources: Labor, Machine, and Other.
- The Machine resource type can be linked to a fixed asset in the system.
- The Labor resource type can be linked to an employee in the system.
- Resources can be connected to items and thus can be represented in marketing documents.
- Each resource can have up to 10 std. cost components. Default costs can be defined in the resource group.
- Run time parameters should be defined in the Resources Master Data, to plan capacity for the resource.

- Here are some key points to take away from this session.
- There are three types of resources: Labor, Machine, and Other.
- The Machine resource type can be linked to a fixed asset in the system.
- The Labor resource type can be linked to an employee in the system.
- Resources can be connected to items and thus can be represented in marketing documents.
- Each resource can have up to 10 std. cost components. The default cost can be defined in the resource group.
- Run time parameters should be defined in the Resources Master Data, to plan capacity for the resource.



## Production and MRP: Resource Capacity

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Welcome to the course on Resource Capacity.

## Objectives



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

- Define, analyze, and manage resource capacity.

After completing this topic, you will be able to:

- Define, analyze, and manage resource capacity.

Please note that a prerequisite for this topic is familiarity with the course topics **Production Concept** and **Resource**.

## Resource Capacity Planning



- Plan and monitor production capacity
- Visibility of available capacity to avoid bottlenecks and optimize production planning

A significant part of the production process involves the consumption of resources. We can define available capacity, consume it in production, and manage resource capacity availability.

This functionality allows us to plan and monitor the capacity of the resources, to avoid bottlenecks and optimize production planning.

## Business Scenario - Manage and Plan Resources

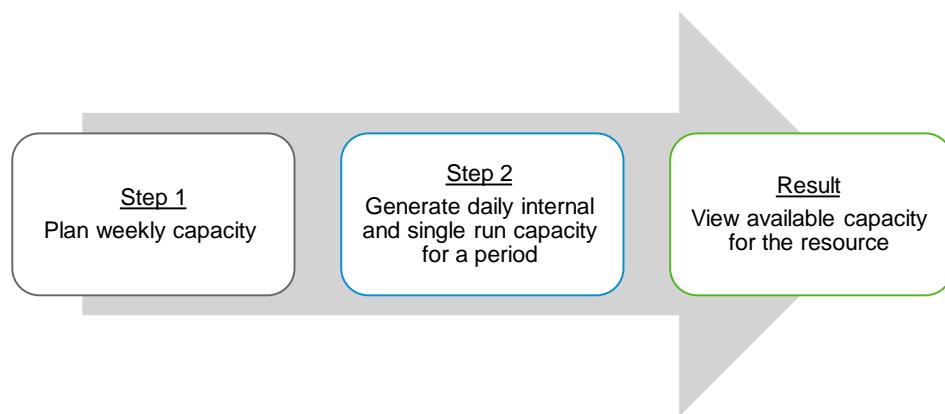


- OC WoodTrend produces custom wooden doors and windows based on customer specifications.
- Managing resources and their capacities is crucial for OC WoodTrend to assure timely deliveries to their customers. They need to identify whether production can go ahead as planned or whether manual scheduling adjustments need to be made to meet deadlines.

In this example, we look at the company OC WoodTrend, which produces custom wooden doors and windows based on customer specifications. They use a make-to-order production process in which deadlines are derived from the delivery date of their customers' orders.

Managing resources and their capacities is crucial for OC WoodTrend to assure timely deliveries to their customers. They need to identify whether production can go ahead as planned or whether manual scheduling adjustments need to be made to meet deadlines.

## Generate Available Capacity



To manage the capacity of a resource, you need to generate the available capacity. You do this in two steps:

- In step 1, you define a weekly plan, where you set the expected capacity of the resource for each day of the week.
- In step 2, you generate the capacity for a whole period (such as a quarter) by copying the weekly plan you defined in step 1 to the whole period. Alternatively, you can set the capacity manually for each day in the period.
- There are two types of daily capacities that should be defined: internal and single run capacities. A single run capacity assumes only one production order can be produced using a certain resource in a certain period. With internal capacity, this kind of limitation is not taken into account.
- The result of these steps is an available capacity (internal and single run) that allows you to manage and allocate capacities in the production process.

## Managing Resource Capacities – Step 1

First step - Define the standard daily capacities in the *Resource Master Data* on the *Planning Data* tab

The screenshot shows the SAP Resource Master Data dialog box. The General tab is selected. On the Capacity Data tab, there is a section titled "Daily Capacity Factors" with four columns labeled 1, 2, 3, and 4. Below this, a table lists "Standard Daily Capacity" for each day of the week. Column 1 is marked as "Yes" and columns 2, 3, and 4 are marked as "No". A callout box points to the "Relevant to Single Run Capacity" row, stating "Only factor 1 is relevant for single run capacity". Another callout box below the table states "32 cycles a day X 2 machines = 64 cycles a day". At the bottom of the dialog box are "Update" and "Cancel" buttons.

Relevant to Single Run Capacity	1	2	3	4
Standard Daily Capacity	Yes	No	No	No
Monday	32.000	2.000	0.000	0.000
Tuesday	32.000	2.000	0.000	0.000
Wednesday	32.000	2.000	0.000	0.000
Thursday	32.000	2.000	0.000	0.000
Friday	32.000	2.000	0.000	0.000
Saturday	0.000	0.000	0.000	0.000

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You can plan capacities for your resources on the *Planning Data* tab of each *Resource Master Data* record. These capacities are defined on a daily basis.

Four factors are available and you can set them for each day of the week. These factors allow easier definition of capacities of a specific resource. A factor can be used, for example, to represent the number of working hours in one shift, the number of shifts in the specific day, or the number of machines (resources).

Note there are two types of capacities: *Internal* and *Single Run*. The internal capacity is a simple calculation of the factor columns multiplied with each other. In our case, **32** cycles a day is multiplied by **2** available machines, resulting in **64** cycles as the internal capacity.

The single run capacity, however, only takes factor columns that are marked as *Relevant for Single Run Capacity* into account. In our example, only factor 1 is relevant and therefore each day has only **32** cycles in the single run capacity.

Note that you can also enter a value in the *Daily Capacity* and *Single Run Capacity* columns directly.

## Managing Resource Capacities – Step 2

### •Resources > Set Daily Internal Capacities

The screenshot shows the SAP interface for managing resource capacities. It's a dialog box titled 'Resources - Set Daily Internal Capacities'. At the top, there are several input fields for filtering: 'Capacity Period' (From 15.03., To 15.04.), 'Warehouse Code' (From, To), 'Resource No.' (From R300004, To R300004), 'Resource Group' (From, To), and 'Resource Type' (From, To). Below these are two tabs: 'Resource Properties' (selected) and 'Ignore'. A dropdown menu titled 'Set Daily Capacity Basis Using' is open, showing five options: 'Data from Planning Data Tab of Resource Master Data' (selected), 'Data from Planning Data Tab of Resource Master Data', 'Manual Data as Entered Below for Each Weekday', 'Update Single Run Capacity with Internal Capacity', and 'Update Internal Capacity with Single Run Capacity'. Underneath this dropdown is a list of days of the week with checkboxes: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, and Sunday. At the bottom of the dialog are buttons for 'Additional Comment' (text field), 'Do Not Update Holiday Days' (checkbox, unchecked), 'Update' (highlighted in yellow), and 'Cancel'.

### Second step

- Set the *Daily Internal Capacities* for the specific time period manually or based on the default data from the *Resource Master Data*
- You can also copy the single run capacity to the internal capacity and vice versa.

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The next step is to generate daily internal and single run capacities for a specific time period. This step is done on the *Set Daily Internal Capacities* window in the *Resources* menu, or from the context menu of the *Resource Master Data*. Here you can generate capacity values by either copying the standard daily capacities defined in the *Resource Master Data* or entering the capacity manually. You can also use this window to copy single run capacities to the internal capacities and vice versa.

## Managing Resource Capacities – Result

- **Result:** Analyze and manage resources in the *Resource Capacity* window

The screenshot shows the SAP Resource Capacity window. At the top, there is a dropdown menu for 'Capacity Type' with 'Internal' selected. Below it, there are fields for 'Capacity Period' (From 15.03), 'Warehouse Code' (01), 'Resource No.' (R300004), 'Resource Group' (From), and 'Resource Type'. On the right, there is a button for 'Available' and another for 'Single Run Capacity'. A context menu is open over the 'Available' button, showing options like 'Internal', 'Ordered', 'Committed', 'Consumed', 'Available', 'Single Run Capacity', 'All', and 'To R300004'. Below the search fields is a toolbar with 'Resource Properties', 'Ignore', and 'Refresh' buttons. The main area displays a table with columns: #, Resource No., Resource Desc..., Whse, Total, 15.03, 16.03, 17.03, 18.03, 19.03, 20.03, and 21.03. One row is shown: 1 R300004 Testing Machine 01. The cell for 15.03 is highlighted in red.

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The generated internal and single run capacities can be then viewed on in the *Resource Capacity* window and also in the *Capacity Data* tab on the *Resource Master data*.

The *Resource Capacity* window provides a complete capacity overview of selected resources within a selected time period. A user can select different views, such as *Internal*, *Available*, and *Single Run*. Then, you can see the relevant amount of capacity on a specific calendar day for the specified warehouse. The meaning of the different views is discussed further on the next slide.

Note that the resource capacity can be defined for multiple warehouses. This can be relevant when warehouses are set up as production areas. Each warehouse can then have its own capacity and capacity allocations.

The relevant defaults can be defined in the *General Settings > Resources* tab.

## Resource Capacity Display

### • Resources > Resource Master Data > Capacity Data tab

Capacity Data							
Capacity Period	From	15.03.20	To	15.04.20	>		
#	Whse Code	Whse Name	Locked	Internal	Committed	Consumed	Available
1	01	General Warehouse	<input type="checkbox"/>	1,536.000	24.000	6.000	1,506.000
2	02	Backup Warehouse	<input type="checkbox"/>	0.000		0.000	0.000
3	03	Drop Ship	<input type="checkbox"/>	0.000		0.000	0.000
4	04	Consignment	<input type="checkbox"/>	0.000			

- Internal
  - ✓ Capacities of the resource
- Committed
  - ✓ Capacities allocated to production orders
- Consumed
  - ✓ Capacities issued for production
- Available
  - ✓ = Internal – Committed – Consumed

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- The capacity of a specific resource can be also viewed in the *Capacity Data* tab on the *Resource Master Data*. In this case, the capacities are summarized for the capacity period selected at the top of this tab. The capacities are displayed as *Internal*, *Committed*, *Consumed*, and *Available*.
- *Internal* capacity is the full resource capacity in the selected time period.
- *Committed* capacity is the capacity allocated to a specific *Production Order* in the selected time period, but was not issued to production yet (open quantity).
- *Consumed* capacity is the capacity that was consumed in the selected time period, for example , issued for production in the selected time period.
- *Available capacity* = *Internal* – *Committed* – *Consumed*.
- Note that the *Committed* resource capacity that is related to a specific *Production Order*, is allocated according to the date (start date or end date) in the row of that *Production Order*. There are different resource allocation methods are available. This topic will be discussed further on the next slides.
- Let us examine the numbers. We defined an internal capacity of **1,536 cycles** for the defined period. **24 cycles** of the internal capacity are committed to a *Production Order*, **6 cycles** were already released in an *Issue for Production*, and **1,506 cycles** are left to use if needed.
- In the Resource training, we learned about connecting a resource to an item, to buy or sell resources. Some of the purchasing documents also generate capacity that is accumulated in another column, called *Ordered*. To learn more about the *Ordered* capacity, refer to the How To Guide: **How to work with resources and production in SAP Business One 9.3**

## Resource Allocation Methods

The screenshot shows two SAP screens: 'Resource Master Data' and 'Production Order'.

**Resource Master Data:** This screen shows details for Resource No. R50001, described as a 'Lathe Machine'. The 'General' tab is selected. In the 'Resource Allocation' section, the dropdown menu shows 'On Start Date' highlighted. A callout box points to this field with the text: "Default definition in the **Resource Master Data** → **General tab** → **Resource Allocation** field for production orders with no routing".

**Production Order:** This screen shows a list of production orders. The first row (Resource R50001) has its 'Resource Alloc.' field set to 'On Start Date'. A callout box points to this field with the text: "The allocation method can be changed for the production order row".

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We saw that the *Resource Capacity* window has a column for each day in the specified range. In each day column, we can see the Internal/ Committed/ Consumed/Available quantities. The system allocates the committed quantity (derived from production orders) according to the start or end date of the production order rows.

There are four *Resource Allocation* methods:

- *On Start Date* – The entire row quantity is allocated to the start date of the row.
- *On End Date* - The entire row quantity is allocated to the end date of the row
- *Start Date Forward* – The committed quantity is allocated according to the available single run capacity for each day. The system checks each day, starting from the start date (or the system date in case the start date is earlier), whether or not the capacity can fulfil the committed quantity. If there is not enough quantity on that day, the system checks available capacity quantity on the next day, until the system finishes allocating the entire committed quantity. If the system reaches the end date and there is still quantity to allocate, then the system allocates the remaining balance quantity to the start date.
- *End Date Backwards* - This method is similar to the previous one, but instead of allocating from the start date forward, allocation is performed starting from the end date backwards.

For production orders with no routing, we can set the default resource allocation method for each resource, as shown in the image. However, we can also change the allocation method in each row of the production order.

On the next slide, we will examine an example of allocation according to the different methods.

## Resource Allocation Method – Example with No Routing

Committed resources row qty. = 10

Row Start Date = March 1

Row End Date = March 4

	March 1 <sup>st</sup>	March 2 <sup>nd</sup>	March 3 <sup>rd</sup>	March 4 <sup>th</sup>
Single Run Capacity:	6	3	2	8
<u>Allocation Method</u>	<u>Available Quantity</u>			
On Start Date	-4	3	2	8
On End Date	6	3	2	-2
Start Date Forward	0	0	1	8
End Date Backwards	6	3	0	0

Let us look at the example shown here, to better understand the different methods.

We have a production order with a resource row quantity of 10.

The start date in the row is March 1. The end date in the row is March 4.

Let us see the possible available outcomes with each method.

When using the On Start Date method, the entire quantity of 10 is drawn from the start date, March 1, which results in a negative available quantity of -4. Nothing happens on the following days.

When using the On End Date method, the entire quantity is drawn from the end date, March 4, which results in a negative quantity of -2 on March 4.

When using the Start Date Forward method, the available quantity of 6 is fully used, then, going one day forward, to March 2, the entire available quantity of 3 is drawn as well. Since an additional quantity of 1 is still needed, it is drawn from March 3, leaving a quantity of 1 remaining. Nothing happens to the quantity from March 4.

When using the End Date Backwards, the available quantity of 8 is fully drawn from the end date, March 4. Then, going backwards to March 3, the entire quantity of 2 is also drawn, to complete the quantity of 10 needed for this resource.

The Start Date Forward method can be relevant when production is being made to raise inventory levels and when the end date is not critical. It is more important that the inventory be produced as soon as possible.

The End Date Backwards method can be relevant when production is being made for specific customer demand with a specific due date. Assuming we want to minimize the inventory held in our warehouses, we want to produce on a just-in-time basis, so that a customer order demanded at a specific date will be supplied on that date and not sooner.

## Cumulative View

The screenshot shows the SAP Resource Capacity window with two views side-by-side.

**Regular view:** The top window displays resource capacity data from May 29 to June 1. It shows a negative available quantity of -26 for resource RM0001 on May 30. A yellow callout box labeled "Regular view" points to this window.

#	Resource No.	Resource Des...	Whse	Type	Total	30.04	01.05	02.05	03.05	04.05
1	RM0001	Lathe Machine	01	Available	1,461	64	68	64	-26	64
2				Internal	1,601	64	64	64	64	64
3				Ordered	10		10			
4				Committed	144				90	
5				Consumed	6					6

**Cumulative view:** The bottom window shows the same data but with the "Show Cumulative Capacity from Today" checkbox selected. This view accumulates capacity from today forward, resulting in a total available quantity of 170 for resource RM0001 on May 30. A yellow callout box labeled "Cumulative view" points to this window.

#	Resource No.	Resource Des...	Whse	Type	Total	30.04	01.05	02.05	03.05	04.05
1	RM0001	Lathe Machine	01	Available			68	132	106	170
2				Internal			64	128	192	256
3				Ordered			10	10	10	10
4				Committed				90	90	
5				Consumed			6	6	6	6

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The *Resource Capacity* window also provides a cumulative capacity view.

In this view, all the capacity quantities are accumulated daily. Each day shows an accumulation from the preceding days.

This view can be helpful for spotting when a resource capacity is overcommitted.

To switch to the cumulative capacity view, select the *Show Cumulative Capacity from Today* checkbox.

In the upper image, we see the resource capacity window. Notice that on **May 3**, there is a negative available quantity of **-26**. But is that a true overload? The production manager can easily bring forward the production to the day before.

The cumulative view, as shown in the lower image, can more clearly indicate a true resource overload. In our case, no negative available quantity appears, since the quantity is accumulated from today forward. A negative available quantity, however, would indicate that the total available quantity up to that date is negative and that the total commitment is higher than the total internal capacity. In this case, a manual change of production order dates can help to avoid negative available quantities.

## Summary



Here are some key points:

- The Resource Capacity feature visualizes available capacity, to avoid bottlenecks and optimize production planning.
- There are four capacity views: Internal, Committed, Consumed, and Available.
- A daily standard capacity can be defined in the Planning Data tab of the Resource Master Data.
- Internal and single run capacities can be generated according to the planned daily capacity.
- Resource capacity can be allocated on the start date of the Production Order row, end date, from the start date forward, or from the end date backwards.
- The cumulative view, in the Resource Capacity window, can be helpful in spotting when a machine's capacity is overcommitted.

Here are some key points to take away from this session.

- The Resource Capacity feature visualizes available capacity to avoid bottlenecks and optimize production plan.
- There are four capacity views: Internal, Committed, Consumed, and Available.
- A daily standard capacity can be defined in the Planning Data tab of the Resource Master Data.
- An internal capacity can be generated according to the planned daily capacity.
  - Resource capacity can be allocated on the start date of the Production Order row, end date, from the start date forward, or from the end date backwards.
  - The cumulative view, in the Resource Capacity window, can be helpful in spotting when a machine's capacity is overcommitted.



## Production and MRP: Bill of Materials

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Welcome to the Bill of Materials training topic.  
Before taking this training, you need to complete the **Resource** topic training.

## Objectives



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

- Describe the *Bill of Materials* structure
- Describe when to use the different types of *Bills of Materials*

After completing this topic, you will be able to:

- Describe the Bill of Materials structure
- Describe when to use the different types of *Bills of Materials*

## Business Example



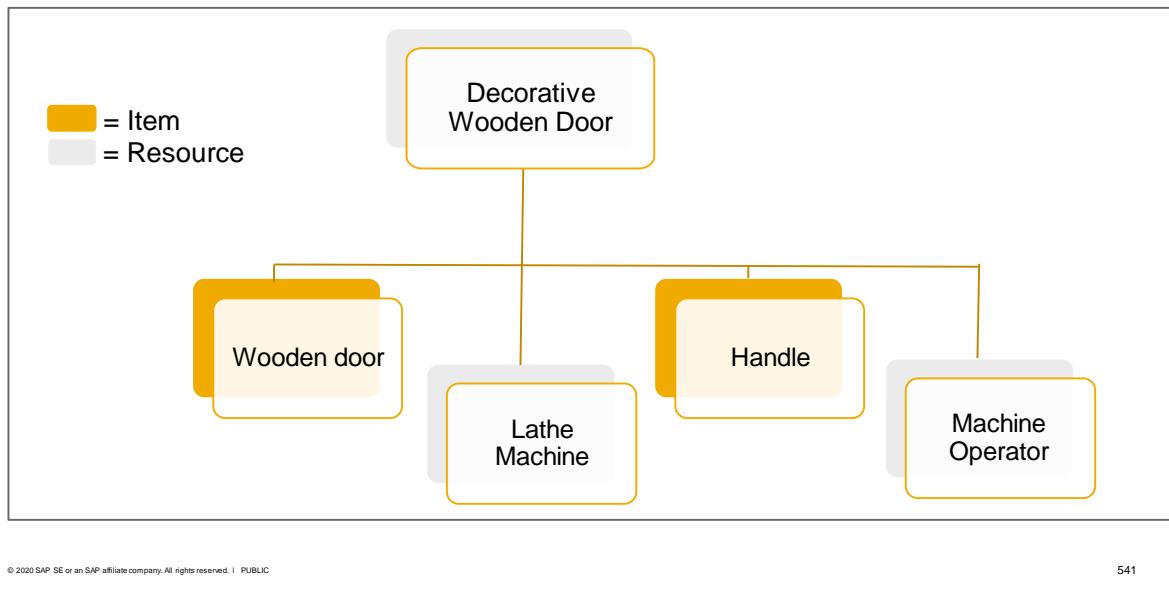
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- OC WoodTrend produce decorative wooden doors and cabinets.
- Each of these items is manufactured from several component items and uses resources to produce them.
- The list of items and resources needed to produce the finished product is recorded in the *Bill of Materials*.
- For complex manufacturing, OC WoodTrend defines sequenced stages with date dependencies.
- In addition, OC WoodTrend sells different kits of build-it-yourself furniture. These kits are composed of precut wooden plates, screws, and hinges. Each kit has a *Bill of Materials*, even though it is not used in the manufacturing process.

- In this example, we look at the company OC WoodTrend, which produces custom wooden doors and cabinets.
- Each of these items is manufactured from several component items and uses resources to produce them.
- The list of items and resources needed to produce the finished product is recorded in the *Bill of Materials*.
- For complex manufacturing, OC WoodTrend defines sequenced stages with date dependencies.
- In addition, OC WoodTrend sells different kits of build-it-yourself furniture. These kits are composed of precut wooden plates, screws, and hinges. Each kit has a *Bill of Materials*, even though it is not used in the manufacturing process.

## Bill of Materials Example 1



Let us try to understand the *Bill of Materials* concept by using the following example:

To manufacture an **engraved wooden door**, we need two items: a plain **wooden door** and a **handle**.

In addition, we need to engrave a decoration pattern. To do this, we need two resources: a **lathe machine** and a **Machine Operator** employee.

These items and resources are combined in the **decorative wooden door Bill of Materials**.

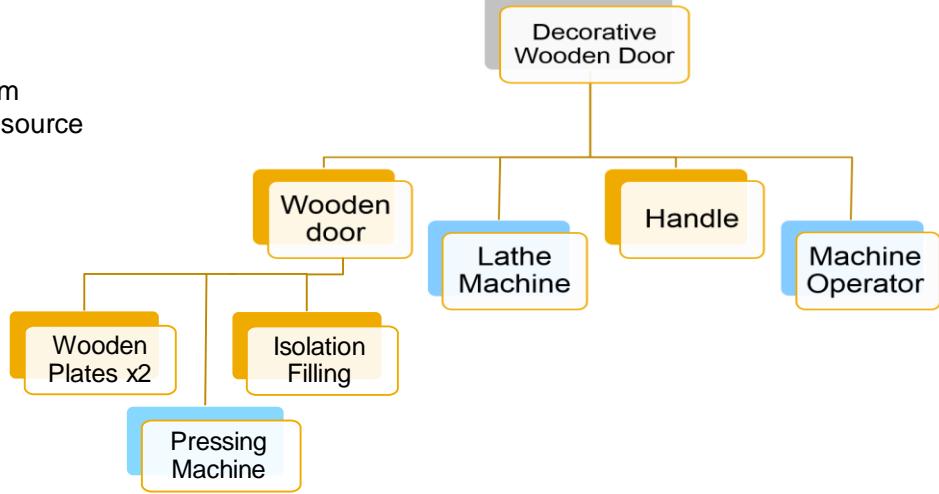
When starting the production process, this *Bill of Materials* is copied into a *Production Order*.

In real life production, *Bills of Materials* often have several levels. In our example, the wooden door component can also be a *Bill of Materials*.

Note that the finished goods are also defined as items (master data) in the system.

## Bill of Materials Example 2

Yellow box = Item  
Blue box = Resource



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A *Bill of Materials* may have several levels. A component item can also be an item produced from another *Bill of Materials*. In our example, the **wooden door** is a produced item from a second level of *Bill of Materials* that has two items and one resource.

To start a production process, this *Bill of Materials* is copied to a *Production Order*.

We will further discuss the *Production Order* in the **Production Process** topic.

## Bill of Materials Basic Example

### Production → Bill of Materials

The screenshot shows the SAP Bill of Materials dialog box. At the top, there are fields for Product No. (D00002), Product Description (Decorative Wooden Door), BOM Type (Production), Production Std Cost (GBP 0.00), Planned Average Production Size (10.00), Warehouse (02), Price List (Base Price), Distr. Rule, and Project. Below this is a table listing the components:

#	Type	No.	Description	Quantity	UoM Name	Warehouse	Issue Method	P...
1	Item	D00001	Wooden Door	1	02	Backflush	Bas...	
2	Item	H00001	Handle	1	02	Backflush	Bas...	
3	Resource	RS0001	Lathe Machine	2	Cycle	02	Backflush	
4	Text		Rotate 80 degrees					
5	Resource	RS0001	Lathe Machine	1	Cycle	02	Backflush	
6	Resource	RE0001	Machine Operator	2	Hourly Rate	02	Backflush	
7	Item							

At the bottom, there are OK and Cancel buttons, and a Product Price field set to GBP 260.00. The SAP copyright notice and page number 543 are at the bottom right.

This is what the **Decorative Wooden Door Bill of Materials** looks like in the system.

We can see that the decorative door is a combination of:

- 1 wooden door,
- 1 handle,
- A total of 3 cycles of the Lathe Machine
- And 1 Machine Operator hour (2X0.5 hours).

At WoodTrend, warehouse **02** has been defined as the shop floor area and is indicated in the document rows.

When this *Bill of Materials* was created, the production manager added a text row (number 4) indicating production instructions to rotate the door 180 degrees.

We can also see that the **Lathe Machine** appears in two rows. In row number 3, the machine is activated for **2 cycles**. Then, there is an instruction to rotate the door, and only after that the machine is activated for another cycle.

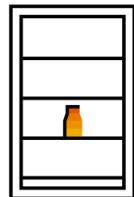
We can also choose the arrow buttons on the right side of the window, to change the order of the rows in the *Bill of Materials*.

At the bottom of the window, we can define the product price manually or generate it automatically according to the component prices, taken from the selected price list, and resource cost.

## Routed Bill of Materials

Bill of Materials - Cabinet

#	Type	Route Sequence	No.	Description	Quantity	Waiting Days	...
1	Route Stage	1	Cutting	Cutting			
2	Text	1		Cut the plates according to manual			
3	Item	1	W00001	Wooden Plate	7		
4	Resource	1	RC0001	Cutting Machine	6		
5	Resource	1	RE0001	Machine Operator	2		
6	Route Stage	2	Painting	Painting		1	
7	Text	2		Move the cut plates to the painting area			
8	Resource	2	R00012	Painting Machine	8		
9	...						



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Starting from version 9.3, PL02, a bill of materials can also be structured in stages, allowing production routing procedures.

OC WoodTrend manufactures a range of different cabinets. Bills of materials for cabinets include both machine and employee type resources. These resources can affect the production time of the manufacturing stage.

Each stage can be dependent on its adjacent stage (either the stage before or the stage after), such that the start date or end date of a certain stage affects the start date or end date of the next stage. The routing procedure allows automatic calculation of the start date and end date of stages according to the production time of each stage. Refer to the **Production Process** training to learn more about routing date calculation.

Each stage has a route stage header and a route sequence number. The first row of the stage is the header, which contains a description for the stage. A row is set as the header once the *Route Stage* type is chosen. All rows that follow the header relate to the same stage and have the same route sequence number.

The image illustrates a routed bill of materials of a cabinet item and shows two stages. In the first stage, wooden plates are cut using a cutting machine, handled by a machine operator. Only after this stage is completed can the production procedure continue to the next stage: painting of the plates.

Then, note that there is 1 waiting day for the paint to dry after the stage is completed.

The route sequence number sets the order of appearance in the bill of materials.

To change the placement of the entire stage, choose a different sequence number in the header row. When you do this, all associated route sequence numbers are changed as well.

When any other row is moved from one stage to the other, the row inherits the new stage route sequence number.

## Bill of Materials Pricing

Bill of Materials

Product No.	D00002	Quantity	1	Warehouse	01					
Product Description	Decorative Wooden Door			Price List	Base Price					
BOM Type	Production			Distr. Rule						
Production Std Cost	GBP 0.00			Project						
Planned Average Production Size	10.00									
#	Type	No.	Description	Quantity	Warehouse	Issue Method	Price List	Unit Price	Total	
1	Item	D00001	Wooden Door	1	02	Backflush	Base Price	GBP 50.00	GBP 50.00	
2	Item	H00001	Handle	1	02	Backflush	Base Price	GBP 20.00	GBP 20.00	
3	Resource	RS0001	Lathe Machine	2	02	Backflush		GBP 30.00	GBP 60.00	
4	Text		Rotate 80 degrees							
5	Resource	RS0001	Lathe Machine	1	02	Backflush		GBP 30.00	GBP 30.00	
6	Resource	RE0001	Machine Operator	2	02	Backflush		GBP 50.00	GBP 100.00	
7	Item						Base Price			
										GBP 260.00
Product Price										GBP 260.00
<input type="button" value="OK"/> <input type="button" value="Cancel"/>										



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Let us talk briefly about bill of materials pricing.

In the unit price column, since this is a production bill of materials, we see the cost of each component. In a non-perpetual system, the unit price is the price of the item, taken from the price list.

The *Product Price*, indicated at the bottom of the *Bill of Materials*, can be derived from the component's total unit price (multiply by row quantity). To copy the total unit price, we choose the down arrow, as indicated in the image.

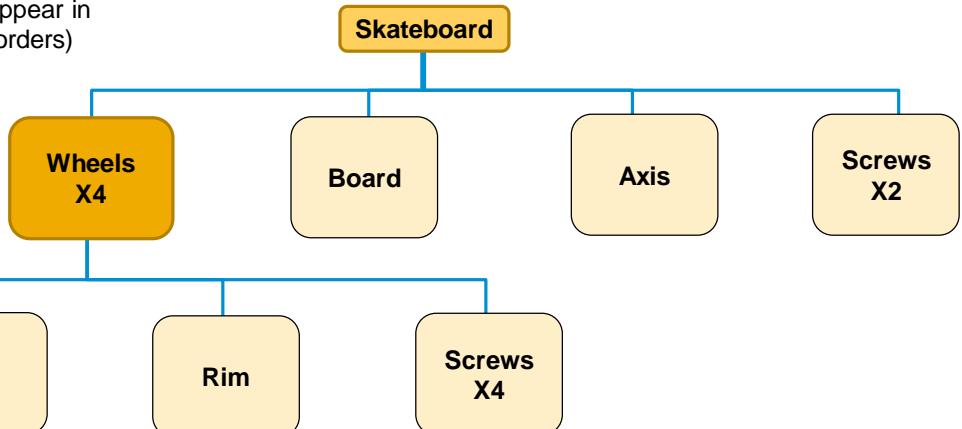
Alternatively, the product price can be entered manually.

When you add or update the *Bill of Materials*, the product price is updated in the price list that appears in the header of the Bill of Materials.

*SAP Business One* also provides a global update for a batch of Bill of Materials product prices , according to the components' prices. This is done in the *Production → Update Item Prices Globally* window.

## Phantom Item

**Phantom Item**  
(Does not appear in production orders)



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A phantom item is a sub-assembly in the *Bill of Materials* that does not actually exist in inventory. It is used to simplify the *Bill of Materials*. Although the phantom item appears in the *Bill of Materials*, the *Production Order* shows the components needed to make the phantom item rather than the phantom item itself.

An item can be defined as a phantom item in the *Item Master Data*.

When copying the *Bill of Materials* to the *Production Order*, the phantom *Bill of Materials* components are copied as well.

In the graphics we see a *Bill of Materials* for a skateboard. The 4 wheels of the skateboard are a phantom item. When the **skateboard** *Bill of Materials* is copied to the *Production Order*, the components **tire**, **rim**, and **screws** will appear, but not the **wheels**.

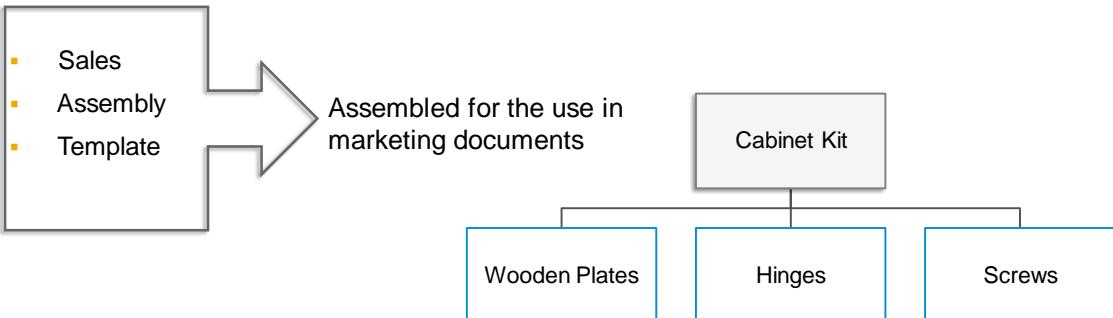
Requirements of *Bill of Materials* can vary between different departments at the same company. The engineering department could create a multi-level *Bill of Materials* to define an engine, for example. The manufacturing department could then include this *Bill of Materials* as a single phantom item.

Note that it is not possible to add route stage lines to a BoM containing a phantom item.

## Bills of Materials Types

### BOM Types

- Production - Manufactured in a production process



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On the Bill of Materials (BOM) window you can choose one of four different types of BOMs.

We have already learned about the production BOM, so let us have a look at the other three types: Sales, Assembly and Template BOMs.

All three of these BOM types are used in marketing documents and do not go through a production process (therefore, no resources are involved in these BOMs). The components of these BOMs are assembled to create the parent item.

The Sales BOM is used in sales documents. The parent item must be a sales item. For example, OC WoodTrend sells build-it-yourself furniture kits. The produced item is the kit name, and the component items are the inventory items that compose the kit. Once you select the parent item in a sales document, all the components appear as sub-items. You can update the quantities of the produced item or the components.

However, you cannot delete a component or add new sub-items to the kit in the sales document. When you set up the BOM, you can select the *Hide BOM Components in Printout* option, so that when you print the document, only the parent appears.

The Assembly BOM is similar to the sales BOM. It represents a collection of individual items in a set with a specific price. Unlike the sales bill of materials, only the finished product appears in the sales order document; the components do not appear as sub-items.

For both the sales BOM and the assembly BOM, you do not manage the finished product as an inventory item, but instead as a sales item. The components can be sales items and inventory items at the same time.

The Template BOM has no restrictions. Both the parent and the children can be any type of items. It can be used in sales and purchasing documents. Once you select the parent item, all its children appear. You can delete, add, or duplicate rows and make any modification as necessary within the marketing documents.

## Category of the Item Master Record of the Produced Item in Bills of Materials

Item Category	BOM Type	Assembly BOM	Sales BOM	Template	Production BOM
Inventory Item			<input checked="" type="checkbox"/> (1.)		<input checked="" type="checkbox"/>
Sales Item	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (1.)		<input checked="" type="checkbox"/> (1.)
Purchased Item			<input checked="" type="checkbox"/> (1.)		<input checked="" type="checkbox"/> (1.)
(1.) optional					

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Depending on the BOM type, you must define a certain category in the item master record of the produced item:

For the assembly and sales BOMs, the finished product has to be a **sales item**.

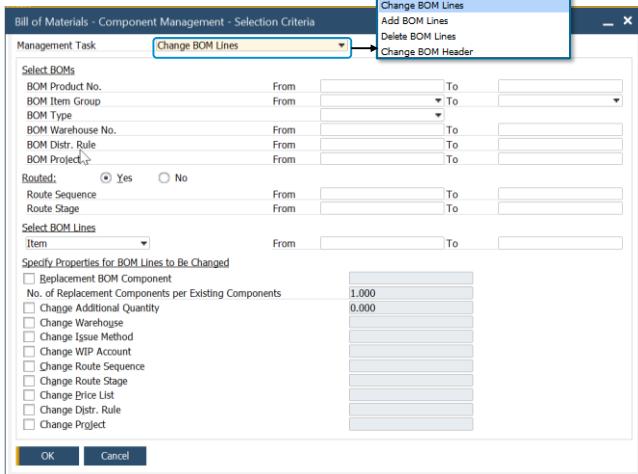
Templates can have each of the three attributes (**purchased, sales, and inventory items**). The finished product of the production BOM has to be an **inventory item**. If you also want to purchase this item, you can define it as a **purchased item**. If you also want to sell it, you should also define it as a **sales item**. If you produce it for inventory, as a component of another BOM, then do not define it as a sales item, so it will not appear as a choice in a sales document list of items.

The components can also have each of the three categories (**purchased, sales, and inventory items**), and can also be purchased or sold individually.

The components for sales BOMs and assembly BOMs must be sales items.

## Bill of Materials - Component Management

### • Production > Bill of Materials - Component Management



This functionality allows you to make changes to multiple BOMs simultaneously:

- Add or delete components from selected bills of materials
- Change parameters (such as quantity, warehouse, issue method, and so on) for selected bill of material components,
- Change route sequence
- Replace bill of material components
- Update header data

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The *Components Management* window allows mass changes in multiple existing bills of materials simultaneously.

You can:

- Add new components to selected bills of materials
- Delete specific components from selected bills of materials
- Change parameters (such as quantity, warehouse, issue method, and so on) for selected bill of material components
- Change route sequence
- Replace bill of material components
- Update header data

Note that bill of material lines include items, resources, route stages, and text rows.

Once you choose the relevant management task in the dropdown list, the fields to edit and type of possible changes are adjusted according to the selected action.

## Summary



Here are some key points:

- A production bill of materials is a list of items and (possibly) resources that are consumed in the production process.
- A routed production BOM is composed of sequenced process stages.
- A BOM may have several levels; in this case, one or more of the item components is also a BOM.
- The Bill of Materials Component Management window allows you to make changes to multiple BOMs simultaneously.
- In addition to the production BOM, there are three other types of bills of materials that are available for use in marketing documents: sales, assembly, and template BOMs.

- A production bill of materials is a list of items and (possibly) resources that are consumed in the production process.
- A routed production BOM is composed of sequenced stages, where each stage has a header and components that have the same route sequence number.
- A BOM may have several levels; in this case one or more of the item components is also a BOM.
- The Bill of Materials Component Management window allows you to make changes to multiple BOMs simultaneously.
- In addition to the production BOM, there are three other types of bills of materials that are available for use in marketing document: sales, assembly, and template BOMs.



## Production and MRP: Basic Production Process

SAP Business One  
Version 10.0

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THE BEST RUN 

Welcome to the **Basic Production Process** training topic.  
In order to take this course, you should first complete the **Bill Of Materials** training topic.

## Objectives



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

- Add a *Production Order*
- Complete a basic production process

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

- Add a *Production Order*
- Complete a basic production process

## Production Process Concept



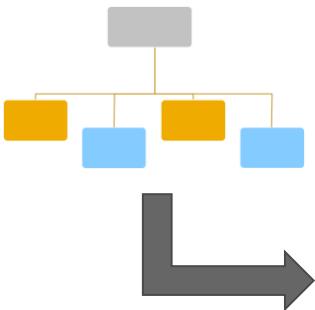
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The production process starts with creating a *Production Order*. This is the main document in the production process. It records the progress of the production process for each item produced. Before work can begin, the *Production Order* status must be changed to *Released*. At this point, the *Production Order* can begin collecting the costs of production. Components used in the production process can then be released to the shop floor (depending on the issuing method). When all work is done, you report completion of the production order. At this point, the finished items are received in the warehouse. Note that when the automatic method for issuing components to the shop floor is selected, the components and resources are reported as issued as soon as you report completion. When the production process is over, the *Production Order* is closed. This closure creates a journal entry for balancing inventory accounts at perpetual inventory-managed companies.

We will have a closer look at the *Production Order* and the production process in the next slides.

## Production Order Concept



### Production Order:

- **Decorative Wooden Door X 6**
- **Due Date: 31.09.20XX**
  
- Item: Wooden Door
- Item: Handle
- Resource: Machine Operator
- Resource: Lathe Machine

A *Production Order* is a command to produce (or repair) a production item.

A *Bill of Material (BOM)* is copied into the *Production Order* document. Then the needed quantity of finished item is entered together with the desired due date of production and other relevant data.

The *Production Order* also tracks all the material transactions and costs that are involved in the production process.

Note that production orders can be generated in the *MRP* and *Pick and Pack and Production* processes as well. These topics are covered in details in the **MRP** and **Picking Process** course topics.

## Production Order – Header Information

Once you choose the bill of materials item, all data from the *Bill of Materials* master data is copied to the *Production Order*.

- Indicate the planned quantity for production.
- Use the *Priority* field to manually determine the priority of this production order.
- Enter start and end dates for production.

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This is the header of a *Production Order* for a **Decorative Wooden Door** BOM (Bill of Materials). Once you select the item to produce in the *Products No.* field, the data is copied from the *Bill of Materials* document to the *Production Order*.

At the header of the document, in the *Planned Quantity* field, the production manager indicated that he wants to produce **10 Decorative Wooden Doors**. The *Base Quantity* of components in the rows is multiplied by this *Planned Quantity*.

Use the *Priority* field to manually determine the priority of a production order for example set the value **1** for the highest priority. By default the value is set to **100**. OC WoodTrend gives higher priorities to large orders. The priority field is displayed in the *Pick Pack and Production* window and in the *Open Items List* report.

When opening a *Production Order*, the status of the order is set to *Planned*. In this status, you cannot issue components or report completion of the *Production Order*. However, you can make changes to the data in the *Production Order*. Later on, to proceed to the next step in the production process, the production manager changes the status to *Released*.

Look at the dates on the right hand of the image. The *Order Date* is the date the *Production Order* was posted and the *Start date and end date* are the planned date range for this production process.

By default, the due date equals the start date + lead time of the produced item if it exists. This lead time is defined in the item master data, in the planning tab and is used in production and MRP process to define the expected time for purchasing or manufacturing an item.

The *Start Date* can provide additional flexibility for the production manager in scheduling production orders.

Note that header information is also used as a basis or default for the production order rows. Let us examine the production order rows in the next slide.

## Production Order Rows

- Row data is copied from the BOM and the planned quantity in the rows is multiplied according to planned quantity in the header.
  - *Production Time* field = total calculated resource time in the row → planned quantity X resource time.

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You can see that row data was also copied to the production order but changes can still be applied. Use the arrows on the right to define the correct sequence of the rows or change data in the rows. The *Production Time* field indicates the total calculated resource time in the row.

The *Base Quantity* was copied from the BOM and the *Planned Quantity* was calculated according to the header planned quantity that the production manager entered.

There is also a status in the row level. This status can be adjusted manually. It is not affected by the status in the header and it is used for information only.

You can see date fields in the rows as well. By default, the *Start Date* and *End Dates* in the rows are

copied from the *Start Date* and *Due Date* of the header respectively. When you change a date in the header you can choose to apply the changes to the rows. In this basic scenario, the decorative wooden door is manufactured in one day so the start date and end date are the same in all rows.

In the next slides you will learn about multiple route stages scenario where the start and end dates may vary in the different stages.

## Create a Production Order and Release It

The screenshot shows the SAP Production Order creation screen. The 'Status' field is highlighted, showing the transition from 'Planned' to 'Released'. The main area displays fields like Type (Standard), Product No. (D00002), Product Description (Decorative Wooden Door), Planned Quantity (10), Warehouse (01), Priority (1), and Routing Date Calculation (On Start Date). To the right, a grid of details includes No. (155), Primary Order Date (08.01.), Start Date (15.02.), Due Date (15.02.), User (Jayson Butler), Origin (Manual), Sales Order, Customer, Distr. Rule, and Project. A large callout box below the form contains the text 'Create Production Order → Release to shop floor' above a diagram of a gear turning into a worker at a workstation, with the status change 'Status: Planned → Released' at the bottom.

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Let us start the production process for the **Decorative Wooden Door**.

Once the production order is entered, the following happens:

- The quantity of the item components of the production order is subtracted from the *Available* quantity of the items and became a *Committed* quantity (we can see it in the *Item Master Data* → *Inventory tab*).
- The capacity of the resources of the production order is subtracted from the *Internal Capacity* and became a *Committed Capacity* (More about resource capacity in the **Resource Capacity** training).

The production manager changes the status of the order to *Released* to start the production process.

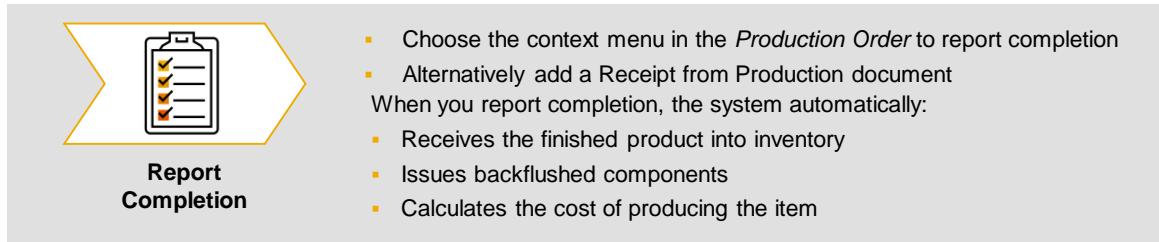
Once the status has been set to *Released*, we can:

- issue components (depending on the issue method),
- receive the produced item into inventory and
- report completion for the production order.

You still have the option to add or change components and resources that have not yet been issued.

Since OC WoodTrend manages the shop floor area as a separate warehouse, the production manager transfers the components from the main warehouse to the shop floor. He does this by creating an inventory transfer from the context menu of the production order.

## Report Completion



#	Type	Route ...	No.	Description	Base Qty	Planned Qty	Issue Method	Start Date	End Date	Resource Allocation	Status
1	Route Stage	1	Cutting	Cutting				15.02.	16.02		Planned
2	Text			According to Manual M010							
3	Resource	1	RC0001	Cutting Machine	6	60	Manual	15.02.	15.02.	Start Date Forwards	Planned
4	Resource	1	RE0001	Machine operator	2	20	Backflush	15.02.	15.02.	Start Date Forwards	Planned
5	Route Stage	2	Sanding	Sanding				16.02	17.02		Planned
6	Text			Move the plates to the sanding area							
7	Resource	2	R00012	Sanding Machine	8	80	Manual	16.02.	16.02.	Start Date Forwards	Planned
8	Resource	2	RE0001	Machine operator	4	40	Backflush	16.02.	16.02.	Start Date Forwards	Planned
9	Item	2	W00001	Wooden Plate	7	70	Manual	16.02.	17.02		Planned

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At the end of the process, the production manager reports completion of production.

From the context menu he chooses *Report Completion*.

When reporting completion, the system automatically:

- Receives the finished product into inventory by adding a *Receipt from Production* document.
- Issues backflushed components by adding an *Issue for Production* document.
- Calculates the cost of producing the item.

Note: a *Receipt from Production* document can be issued also from the *Production* menu entry.

## Inventory Changes in the Production Process

	In Inventory	- Committed	+ Ordered	= Available
<b>Status: Planned</b>				
Components		+		-
Finished Product			+	+
<b>Completion reported</b>				
Components	-	-		
Finished Product	+		-	
+ Indicates increase in quantity - Indicates decrease in quantity				

This slide summarizes the changes made in the inventory data during the production process. When the production status is planned, a commitment is created for the components and the ordered quantity of the produced item increases. When the *Production Order* is completed, the finished product is received in inventory. Remember that components may be issued in different stages in the production process according to their issue method (manual or backflush).

Note that it is possible to view inventory changes (and the costing) of each component by production order, by entering the *Variance Report* from the *Summary* tab of the order.

To learn more about the *Variance Report* please refer to the **Accounting of Production** training.

## Summary



Here are some key points about the **production process**:

- The *Production Order* is based on the *Bill of Materials*.
- A *Production Order* is in a planning state until its status changes to *Released*. When the production order is released to the shop floor, components (items and resources) can be issued to production and work can begin.
- Components are issued when *Issue for Production* document is added.
- Components can be issued using either the *Manual* or the *Backflush* method.
- With the *Backflush* method, once a Receipt from Production is created, the items are automatically issued for production.
- The manual issue method allows you to issue the components precisely when they are required in the production process and also issue a partial quantity, even before reporting completion.
- When you report completion, the system automatically receives the finished product in inventory and issues backflushed components.

Here are some key points about production process to take away from this session:

- The *Production Order* is based on the *Bill of Materials*.
- A *Production Order* is in a planning state until its status changes to *Released*. When the production order is released to the shop floor, components (items and resources) can be issued to production and work can begin.
- Components are issued when an *Issue for Production* document is added.
- Components can be issued using either the *Manual* or the *Backflush* method.
- With the *Backflush* method, once a Receipt from Production is created, the items are automatically issued for production.
- The manual issue method allows you to issue the components precisely when they are required in the production process and also issue a partial quantity, even before reporting completion.
- When you report completion, the system automatically receives the finished product in inventory and issues backflushed components

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## Production and MRP: Production Order with Routing

SAP Business One  
Version 10.0

THE BEST RUN 

Welcome to the **Production Order – Routing Scenario** training topic.  
In order to take this course, you should first complete the **Bill Of Materials**  
and the **Basic Production Process** training topic.

## Objectives



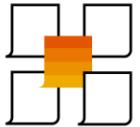
At the end of this topic, you will be able to:

- Create and manage production order with routing

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

- Create and manage production order with routing

## Business Example



- OC WoodTrend produce wooden furniture.
- For complex manufacturing, OC WoodTrend defined bill of materials with routing that include sequenced stages and date dependencies.
- They want to start producing these bill of materials.



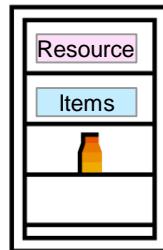
- OC WoodTrend produce wooden furniture.
- For complex manufacturing, OC WoodTrend defined bill of materials with routing that include sequenced stages and date dependencies.
- They want to start producing these bill of materials.

## Bill of Materials with Routing

### White Cabinet BOM

Route Stage	Components
Stage 1 - Cutting	Cutting Machine
	Machine Operator
	Wooden Plates
Stage 2 - Sanding	Sanding Machine
	Machine Operator
Stage 3 - Painting	Painting Machine
	Machine Operator
	White paint
Stage 4 - Assembly	Carpenter
	Hinges
	Shelves
	Handles
	Screws

White Cabinet



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In this scenario we examine the production process of a **White Cabinet** bill of materials.

There are 4 stages in the production process of the cabinet: **Cutting, Sanding, Painting and Assembly** as shown in the image.

This bill of materials is copied to the *Production Order*.

## Production Order with Routing

The screenshot shows the SAP Production Order with Routing interface. The main window displays a production order for a 'White Cabinet' with various routing stages and resource assignments. A context menu is open on the right, showing options like 'Right click', 'Cancel', 'Duplicate', etc., with several items checked under 'Display Route Stages'. A callout box says 'Choose what you want to display'.

#	Type	No.	Description	Base ...	Planned...	Warehouse...	Start Date	End Date	Route ...	Status	
1	Route Stage	1	Cutting	Cutting			09.06	09.06	1	Planned	
2	Text	2	According to Manual M010								
3	Resource	3	RC0001	Cutting Machine	6	60	01	09.06	09.06	1	Planned
4	Resource	4	RE0001	Machine Operator	2	20	01	09.06	09.06	1	Planned
5	Route Stage	5	Sanding	Sanding			09.06	09.06	2	Planned	
6	Text	6	Move the plates to the sanding area								
7	Resource	7	R00012	Sanding machine	8	80	01	09.06	09.06	2	Planned
8	Resource	8	RE0001	Machine Operator	4	40	01	09.06	09.06	2	Planned
9	Item	9	WW00001	Wooden Plate	7	70	01	09.06	09.06	2	Planned
10	Item	10									

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This is a production order for the **White Cabinet** bill of materials.

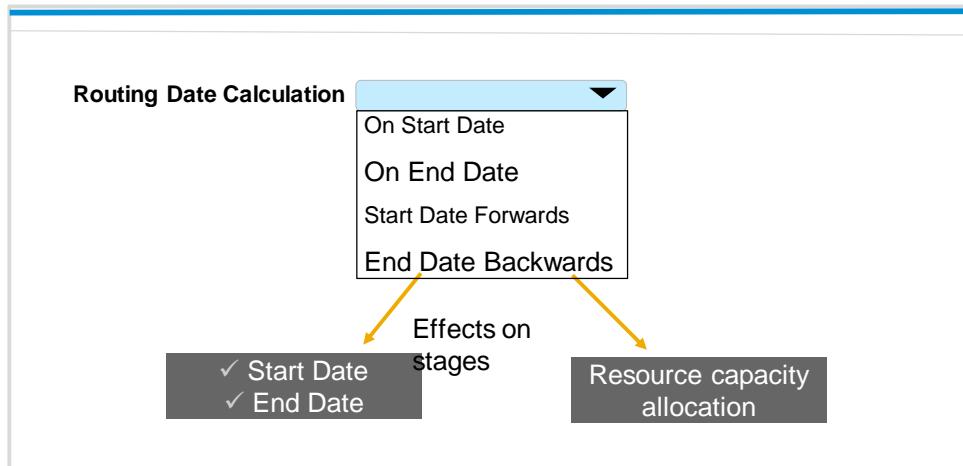
As explained in the **Bill of Materials** topic, a bill of materials with routing consists of several stages where each stage groups a set of items and resources that are relevant for the stage.

In the image we see two of the stages. Beneath each stage we can see the components related to that stage. This display can be adjusted from the context menu or from the *Go To* menu at the top of the screen.

In addition, production orders with routing allow optional automated calculation of date dependencies between the route stages. The system can automatically schedule the start and end dates of both item and resource components to more relevant dates. This will be further discussed in the next slides.

## Routing Date Calculation Field

From the production order header:



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When using production orders with routing, it is important to understand how the *Routing Date Calculation* field and function works.

This definition in the production order can affect the start date and end date of each row in the production order as well as the resource capacity allocation in the row.

Depending on the routing date calculation value, it may also affect the start date and due date in the header.

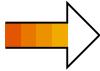
Date scheduling is also relevant for item components because their row start date impacts the MRP. OC WoodTrend manage resource capacity to make sure a given resource is available during production and to be able to plan production ahead.

There are four methods of routing date calculation: *On Start Date*, *On End Date*, *Start Date Forwards*, and *End Date Backwards*.

Let us examine them in the next slide.

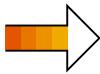
## Routing Date Calculation – Stage Dates and Resource Consumption

**On Start Date**

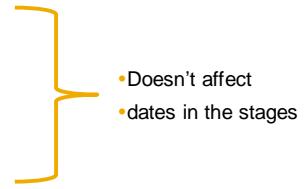


- Resource is allocated to the start date in each stage

**On End Date**



- Resource is allocated to the end date in each stage



The start date and end date in the header are the time range for the consumption of the component in the production order.

However different calculation methods may set different start and end dates of the stages within this range.

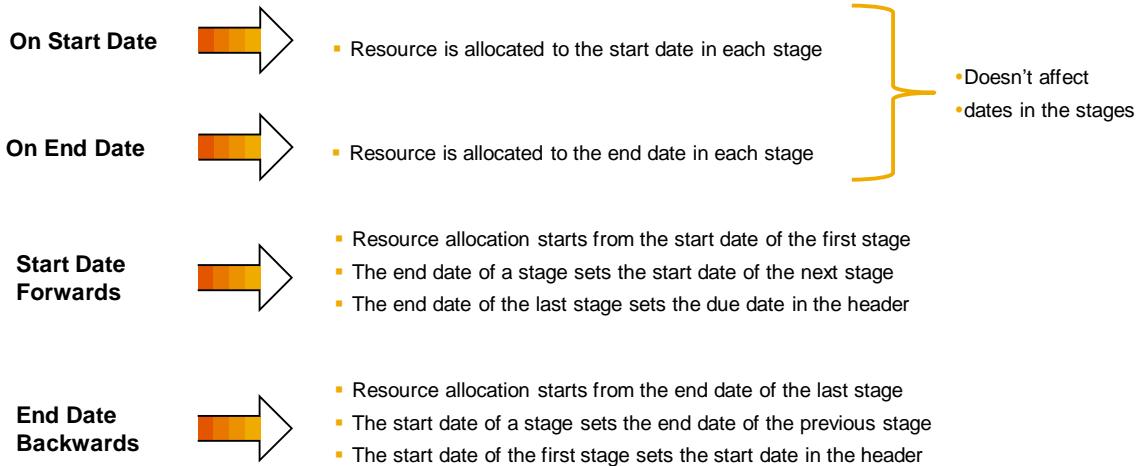
With methods: *On Start Date* and *On End Date*, there are no date dependencies between stages in the order.

The start date of all stages is defaulted from the start date of the header.

The end date of all stages is defaulted from the due date of the header.

With the *On Start Date* method, resources are allocated to the stage start date and with the *On End Date* method, resources are allocated to the end date of the stage.

## Routing Date Calculation – Stage Dates and Resource Consumption



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The other two methods are more sophisticated:

With the *Start Date Forwards* method the start date from the header is copied to the start date of the first stage. Then if there is **not** enough capacity to meet the planned quantity of the resource, the system continues to allocate resource capacity in the coming days until all planned capacity is fully allocated. The end date of this stage is the last day of capacity allocation.

The next stage start date is the end date of the previous stage.

When the last stage is reached, the end date is set to the header's due date.

Note that capacity allocation is calculated from the beginning of the day.

The *End Date Backwards* method works similarly but starting from the end date of the last stage.

The header's due date is copied to the end date of the last stage. Then if there is not enough capacity to meet the planned quantity of the resource, the system continues to allocate resource capacity for each day backwards, until all planned capacity is allocated. The start date of this stage will be the last day of capacity allocation.

The previous stage end date will be the start date of the last stage calculated.

When reaching the first stage, the start date is set to the header's start date.

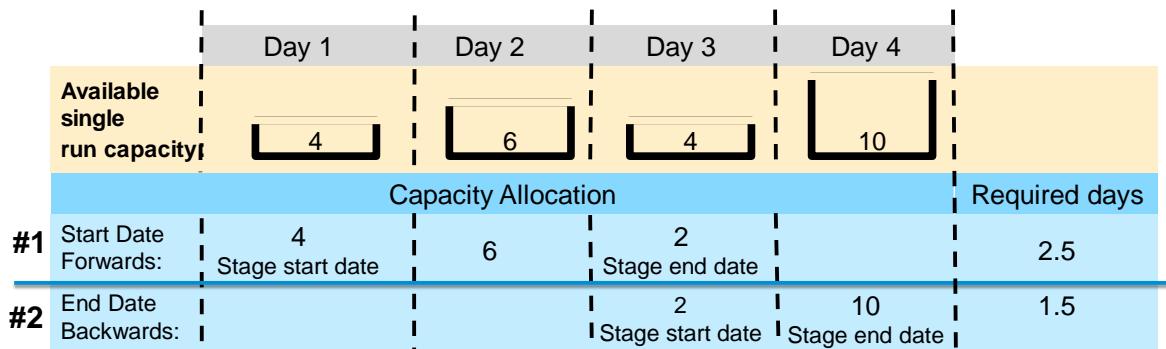
Note that capacity allocation is calculated from the end of the day.

Also note that with these two methods the production order will only consider a capacity type called: **Single Run Capacity**. This type of capacity assumes that only one resource can be used at a time. To learn more about resource capacity, refer to the **Resource Capacity** training.

## Required Days Calculation

Resource Planned

Quantity in the stage = 12



Let us examine this scenario for the *Start Date Forwards* and *End Date Backwards* methods. We examine the effect on start date and end date of a stage and on resource capacity allocation.

In our scenario, the resource planned quantity in the stage = **12**.

The available single run capacity is set to **4** in day 1, **6** in day 2, **4** in day 3 and **10** on day 4.

When using the *Start Date Forwards* routing date calculation, the system starts to allocate the available capacity to reach the capacity needed for this stage, from the start date of the stage (day 1).

To allocate **12** resource units, the system consumes the entire **4** units from day 1, then another **6** from the day 2, and lastly, another **2** of the **4** units available on day 3. This also means that it takes 2 full days of the resource available time + 2 out of 4 resource units which equals half a resource day. Therefore the required days = **2.5** days.

When using the *End Date Backwards* routing date calculation, the system starts to allocate from the end date of the stage (day 4).

The system consumes the entire **10** units available on day 4 and another **2** out of the **4** available in day 3. With this method the required days = **1.5** days.

## Total Days Calculation

Components	Required days	Waiting days	Total days
<b>Stage 3 – Painting:</b>	<b>1.5 day</b>	1	<b>2.5</b>
Resource: Painting Machine	1.5		
Resource: Machine Operator	0.5		
Item: White paint			

Total days =  
Required Days  
+ Waiting Days



There are several calculation fields in the production order that provide information about times in production. This training covers a few of them.

This is an illustration of a stage in our bill of materials – the **painting** stage.

For each resource row there are calculated required days. The required days of the stage is the maximum required days value of all resource rows in the stage.

We also learned about the *Waiting Days* field in the **Bill of Materials** training. This is a manually added value that reflects waiting times between stages.

For the cabinet, after the painting stage is done, **1** waiting day is needed for the paint to dry.

These *Waiting Days* are added to the *Required Days* and sum up to the *Total Days* value of **2.5**.

## Production Time Calculation

Components	Production time
<b>Stage 3 – Painting:</b>	<b>10 hours</b>
Resource: Painting Machine	10 hours
Resource: Machine Operator	5 hours
Item: White paint	



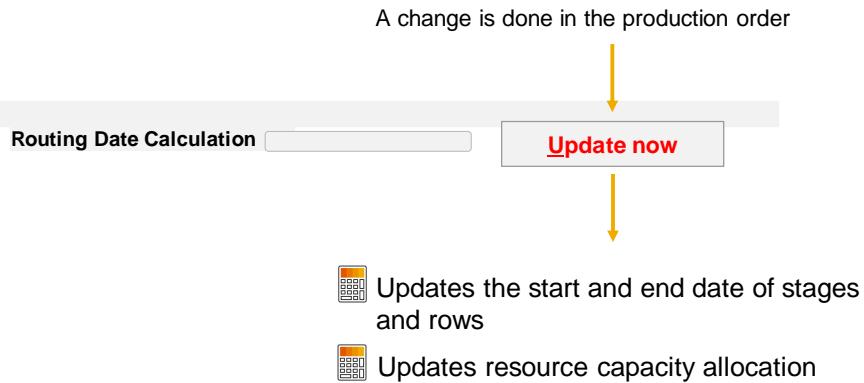
The resource *Production Time* is the planned resource quantity expressed in time (according to the time per resource unit field in the resource master data).

In this case it is a total of **10** hours for the painting machine and **5** hours for the machine operator.

To calculate the production time of a stage, the system simply takes the largest production time of all resource rows in the stage – in this case it is **10**.

It is important to understand the main difference between *Production Time* and *Required Days* values. For example, the *Production Time* in the row may represent the actual machining time of a resource whereas the *Required Days* is the total time that the resource has to be allocated to this task overall.

## Routing Recalculation



In a production order with routing, manual changes made in the production order header or rows may require recalculation of row dates and resource capacity allocation.

The system does not trigger this update automatically, but instead allows the user to decide whether to update the rows or not.

To indicate to the user that an update is advised, the button *Update Now* turns red as shown in the image.

At OC WoodTrend there is a need to recalculate stage dates when the production start date is postponed and the routing date calculation is *Start Date Forwards*.

Once the production manager changes the start date in the header of the production order, the *Update Now* button turns red. The production manager chooses the button and a system message appears asking the user for permission to update the rows date accordingly.

A similar procedure happens, when a certain resource is replaced with another resource. Since the new resource has a different production time and available capacity, the production manager chooses the red button to update stage start and end dates and the resource capacity allocation.

Refer to the document: **How to Work with Resources and Production in SAP Business One 9.3** to find the list of conditions that trigger the button to turn red.

## Issue for Production – Routing Scenario

The screenshot shows the 'Issue Components – Selection Criteria' window. It has several input fields: 'Route sequence' (dropdown), 'Route stage' (dropdown menu open, showing 'Cutting', 'Sanding', 'Painting', and 'Assembly'), 'Status' (dropdown), and three ellipsis buttons ('...'). A callout bubble points to the 'Route stage' dropdown with the text 'Possible to issue components per route stage'.

Issue Components – Selection Criteria

Route sequence

Route stage

- Cutting
- Sanding
- Painting
- Assembly

Status

...

Possible to issue components per route stage

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After a production order is released, the production manager in OC WoodTrend issues components to production one stage at a time.

Issuing components from a production order with routing, can be done per route stage.

From the *Production Order* context menu, He chooses the option *Issue Components* which displays the *Issue Components – Selection Criteria* window. From this window he can adjust the stages or components to issue.

Remember that only manual issue items are available for issue.

## Summary



Here are some key points about **production order with routing**:

- A production order with routing is based on a BOM with routing and composed of stages.
- Each stage may contain several component rows and different production calculations at the stage level.
- The routing date calculation method:
  - Can set date dependencies between the different stages and update the stage dates accordingly.
  - Can set the resource capacity allocation according to the single run capacity defined for the resource.
- Manual changes made in the production order header or rows may raise the need to recalculate row dates and resource capacity allocation. When the system recognizes this scenario, the *Update Now* button turns red, alerting the user to choose the button and thus activate this update.

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## Production and MRP: Introduction to MRP

SAP Business One  
Version 10.0

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Welcome to the Introduction to MRP topic.

## Objectives



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

- Explain the MRP concept and process steps

### At the end of this topic, you will be able to explain the concepts behind Materials Requirement Planning and the main steps in the process

- We begin by introducing the concepts behind MRP in better to understand the process and its recommendations.
- We discuss definitions and planning data you will want to set up to run the MRP wizard
- Then we go through steps of the MRP wizard
- Finally we examine the MRP results and see how to automatically generate production or purchasing documents from the recommendations.

## Business Scenario

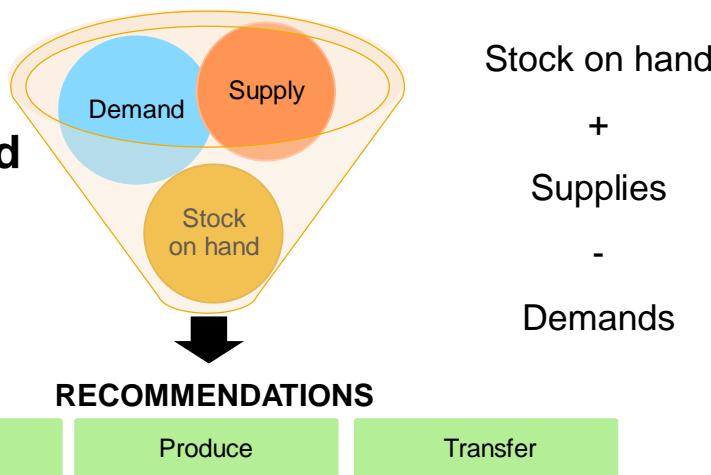


- OEC Computers sells office equipment and supplies.
- Some of the items they sell are assembled and manufactured at OEC Computers' labs.
- The procurement manager, would like to be able to plan ahead for sales demand and item availability

- OEC Computers sells office equipment and supplies.
- Some of the items they sell are assembled and manufactured at OEC Computers' labs.
- The procurement manager, Michelle, would like to be able to plan ahead for sales demands and item availability.

## MRP Concept

### MRP Wizard

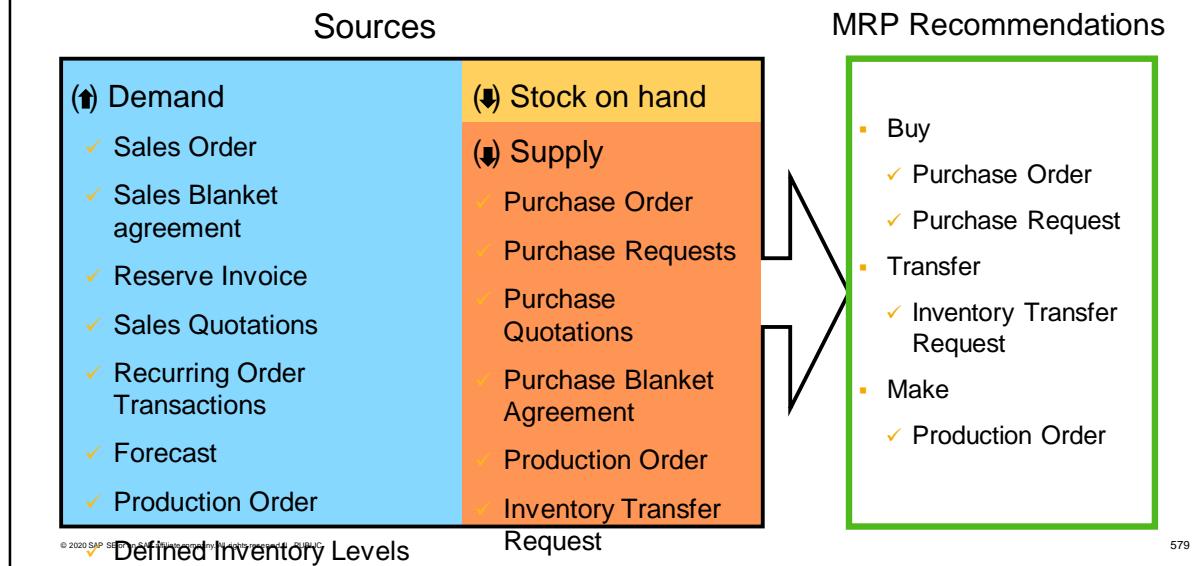


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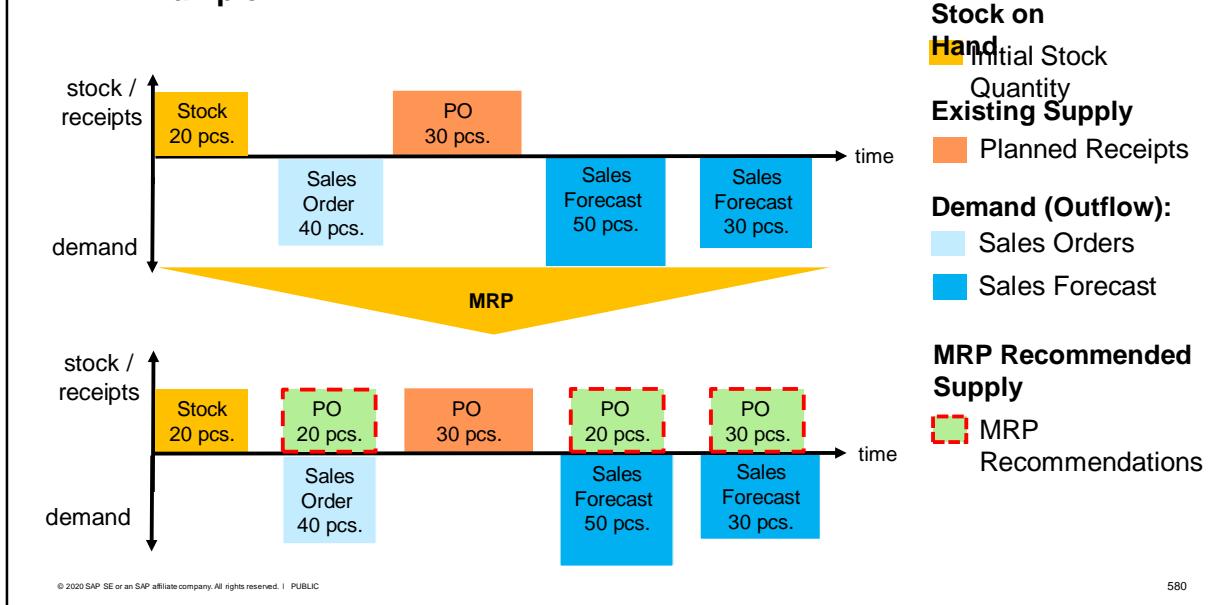
- The Material Requirements Planning (MRP) function lets you plan material requirements for complex manufacturing and procurement processes. To create and run MRP scenarios, you use the MRP wizard. The wizard generates recommendations (production orders, purchase orders, and inventory transfer requests) required to produce or procure the final product on time and in the required quantity. In the Order Recommendation report, you create production and purchase orders based on these recommendations.
- Materials Requirements Planning (MRP) is a tool for managing inventory effectively so that materials are available for production and products are available for sales when and where they are needed without having to keep overly high stock levels. MRP compares the future *demand* for items against the *stock on hand* and the planned *supply* from purchases, production, or items in other warehouses.
- Planned supply can include purchase orders, production orders, inventory transfer requests and purchasing blanket agreements.
- Existing demand comes from incoming sales and inventory needs and planned demand by forecasts.
- In order to receive recommendations for buying, producing or transferring items you run the MRP wizard.
- The MRP run also takes into account defined planning rules like order multiples and minimum order quantity and also required lead time for the supply or manufacturing of the item.
- Note: throughout this course we refer to material as items or quantity in order to align with SAP Business One terminology.

## MRP Components



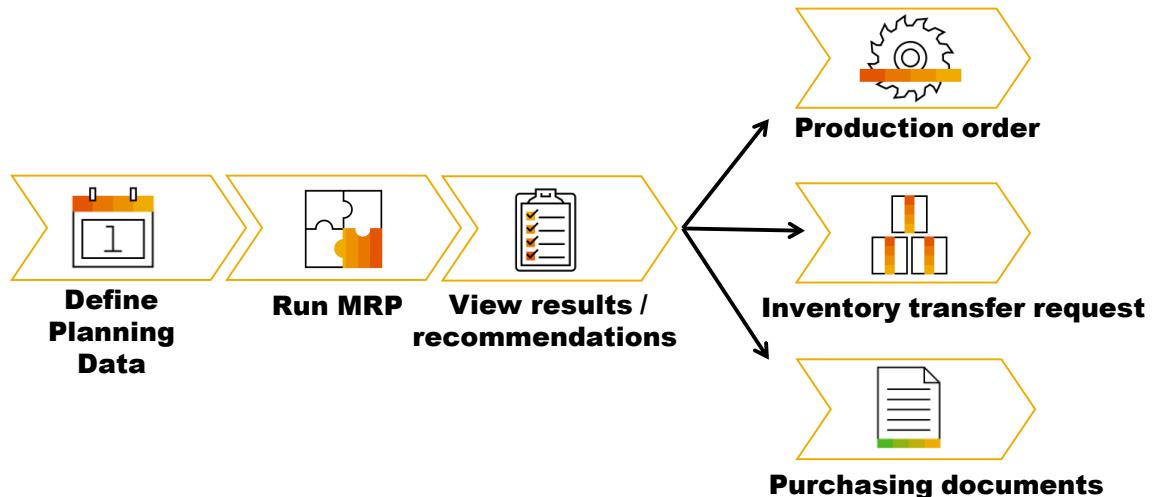
- In order to understand the MRP logic better, let's look in more detail at the 3 types of sources used in the MRP run: Demand, Stock on Hand and Supply.
- Demand tells us how much item quantity will be needed in the future. Demand is derived from the following optional sources:
  - Sales documents including sales orders, sales blanket agreements, reserve invoices, sales quotations and recurring order transactions,
  - A forecast for the anticipated quantity needed for the item,
  - Production orders for the child items of a BOM,
  - Defined inventory levels including minimum, maximum and required inventory levels,
  - And inventory transfer requests for the origin warehouse of planned transfers of the items.
- To meet the demands, the wizard looks at the stock on hand (item quantities currently in the warehouse) and expected supply.
- The expected supply of item quantity is derived from the following optional sources:
  - Purchase orders, purchase requests, purchase quotations and purchase blanket agreements
  - Production order for the demand of the parent item of the BOM,
  - And inventory transfer request for the target warehouse of planned transfers of the items.
- The results from the MRP run are the MRP recommendations to buy, transfer or make the quantity needed.
- The recommended documents can be:
  - Purchase orders or purchase request for purchased items.
  - Inventory transfer requests.
  - And production orders for items that are produced in-house.

## MRP Example



- In the example shown, you can see an illustration of the recommendations given by MRP.
- At the top, we see the situation before MRP is run.
  - The initial stock quantity is represented in gold. Initially there were 20 pieces in stock.
  - A purchase order exists for 30 pieces. We expect those receipts shortly in the future based on the lead times for the items.
  - We have requirements for 40 pieces from existing sales orders.
  - We have a sales forecast for 50 additional pieces in the near future and later on we expect demand for additional 30 pieces.
- When we run MRP, we receive recommendations for three purchase orders to fulfill the requirements.
- MRP considered the initial stock, planned supply and existing and forecasted demand.

## MRP Process Overview



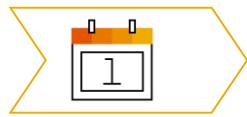
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- Before running MRP, you need to define planning data. The main planning data consists of definitions in the item master data records. In addition, there is also an option to define a forecast for anticipated demand of the items.
- Once the planning data is set up, you can run the MRP wizard on demand.
- The results of the MRP run are recommendations for creating documents to produce, purchase or transfer the needed items.
- The final step in the MRP process is to use the recommendations to create the needed supply documents (such as production orders, inventory transfer requests or purchase orders) to meet the demand. These documents can be automatically generated via the *Order Recommendation* window.

In this next section, we will go through each MRP process steps.

## Define Key Planning Data



- ✓ Update planning data in the item master data
- ✓ Create a Bill of Materials
- ✓ Define a sales forecast
- ✓ Configuration Settings

- Here we see a list of planning data that can affect MRP. These definitions are optional and you may decide that some are not relevant for you. No particular order of definition is required.
- Each item has a section for planning data in the item master. These settings affect how the item is handled in terms of MRP.
- If an item is produced, then the component parts are listed in a bill of materials (BOM). When MRP is run, the system checks if all the components are available for making the item. In our example, we will consider an item that is purchased, so we will not discuss how to create BOMs in this unit. BOMs are discussed in the unit on Production.
- Projected demand can be added to current demand using a sales forecast.
- Additionally there are configuration settings that can affect MRP.

## Item Master Data – Planning Data

### Item Master Data

Item Number C00007  
Description Hard Disk Seagate 400 GB

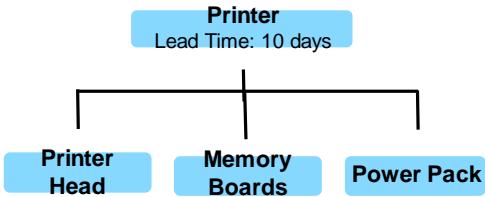
...

### Planning Data

Planning Method	MRP / None	
Procurement Method	Make / Buy	
Order Interval	Weekly / Monthly / ...	
Order Multiple	50	
Minimum Order Qty.	100	
Lead Time	10	Days
Tolerance Days	2	Days

- On the *Planning Data* tab of the *Item Master Data* window, you can set definitions relevant for the MRP run.
- For each item you can define whether or not it is included in the MRP run by choosing *MRP* or *None* in the *Planning Method* field.
- In the *Procurement Method* field you can define whether you purchase the item or produce it. This setting affects the default for the type of recommendation you receive from the MRP run. Note in both cases the recommendation can be to transfer the item from another warehouse.
- The *Order Interval* field specifies the frequency for order recommendations. You can define many intervals and choose the relevant interval for each item when needed. The *Order Interval* definition can be useful when an agreement exists with a vendor, for example, to order once a week – for example on Mondays only. MRP automatically groups recommended orders into interval groups for your convenience.
- The *Order Multiple* specifies the lot size to use in an MRP run. For example, if the value is 50, MRP will recommend order the item in multiples of 50. So if you need 80 items and the value is 50, the system will recommend ordering 100 items.
- The *Minimum Order Quantity* field allows you to specify a minimum lot size.
- The *Order Multiple* and *Minimum Order Quantity* definitions can also be a representation of a supply agreement with the vendor.
- The *Lead Time* field is used to calculate the duration of time to produce the item or receive the item when buying it.
- The last field in the list is the *Tolerance Days*. An expected supply may arrive within a few days after the actual demand date and sometimes it would be ok to delay delivery. This functionality minimizes recommendations and satisfies demand with the expected supply due within the tolerance period. In the *Tolerance Days* field, indicate how many days you are willing to tolerate.
- If you are using the advanced availability to promise functionality (ATP), you will also have the option to specify a checking rule. For more information on advanced ATP, see the course topic on automating the sales process.
- In addition to entering the planning data directly in each item master data record, you can also define the planning data at the item group level. This definition is copied automatically to the item master data as a default.

## Bill of Materials



A bill of materials (BOMs):

- The top-level item represents an item to be produced
- All components are items
- BOMs can be multi-level

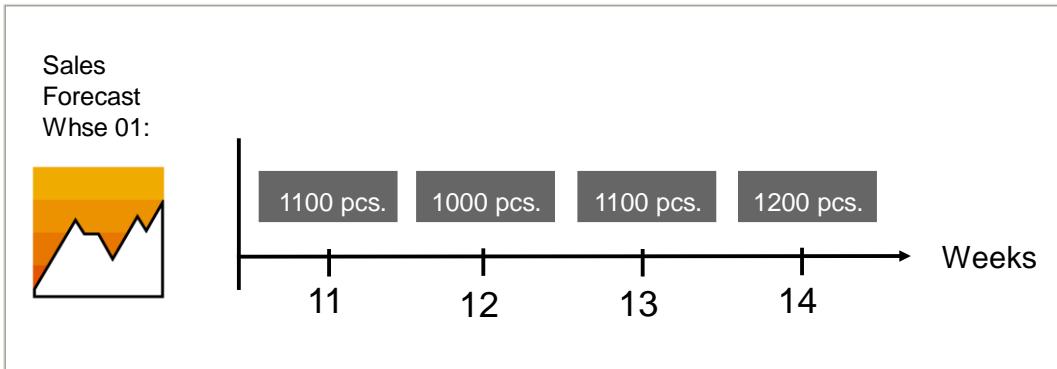
Here we see a simple bill of materials used for producing a printer.

A production bill of materials represents an item to be produced. The sub-items in the bill of materials are items that will be needed to produce the top-level item. The sub-items can either be items that are purchased or made. These are typically physical items that are stored in inventory.

More info on bills of materials can be found in the Bills of Materials topic.

## Defining Planning Data: Forecast

Item: Hard Disk Start Date: 01.03 End Date: 31.10 View: weekly



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- You can create forecasts to plan purchasing, production or transfers in advance, even before you receive other actual requirements like sales orders.
- In OEC computers, sales orders are often received at short notice. Some of the items they sell have long lead times. If OEC Computers relied on only sales orders to drive their production and purchasing, they would not be able to meet demand because on the customers' required dates.
- That is why they use forecasts. By using a forecast, they can purchase or produce items based on predictions of when the items will be needed. When the actual sales orders arrive, they are able to supply the goods even at short notice.
- In the image we see an illustration of a weekly forecast for the *Hard Disk* item in OEC Computers. To make sure there are sufficient hard disks on hand to meet expected orders, Michelle prepares a weekly forecast for the item. She bases her forecast on last years sales figures and adds a certain margin for the current year. Then, when she runs MRP, the recommended quantities already include the forecasted demand.
- At OEC, they have found that some items sell better in different regions. To handle the differences, they create and maintain forecasts for items per warehouse.
- To avoid duplication of sales order demand and forecast demand, you can define in the general settings that forecasts are consumed by actual sales orders.

## Create a Forecast

The screenshot shows the SAP Forecasts application window. At the top, there are fields for Forecast Code (Q3Week), Forecast Name (Q3 Weekly Printer Forecast), Start Date (02.07), End Date (30.09), and View (Weekly). Below this is a table with three rows of data:

	Item No.	Item Description	Warehouse	27	28	29	30
1	A00001	J.B. Officeprint 1420	01	25	25	25	25
2	A00002	J.B. Officeprint 1111	01	10	15	10	10
3							

Two yellow callout boxes point to the 'View' dropdown and the quantity input field. The 'View' dropdown is set to 'Weekly'. The quantity input field has a value of '0.00 %' with plus and minus buttons. A large callout box labeled 'MRP → Forecasts' contains the following list:

- Daily, weekly or monthly basis
- The quantity is entered in the sales unit of measurement
- Can change multiple row quantities with a single click
- The view cannot be changed once the forecast is saved

At the bottom left, it says '© 2020 SAP SE or an SAP affiliate company. All rights reserved. I PUBLIC'. At the bottom right, it says '586'.

- In order to create a new basic forecast, go to the *MRP* main menu and then choose *Forecast*.
- Each row contains the forecasted quantities for an item. The quantity entered is based on the sales unit of measurement for the item. For example, if the item is sold in cartons of 12 then the forecast is based on the number of cartons. The item quantity can be managed on a daily, weekly or monthly basis. This view definition cannot be changed once the forecast is saved.
- Enter the *Start* and *End* date to define the forecast period.
- After entering required quantities, you can increase or decrease the quantities of selected items. Just choose the relevant item rows and then use the plus or minus button to increase or decrease the quantities with each click.

## Consume Forecasts

Item	Today: July 1	July 23	July 24	July 25	July 26
Printer			40	10	
Initial stock					
Receipts					
Gross Requirements			40	10	



- A sales forecast originally showed 50 printers needed by July 24
- A sales order is created for 10 printers to deliver on July 25
- The forecast was reduced by 10 to account for the sales order
- A production order will be created for 50 printers

- MRP analysis looks backward from the due date of an order, starting with the lead time for the items in a sales order, and then cascading all of the other lead times in bills of materials for components to determine whether all materials can be obtained on time. MRP analysis also reaches forward and reduces forecasted quantities so that inventory does not unintentionally get too high. This is called consuming forecasts.
- Excess inventory sometimes builds up after companies prepare annual, quarterly, and monthly forecasts for the number of units they plan to ship in order to avoid stock shortages and maintain on-time deliveries. If a company plans production based on forecasted quantities and then adds actual ordered quantities to the forecasts, production may exceed actual needs and inventory may be inflated. To avoid this situation, SAP Business One can reduce forecasted quantities by actual order quantities. As a result, only the net forecast quantity (forecast minus ordered quantity) will be added to the MRP run.
- This capability of the MRP functionality of SAP Business One is important because forecasts are considered sources of demand for MRP. This means that if you make a forecast that orders for 50 units will come in during a certain period, MRP treats that forecast as actual orders and generates production orders so that the items are ready when needed. Continuing with this example, assume that an actual order for 10 units comes in. Now, MRP will adjust the forecast downward by the 10 units ordered to avoid a buildup of excess inventory.
- You can set the default for whether sales orders are consumed by forecasts in the General Settings, but it can be changed at the row level of a sales order.

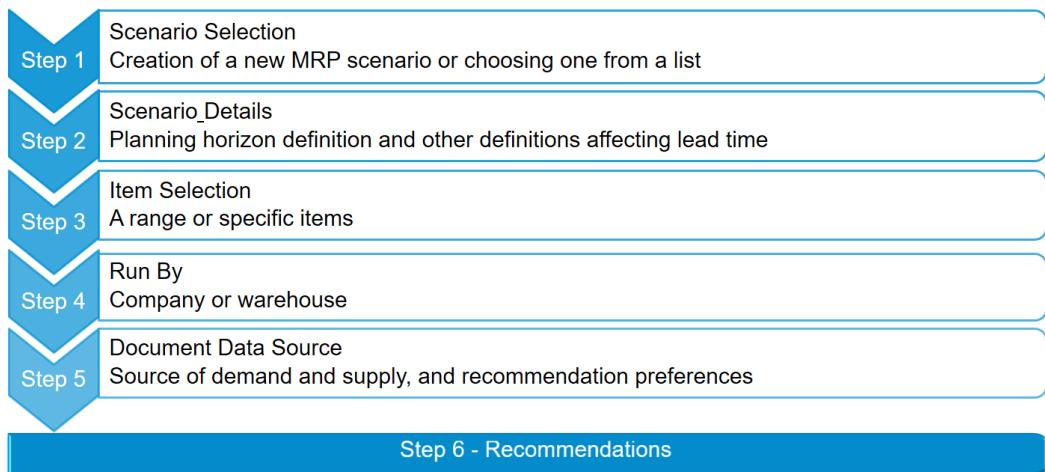
## Configuration Settings

- *Setting Consume Forecast – General Settings, Inventory Tab*
  - Consume forecast
  - Consumption Method
  - Days Backward and Days Forward
- *Defining Holidays and Weekends*
- *Defining MRP Defaults for Item Groups – Inventory Setup*
  - Planning by MRP
  - Procurement Method
  - Order Interval
  - Order Multiple
  - Minimum Qty
  - Lead Time



There are numerous configuration settings for MRP that can finetune your planning. Although we cannot go into detail in this topic, here is a list of some additional settings you might consider.

## Running the MRP Wizard



- After you have defined your planning data, you are ready to run the MRP wizard.
- The wizard is a 6-step process and the final step presents recommendations derived from the parameters defined in the former steps.
  - In step 1 you can select a scenario or create a new one.
  - Then in step 2 you define a planning horizon of the MRP recommendations and definitions affecting the lead time calculation.
  - After that, in step 3 you choose the items to include in the MRP run.
  - In step 4 you choose whether to run MRP at the company level or at the warehouse level.
  - In step 5 you review the different sources of demand and supply that can be included in the MRP calculation and set your recommendation preferences.
  - Step 6 is when the system provides the MRP recommendations.

## Define MRP Scenario and Scenario Details



### Step 1 Scenario Selection

Creation of a new MRP scenario or choosing one from a list

### Step 2 Scenario Details

Planning horizon definition and other definitions affecting lead time

- Start and End Dates
- Periods for viewing data: Days, Weeks, Months
- Consider Holidays?
- Lead time from the item master or from cumulation of bills of materials components
- Display preferences for items

The MRP Scenario is a set of parameters defined by the user that defines the scope of the MRP run.

You can define several MRP scenarios for each company, but only one scenario can be used for each MRP run.

In the first step of the wizard, you can either choose an existing scenario or create a new one.

In the second step, you define the details for the scenario. You set dates and the periods for the planning horizon. This is the time frame that will be considered in the MRP run. MRP will consider all the demands and supplies that have a due date within the planning horizon.

If you've defined holidays and weekends, then MRP will take those into consideration when running.

## Item Selection

Step 3

Item Selection  
A range or specific items

Use parameters defined  
for each item in the  
Item Master Data window

or

Define a set of parameters for  
items in this MRP run

Select the items you wish to include in the MRP run.

You can either run MRP with the planning parameters you defined previously for each item in the Item Master Data window, or you can define a set of parameters when running the MRP wizard and apply them to all the selected items in the MRP run. The parameters you define here are used only during the MRP run and are not saved in the item masters. It is possible to change the parameters at run time and you can rerun MRP multiple times to effectively do 'what if' analyses with different parameter values.

If you are running MRP for an item with a bill of materials, child items are included in the MRP run.

## Choose Inventory Data Sources

Step 4

- Run By
- Company or warehouse

The screenshot shows the 'Inventory Data Source' step of the MRP Wizard. The interface includes a table for defining data sources by item, location, and warehouse. The 'Warehouse' section is expanded, showing specific codes and names for different warehouses. Navigation buttons at the bottom allow saving the scenario or proceeding to the next step.

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By default MRP considers:

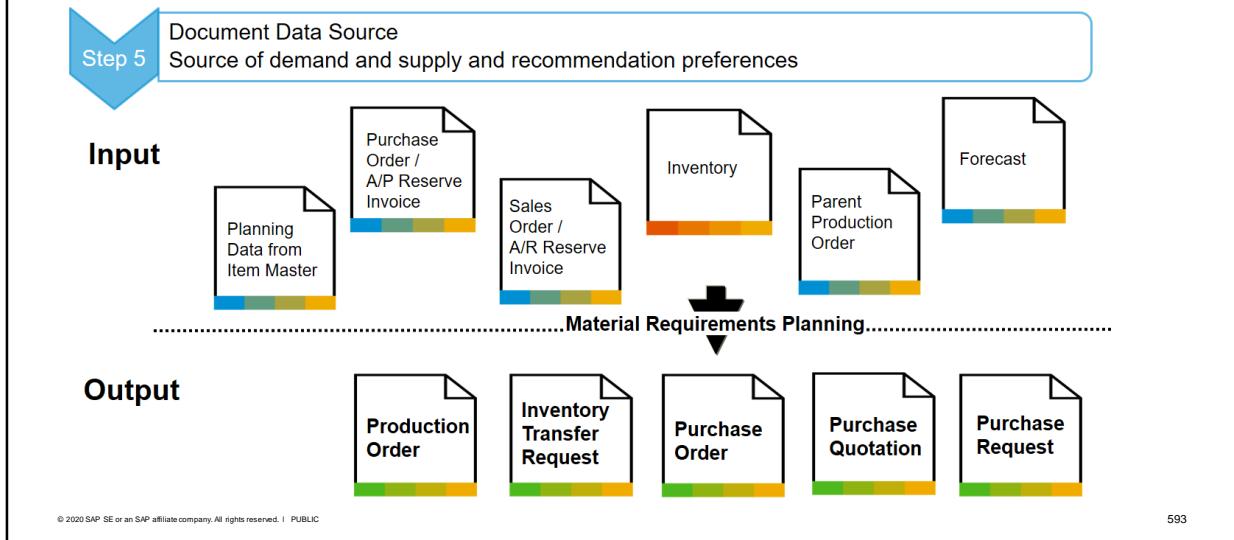
- Existing inventory
- Existing demand
- Existing supply

First you decide whether you want to run MRP collectively for the entire company or to have it calculate requirements separately by warehouse.

By default, MRP will consider existing inventory, demand and supply. You choose whether you want to consider the existing inventory or the minimum inventory level. You can also include a forecast to be consumed by sales orders.

If you choose Company, it will consolidate the existing inventory, demand and supply for all warehouses and make recommendations to the default warehouse for the item. If you choose Warehouse, it calculates the values separately for each warehouse.

## Choose Document Data Sources



You've already chosen a planning horizon for your MRP Run, but you also have the option to include historical data in the run.

Then you decide which sources of supply and demand to include in this MRP run: Which supply documents do you wish to include from purchasing? You can include purchase requests, purchase quotations, purchase orders, A/P reserve invoices and blanket purchase agreements as expected receipts.

Which demand documents do you wish to include from sales? You can include sales quotations, sales orders, A/R reserve invoices and blanket sales agreements as requirements.

In addition to specifying the type of document, you can also specify particular documents. For example, instead of selecting all sales orders, you specify which sales orders should be included.

Do you wish to include production orders and inventory transfer requests? Open production orders for parent items are expected receipts.

In addition to considering existing inventory, you can also consider required, minimum and maximum inventory levels.

And of course you can include a sales forecast as an additional requirement.

The data that you get as output from the Material Requirements Planning in SAP Business One are recommendations for production orders and purchase orders, depending on the procurement method maintained in the item master record. You can also define whether you wish to have MRP recommend inventory transfer requests when running MRP by warehouse.

## View MRP Results

Step 6 - Recommendations

Reports		Item number	Description	Past Due Date	29	30	31	...
1	▼	A00001			10	15		
		Initial Inventory			Initial inventory for item at the beginning of the MRP period.			
		Supply			Expected positive inventory receipts			
		Demand			Expected inventory releases from stock			
		Final Inventory			Period column sum: <i>Initial Inventory + Supply - Demand</i>			

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The MRP Results window appears after you run the MRP wizard. The schedule for the MRP demands appear on the Report tab.

You can open the results for each item to display information on the initial inventory, the supply, the demand and the final inventory. You can click on any raised cell to see the pegging information with sources or recommendations that add up to the quantity that appears in the cell.

More information on how to view and work with MRP Results is in the additional training topics on MRP.

## View MRP Recommendations

### Step 6 - Recommendations

Recommendations

<b>Order Type</b>	<b>Item No.</b>	<b>Description</b>	<b>Qty</b>	<b>Due Date</b>	<b>Vendor</b>
Purchase Request	A00001	Printer	15	21.07	S1007
...					

The Recommendations tab displays any recommended purchase orders, purchase requests, production orders and inventory transfer requests (if you have included them).

To issue the actual orders, you use the Order Recommendations function.

## Order Recommendations

**Step 6 - Recommendations**

Order Recommendation				
Create Order Type	Item	Quantity	Due Date	Vendor
<input checked="" type="checkbox"/> Purchase Order	A0001	15	21.07.	S1007
<input checked="" type="checkbox"/> Inventory Transfer Request	A1020	100	21.07.	S2100
<input checked="" type="checkbox"/> Production Order	P1001	50	15.08.	

**Purchase Order**  
Supplier S1007  
Delivery Date 21.07.  
Item No. A0001  
Quantity 15

**Inventory Transfer Request**  
Supplier S1007  
Delivery Date 21.07.  
Item No. A1020  
Quantity 50

**Production Order**  
Product No. P1001  
Due Date 15.08.  
Planned Quantity 50

*Order Recommendation* is a separate window that allows you to update and change fields displayed in the *Recommendation* tab of MRP Results as well as generate supply documents.

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In the final step of the MRP process, you use the Order Recommendations window to create the documents needed to satisfy the demand for products. In this step, you bring all your experience and knowledge to this process to supplement what SAP Business One has done.

- The *Order Recommendation* is a separate window that allows you to update and change fields displayed in the *Recommendation* tab of MRP Results as well as generate supply documents.
- The data displayed in this window comes from the last saved MRP run recommendations for the selected scenario
- In the *Order Type* field, choose the desired document to generate based on the recommendation, and check the create box. Documents include purchase quotations and purchase requests as well as purchase orders, production orders and inventory transfer requests.
- You can make changes to the data in the proposed documents, such as moving dates, changing quantities or vendors.
- From the context menu of the *Item Number* field you can generate different reports already filtered for the item, like *Alternative Items* and *Last Prices* report. These reports can help you adjust the row data before creating the documents.
- You can also choose whether or not to consolidate documents to the same vendors. This can help reduce costs in two ways: you minimize the number of documents you generate and perhaps achieve greater discounts.

## Summary (1/2)



- MRP is a planning tool that calculates requirements for produced or purchased items by processing the demand, supply and stock on hand.
- The demand for items is derived from sales documents, a forecast, production orders, sales blanket agreements, defined inventory levels and inventory transfer requests.
- The wizard considers expected supply from purchase orders, purchase quotations, purchase requests, production orders and purchase blanket agreements.
- The results of the MRP run are the MRP recommendations. The recommended documents can be: purchase orders, purchase requests, purchase quotations, inventory transfer requests and production orders.
- Forecasts are used to plan stock levels in advance, before receiving actual requirements, such as sales orders.
- In the planning data of the item master, you can set parameters that affect MRP recommendations.

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- Here are some key points to take away from this course:

- The Material Requirements Planning (MRP) is a planning tool that calculates material requirements for produced or purchased items by processing the demand, supply and stock on hand. To receive recommendations for buying, producing or transferring items we run the MRP wizard.
- The demand for items is derived from sales documents, a forecast, production orders, sales blanket agreements, defined inventory levels and inventory transfer requests.
- The wizard considers expected supply from purchase orders, purchase quotations, purchase requests, production orders and purchase blanket agreements.
- The results of the MRP run are the MRP recommendations. The recommended documents can be: purchase orders, purchase requests, purchase quotations, inventory transfer requests and production orders.
- Forecasts are used to plan stock level in advance, before receiving actual requirements, such as sales orders.
- In the planning data of the item master, you can set parameters, such as order multiples and lead time, that affect MRP recommendations.

## Summary (2/2)



- An MRP scenario is a set of parameters defined throughout the wizard steps that is used to determine the MRP results.
- The horizon is the period for which the wizard displays the MRP results.
- There are four elements in the MRP Result: Initial Inventory, Supply, Demand and Final Inventory
- In the *Recommendation* tab of the MRP results we see the list of all recommended documents.
- From the *Order Recommendation* window we can generate recommended documents.

- An MRP scenario is a set of parameters defined throughout the wizard steps that is used to determine the MRP results.
- The horizon is the period for which the wizard displays the MRP results.
- There are four elements in the MRP Result: Initial Inventory, Supply, Demand and Final Inventory
- From the *Order Recommendation* window we can generate recommended documents.



## Service: Customer Service Process

SAP Business One  
Version 10.0

PUBLIC

THE BEST RUN **SAP**

Welcome to the topic on the customer service process.

## Objectives



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

- Set up automatic generation for equipment cards
- Create a service contract template associated with an item
- Sell an item associated with a service contract
- Create and manage a service call
- Set print preferences for service calls and service contracts

In this topic we focus on how to set and manage services you provide to your customers. Service functionality can also be used for managing services provided by your vendors. That subject is covered in a separate course topic.

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

- Set up automatic generation for equipment cards
- Create a service contract template associated with an item
- Sell an item associated with a service contract
- Create and manage a service call

## Business Scenario



Customer reports a problem

Service rep opens a service call to record the problem.  
Checks for warranty / contract coverage.

Once problem solved, service call is closed.  
Any service costs are billed to the customer.

If service rep is unable to solve the problem, it is forwarded. Sometimes this involves a technician visit to the customer site.

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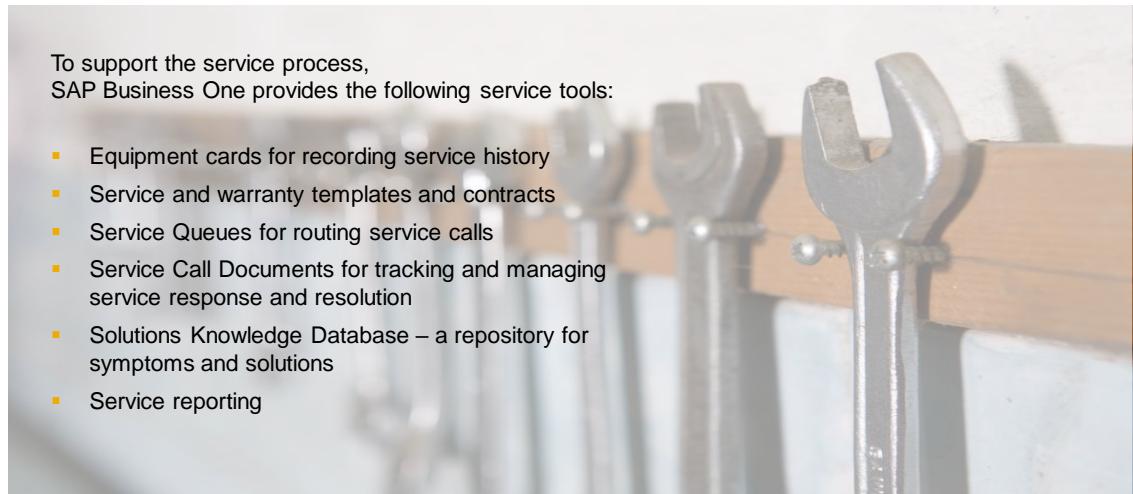
In our business scenario, our call center is set up to provide the best service to our customers. When a customer reports a problem, a service representative opens a service call to record the problem.

The system automatically checks for warranty and contract coverage for the customer and the item.

The service rep attempts to solve the problem but if he or she cannot, the problem is forwarded to someone with more expertise. Sometimes this may involve a technician coming to the customer site.

Once the problem is solved, the service call is closed. Any service costs not covered by contract or warranty are billed to the customer.

## Service Tools



To support the service process,  
SAP Business One provides the following service tools:

- Equipment cards for recording service history
- Service and warranty templates and contracts
- Service Queues for routing service calls
- Service Call Documents for tracking and managing service response and resolution
- Solutions Knowledge Database – a repository for symptoms and solutions
- Service reporting

To support the service process, SAP Business One provides the following service tools:

Service and warranty templates and contracts

Equipment cards for recording service history

Service Queues for routing service calls

Service Call Documents for tracking and managing service response and resolution

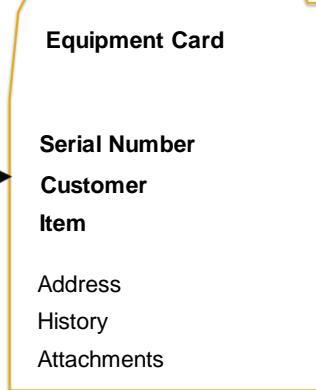
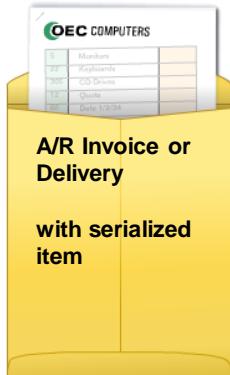
Solutions Knowledge Database – a repository for symptoms and solutions

Service reporting

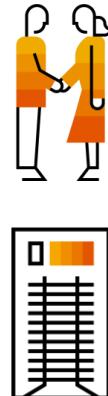
Let's take a look at how these tools can work together for managing the customer service process.

## Equipment Cards

### Automatic Creation



### Manual Creation



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- Equipment cards store information about specific items (identified by a serial number) that are located at the customer site and may need services.
- Besides the basic information on the serial number, customer and item, the card also includes an address, history for the item (including service calls, contracts, sales data, and transactions) and any attachments.
- Equipment cards can be created automatically or manually:
- An A/R invoice or delivery can trigger the creation of a equipment card for a serialized item once appropriate settings have been made on the item master. We discuss these settings later in this course topic.
- Or you can create a equipment card manually. This is useful if you provide services for items you do not sell yourself.
- From inside an equipment card you can view related service calls or even create a new service call.

## Service Contracts and Warranties

- When a product is sold, a warranty may be offered to cover service during a specified time.
- Additionally, a company may offer extended warranties or service contracts for an additional price.
- In SAP Business One, you may set up a contract template for commonly offered services or warranties.
- Then when the product is sold, a contract can be created automatically or manually based on one of the templates.



When a product is sold, a warranty may be offered to cover service during a specified time. Additionally, a company may offer extended warranties or service contracts for an additional price.

In SAP Business One, you may set up a template for commonly offered services or warranties. Then when the product is sold, a contract can be created automatically or manually based on one of the templates.

## Three types of contracts and templates

### **Serial Number**

For services on items with serial numbers for which a equipment card exists

### **Customer**

For providing services to special customers  
Not related to specific items

### **Item Group**

For services offered to a customer but limited to certain item groups



- Service contracts focus on services for one of the following options (contract types):
  - Services on items with serial numbers for which a equipment card exists: Commonly, a service contract that provides services for a customer based on a on an item's warranty .
  - Services for special customers: You might have agreed with a customer to provide services that are not related to any item.
  - Services offered for certain item groups: These contracts are valid for certain item groups only.
- For all three contracts types, you can create contract templates that contain default values.
- You can enter a contract template for items with serial numbers into the item master record. When you create an A/R invoice or a delivery for that item, the system automatically creates not only a equipment card but also a service contract of the *Warranty* service type .
- If you want to create a service contract with the *Regular* service type you must create it manually. However, you can also create your contract based on a template of any of the three contract types by entering the contract template name into the *Template* field.

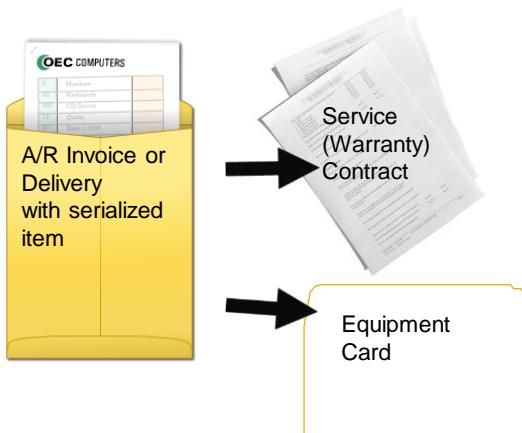
## Contract Details - Service Level Agreement

- **Service Level Agreement Details**
- **General tab**
  - Response Time
  - Resolution Time
- **Coverage tab**
  - Available hours for service
  - Type of services covered:
    - parts
    - labor
    - travel



- On the General tab of a service contract, you specify the service level agreement for the customer. You specify both the allowed response time and the resolution time required by the contract.
- On the Coverage tab, the service availability times are listed by day and hours. You can set time periods for each day, including 24 hours. You can also state whether holidays are included.
- You can also list what types of services are covered, such as Parts, Labor, and/or Travel costs.
- All these fields can default in automatically from a contract template.
- Additionally, you can specify specific items that are covered by the contract.

## Automatic creation of contract and equipment card



### On General Settings, Inventory tab:

- Set serial numbers to be unique for the company.
- Select checkbox for *Auto Create Equipment Card*

### On the Item Master Record:

- Set the item to be managed by serial numbers
- Assign a contract template (of the serial number type) in the Warranty template field

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To set up automatic creation, you need to make some general settings at the company level as well as settings on the item master.

First make two company-wide settings on the Inventory tab in General Settings.

Set serial numbers to be unique for the company. In the field *Unique Serial Numbers by*, choose Serial Numbers.

Then select the checkbox for automatic creation of equipment cards.

Once those two settings are made, any item that is set to be managed by serial numbers will generate a equipment card when an A/R invoice or delivery with that item is posted.

To create the a contract at the same time, you must also assign a contract template in the Warranty template field in the item master. Note that the contract template must be of the serial number type.

## Link one equipment card to multiple business partners



- You can **manually** add multiple business partners to one equipment card.
  - Business example – your company buys a product from a **vendor** and sells it to a **customer**. You want to keep all the information of this product in the same equipment card.

- When creating an *A/R invoice* or a *Delivery* for a business partner with a serial number already existing in an unterminated equipment card, this business partner can be **automatically** added to the equipment card.
  - Business example – the customer returns a product, the company sells it again to another customer. They want to keep all the information on the same equipment card.

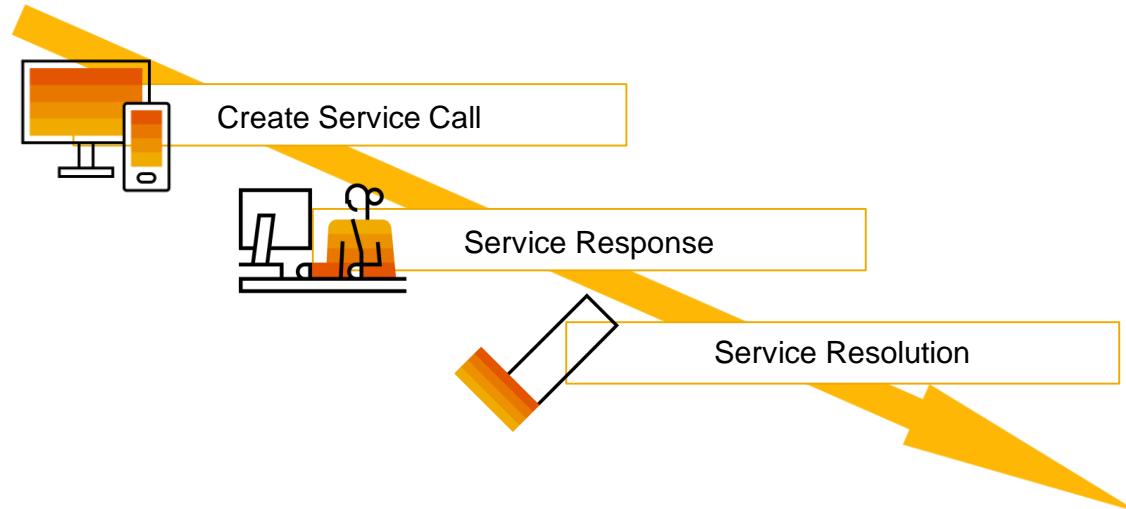
In order to manually link one equipment card to a vendor and a customer, in *Document Settings* -->*Per Document* tab --> *Equipment Card*, select the option: *Add Multiple Business Partners to an Equipment Card*.

This definition can be useful when your company buys a product from a **vendor** and sells it to a **customer**. You want to keep all the information (that is, master data, related transactions, service calls and contracts) of this product in the same equipment card.

The other option is: *Automatically Add Business Partners from New Documents to Existing Equipment Cards*.

This will be used in cases of creating an *A/R invoice* or a *Delivery* for a business partner with a serial number already existing in an unterminated equipment card. The business partner will be automatically added to the equipment card. For example, if your company sold a product to a customer who then returns it. The company can sell the item with the same serial number again to another customer that will be added to the same equipment card.

## Service Process



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Now let's look at the process for responding to customer issues. We've broken it down into three general stages: creating the service call, responding to the customer issue and resolving the problem.

## Service Call



### Create Service Call

- You create a service call when a customer contacts you with a service-related issue.
- The system searches for any contract with the customer.
- The service call is assigned to an employee to respond to the customer issue.

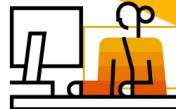
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- You create a service call when a customer contacts you with a service-related issue.
- The system searches for any contract with the customer.
- The service call is assigned to an employee to respond to the customer issue.

## Service Response

- The assigned service representative reviews information in the service call and any history in the equipment record.
- Then diagnoses the problem and offers solutions.



### Service Response

- All actions are documented and recorded in the history tab.
- If the issue cannot be resolved by the initial representative, the service call can be assigned to a technician.

- The assigned service representative reviews information in the service call and any history in the equipment record.
- Then diagnoses the problem and offers solutions.
- All actions are documented and recorded in the history tab.
- If the issue cannot be resolved by the initial representative, the service call can be assigned to a technician.

## Service Process

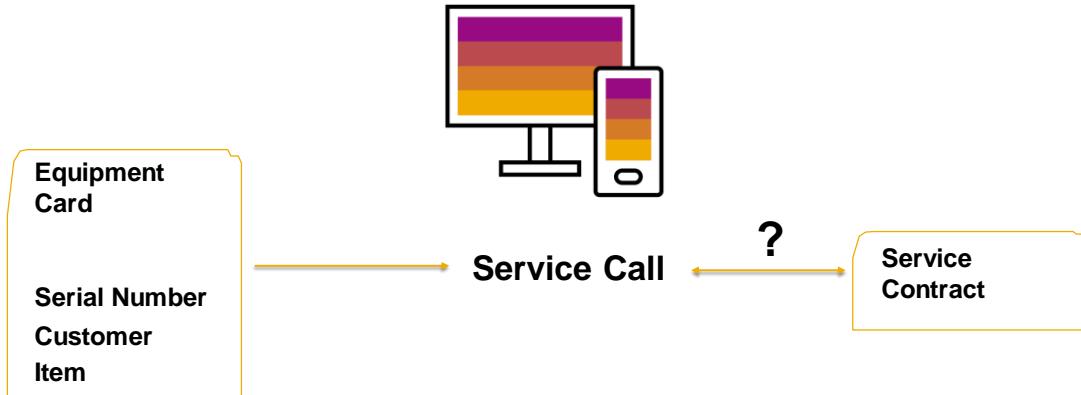
- Technician activities can be created and managed inside the service call document.
  - Any service expenses can be recorded and tracked in the call.
- 
- When the issue is resolved:
    - close the service call
    - follow up with any service invoicing as appropriate.
- 
- The diagram features a large yellow arrow pointing from the left towards the right. Inside the arrow, near the end, is a rectangular box containing the text "Service Resolution". To the left of the arrow, there is a smaller orange and yellow checkmark icon.

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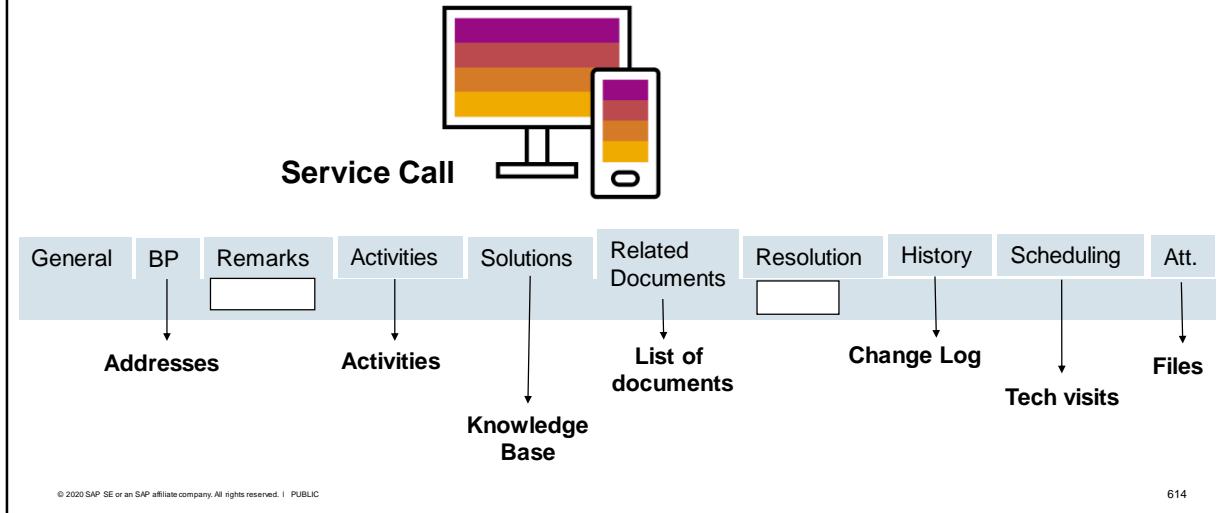
- Technician activities can be created and managed inside the service call document.
- Any service expenses can be recorded and tracked in the call.
- When the issue is resolved: close the service call and follow up with any service invoicing as appropriate.

## Service Calls



- Open a service call from the *Service* menu to record and track an incoming customer complaint or problem.
- Service calls allow you to manage the service process followed for a particular customer issue. From the service call, you can manage activities, document actions, manage repairs and expenses, create invoices or goods movements for service parts, search for solutions, and keep track of the service call history.
- Often a customer has a valid service contract or the item is covered by warranty. If there are no valid service contracts for the customer or if the call comes in outside coverage time, the system issues a warning.
- When a call comes in, the customer service representative asks if the service is for a particular item. At that point, the representative can choose the equipment card representing this piece of equipment.
- A equipment card is not mandatory. Items can also be covered by a service contract of the *Customer* contract type.
- You can only refer to a equipment card if its *Status* is Active or Loaned. When you try to refer to a equipment card with the status *Returned*, *Terminated*, or *In Lab*, an error message displays.

## Service Call: Contents



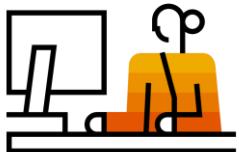
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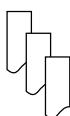
- The header and the tabs in the service call allow you to organize the information about the issue, steps taken to resolve the issue, related objects used during the service process, and the solution found.
- The header of the service call contains basic information about the call: the customer, the contact person, contact information, the subject of the call, a related service contract and any serial numbers for the object of the call.
- Fields on the *General* tab allow you to further characterize the problem or the service call (*Origin*, *Problem Type*, *Call type*). This tab also contains information about who will be handling the service issues.
- The *Business Partner* tab contains ship to and bill to addresses for the customer as well as contact information.
- You can use the *Remarks* tab to describe the problem in detail.
- You record all steps concerning the analysis and the solution as activities. These steps are listed on the *Activities* tab.
- On the *Solutions* tab you can use the knowledge base to search for solutions for your problem.
- The system displays all documents related to this service call on the *Related Documents* tab. From this tab, you can also generate service invoices and inventory movement transactions.
- On the *Resolution* tab you can enter how you solved the problem or how you otherwise helped the customer.
- The *History* tab displays a simplified change log of the service call. You can get a detailed view on all the instances by choosing *Change Log* in the *Tools* menu.
- You set up technician visits on the *Scheduling* tab. Depending on the configuration setting you choose, you can have the tab show scheduling for one or multiple technician visits.
- If you have technical diagrams or customer correspondence you need to capture in the service call, you can add the files to the *Attachments* tab for technician or service rep information.

## Service Call: Queues

**Call Center Representative records customer problem**



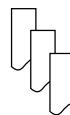
**Queue A**



**Checks Queue**



**Queue B**



**Picks Call**

**Member of Queue A**

- A service call is automatically assigned to the user who has entered it. The assignee field represents the person who is responsible for the calls resolution before the *Resolution by* date and time. This date and time is calculated automatically based on the *Resolution Time* in the service contract. If the assignee is not able to solve the problem he can forward it to a colleague by just selecting his name in the *Assignee* field.
- If there is a group of colleagues who are experts in solving special problems, you can set this group up as a queue. Queues are defined in the setup menu for service. You can enter the members of the queue by double-clicking the queue definition.
- A call center representative can record the customer's problem in a service call and then forward it to a queue by selecting the *Queue* option and entering the queue name into the *Queue* field on the *General* tab.
- The members of the queue regularly check the queue by using the menu path *Service → Service Reports → Service Calls by Queue*. A member of the queue can assign any of the service calls to himself and work on it. Every user can see all service calls that are assigned to him in the service reports called *My Service Calls* or *My Open Service Calls* or *My Overdue Service Calls*.
- Additionally, you can assign a technician to the service call. To be able to do this, create employee master records for your technicians and assign the role *Technician* on the *Membership* tab of the employee master record.

## Service Response

### Response Time profiles

Monday-Friday

8 a.m. to 5 p.m.

8 hours

4 hours

2 hours

Monday-Friday

7 a.m. to 7 p.m.

8 hours

4 hours

2 hours

### Notification Received

8 a.m. 1 p.m. 6 p.m.

8 a.m. 1 p.m. 6 p.m.

Monday

Tuesday

Service Contracts specify:

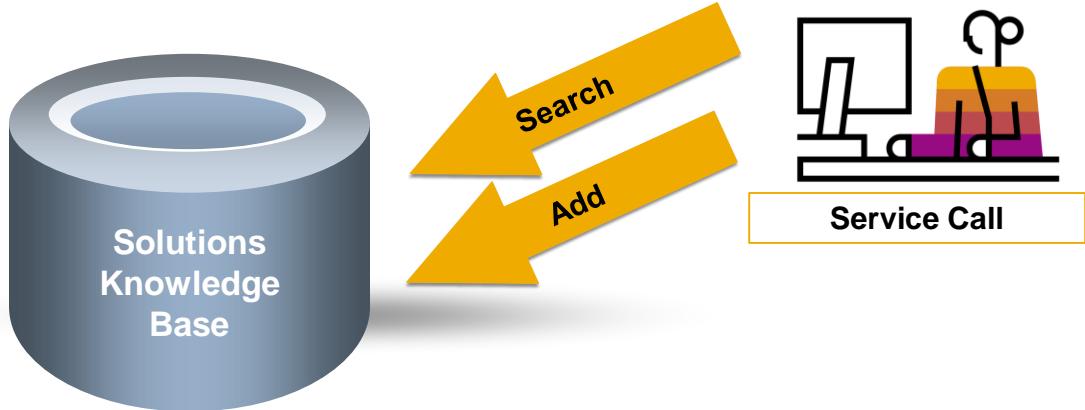
- Hours of Coverage
- Response Time in hours
- Resolution Time in hours

If the hours of coverage are limited for example 8-5, deadlines will be further out than if the hours of coverage are 7-7 or 24 hours a day.

An 8 hour response time for a service call taken at 1 pm will be as late as noon when coverage is only 8 a.m. to 5 p.m.

- The deadlines for service response are copied from the service contract details into the service call.
- The contract's *Coverage* tab contains a profile for when services are available to the customer, such as Monday-Friday 8-5 or 24/7 coverage.
- The contract also specifies how quickly the service department must respond to and resolve the service request in number of hours or days. This information is set up on the *General* tab.
- It is the combination of these two requirements that calculates the hour by which the service team must respond.

## Service Response: Solutions Knowledge Base



- The *Solutions Knowledge Base* is a collection of solutions for known problems.
- You can create and update common solutions to customer's problems and questions.
- The Solutions Knowledge Base displays all the solutions that were ever recorded in SAP Business One.
- You can search for existing solutions and link an existing solution to a service call. A service call can have more than one solution.
- If you found a new solution for a problem, you can add it to the knowledge base directly from the *Service Call* screen. Therefore, the next time a similar problem occurs, the technicians are aware of possible solutions and can more quickly resolve customer issues.
- Solutions have statuses, such as *Internal*, *Publish*, and *Review*. New statuses can be defined. Status can define how a solution should be used. Authorizations control who can modify the solution status.
- To maintain the knowledge base, choose *Service* → *Solutions Knowledge Base*.
- Additionally you can use the data transfer workbench (DTW) when uploading a large number of solutions in the knowledge base.

## Scheduling technician visits

Two GUI options

The screenshot shows two different ways to schedule technician visits in SAP:

**Option 1:** A single visit entry in a grid. The grid has columns for General, Business Partner, Remarks, Activities, Solutions, Related Documents, Resolution, History, Scheduling, and Attachments. The "Scheduling" tab is active. The visit details are as follows:

Start Time	29.04	14:00
End Time	29.04	16:00
Duration	2 Hours	
<input type="checkbox"/> Reminder	15 Minutes	
<input type="checkbox"/> Display in Calendar		

**Meeting Location:** [Field]

Street: [Field]  
City: [Field]  
Room: [Field]  
State: [Field]  
Country: [Field]

**Option 2:** A grid for multiple visits. The grid has columns for #, Technician, Start Date, Start Time, End Date, End Time, Duration, Duration Type, Actual Duration, Actual Duration Type, Location, Address, Address Description, Reminder, Display In Calendar, Remarks, and Address T... . The first row of data is visible:

#	Technician	Start Date	Start Time	End Date	End Time	Duration	Duration Type	Actual Duration	Actual Duration Type	Location	Address	Address Description	Reminder	Display In Calendar	Remarks	Address T...
1	[Technician]	[Start Date]	[Start Time]	[End Date]	[End Time]	[Duration]	[Duration Type]	[Actual Duration]	[Actual Duration Type]	[Location]	[Address]	[Address Description]	[Reminder]	[Display In Calendar]	[Remarks]	[Address T...]

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The default user interface for the *Scheduling* tab, allows you to enter one technician visit for the service call.

You have the option to change the user interface on the tab into a grid that allows scheduling multiple technician visits for the service call document. This setting is made in the *Document Settings* by selecting the *Enable Multiple Scheduling for Service Calls* checkbox on the *Per Document tab – Service Call*.

When you make this setting, the *Scheduling* tab contains a grid where you can enter multiple visits of multiple technicians to multiple locations.

This is an irreversible setting so once it is made, you cannot go back to the original tab user interface.

## Service Resolution



### Service Resolution

- Customer is satisfied with the solution to the issue.
- Enter text on the *Resolution* tab of the Service Call.
- Mark the service call as Closed.

- The service resolution time and date is calculated according to the resolution time and coverage of the service contract.
- Two fields for service resolution are found on the *General* tab of the Service call.
- *By*: The last date and hour you are committed to provide a resolution for the service call. This date is calculated according to the *Resolution Time* field and coverage of the service contract (from the *Coverage* tab in *Service Service Contract* ).
- *On*: The date and time of the resolution provided for the service call. SAP Business One considers it a resolution when you add a resolution or a solution
- When a service call is resolved, you enter text on the *Resolution* tab.
- Then mark the service order as closed. You cannot set a service call to *Closed* if you have not attached a solution or entered a resolution. The time and date when the service call status was set to *Closed* are captured in *Closed on* field. If you reopen a service call, this date and time will be deleted.
- Note: Deleting solutions from the *Solution* tab or the text from the *Resolution* tab clears the *Resolution On* field. The *Response On* field remains because you are still responding to the service call which is no longer resolved.

## Service Resolution: Related Documents

- Related expenses from marketing documents appear on the *Related Documents* tab.
- If you select the *Display All Documents* indicator, the system also displays stock transfers

The screenshot shows a SAP Fiori application window titled "Service Resolution: Related Documents". At the top, there is a navigation bar with tabs: General, Business Partner, Remarks, Activities, Solutions, Related Documents (which is the active tab), Resolution, History, Scheduling, and Attachments. Below the tabs is a table with the following data:

#	Document Type	Document No.	Date	Item No.	Item Description	Quantity	From Whse	To Whse
1	A/R Invoice	1315	29.04.	LB0001	Daily Service Labour Charge	1.000	01	
2				TR0001	Travel Expense per 100 miles	2.000	01	
3	Delivery	1353	29.04.	C00007	Hard Disk Seagate 400 GB	1.000	01	

At the bottom of the table area, there is a checkbox labeled "Display All Documents" which is checked. To the right of the checkbox is a "Details" button. Below the table are two buttons: "OK" and "Cancel".

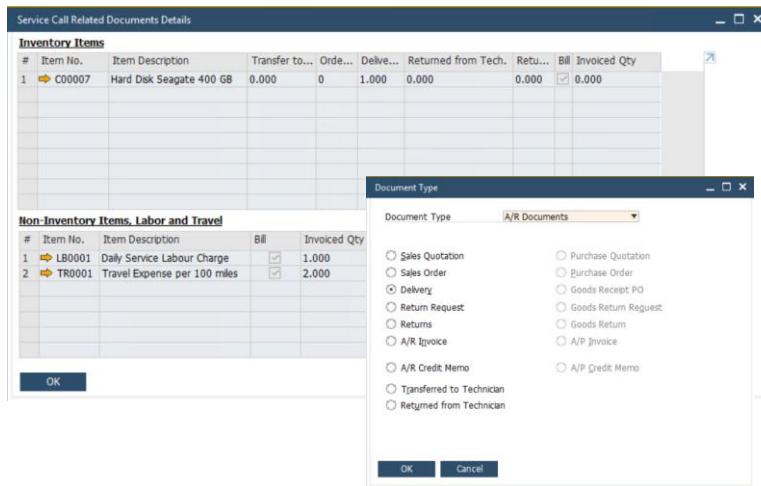
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- During a service call, a technician may have travel, labor or material expenses that need to be tracked.
- The system displays all related expenses regarding a service call on the *Related Documents* tab.
- This tab displays all marketing documents that you created concerning the handling of this service call.
- If you select the *Display All Documents* indicator, the system also displays stock transfers (transfers to the technician and returns from the technician).

## Service Resolution: Related Documents Details

- On the Related Documents tab, you can choose *Details* to get a detailed view or to enter new expenses.
- The *Service Call Related Documents Details* window displays document rows grouped by items of the type *Items* and items that belong to the types *Labor* or *Travel*.
- If you choose *New Document*, you can create A/R, A/P and inventory documents.



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- From the *Related Documents* tab, you can choose *Details* to get a detailed view or to enter new expenses.
- The *Service Call Related Documents Details* window displays the documents' rows grouped by items that belong to the type *Inventory Items* and items that belong to the types *Non-Inventory Items, Labor and Travel*.
- If you choose *New Document*, you can create A/R, A/P and inventory documents. In service calls for customers, the default options are: sales quotations, sales orders, deliveries, returns, A/R invoices, A/R credit memos, transfers to technicians (for items posted as stock transfers), and returns from technicians (for items posted as stock transfers).
- You can also link existing documents to the service call. Follow the procedure for adding a new document. When the blank document opens, switch to *Find* mode and enter the business partner to search for existing documents. Choose the related document from the list. When you press *OK* on the selected document, you will go back to the *Service Call Related Documents Details* window. Then choose *Update* to finish linking the document to the service call.

## Reporting throughout the Service Process

### Service Calls Reports

Analysis of Service Calls by Employee

Information on open and closed service calls

### Service Calls by Queue

View Response Times by Queue

Use this report when assigning service calls by queue

### Response Time by Assigned to Report

View Response Times by Employees

Use when assigning service calls directly to employees

### Average Closure Time

Details on average time to call closure

Check the efficiency of the service department

### Service Monitor

Open or overdue service calls

Provides two dynamic views in graphical form

### My Service Calls

User-specific report

Easy for a service employee to quickly see all assigned calls and determine priority for action.

There are a number of useful service reports. Choose *Service → Service Reports*

In addition to the reports listed on the slide there are a few more worth mentioning:

- Employees can monitor their own assigned service calls with three main reports, one which is listed on the slide above, My Service Calls, My Open Service Calls and My Overdue Service Calls.
- Service Contract status can be viewed in the Service Contract Report. This provides concise information on all existing service contracts and their statuses.
- The Equipment Card Report provides information on specific items purchased by or assigned to each customer.

## Settings for Service

### Configuration Settings for Service

- Automatic Creation of Equipment Cards
- Unique Serial Numbers
- Contract Templates
- Service Call Queues
- Service Territories
- Enable Multiple Scheduling (Irreversible Setting)



### Set up for Service in Master Data

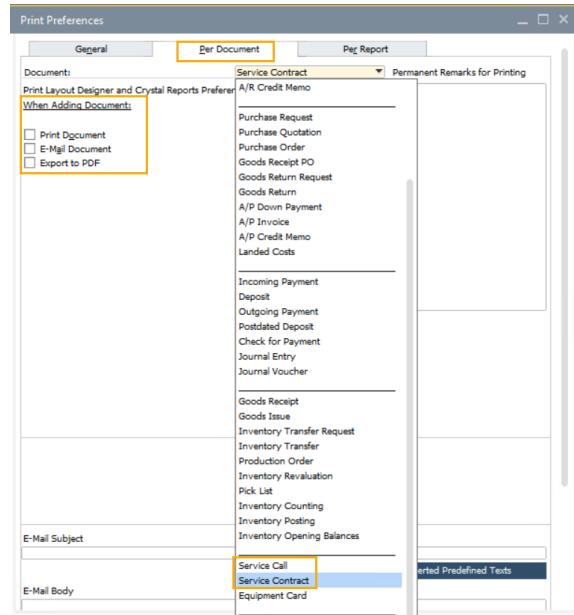
- Automatic Contract Creation for specific serialized items
- Linking Territories and Technicians to Service Customers

- There are several configuration settings used to set defaults for service.
- In the menu path *Administration* → *System Initialization* → *General Settings* → *Inventory tab*, you can enable automatic creation of equipment cards. First, you must set up unique serial numbers for the system. Serial numbers can be set to be unique using either the serial number itself or a manufacturer's serial number; however you must choose between these two options here in the General Settings. Then select the checkbox to activate the automatic creation of equipment cards.
- In the menu path: *Administration* → *Setup* → *Service*, you can set up:
  - Templates for contracts. Later you can assign these contract templates to an item master in the field warranty template. This will allow the system to create a service contract automatically when the item is delivered to the customer.
  - Service Call Queues.
- In *Document Settings*, on the *Per Document* tab – *Service Call*, you can enable multiple scheduling for service calls. This converts the *Scheduling* tab to a grid that allows scheduling multiple technicians for multiple visits. This setting is irreversible once it is made.
- In *Document Settings*, on the *Per Document* tab – *Equipment Card*, you can enable adding multiple business partners to one equipment card.
- Activating automatic equipment card creation and automatic service contract creation for a particular item is done in the item master record.
- You can assign a particular technician and service territory to a customer inside the business partner master for that customer in the *General* tab.
- An employee can be designated a technician in the employee master data record. Specify the role in the *Membership* tab of the employee master record.
- Territories are defined in the *Territories* transaction under the *General Setup* menu in the *Administration* module.

## Set Print Preferences for Service Calls and Service Contracts

Select your options when adding a Service Call and Service Contract:

- Print Document
- E-Mail Document
- Export to PDF



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In the Print Preferences --> Per Document --> Service call/ Service Contract, select your options for automatic actions after adding the document:

Print Document

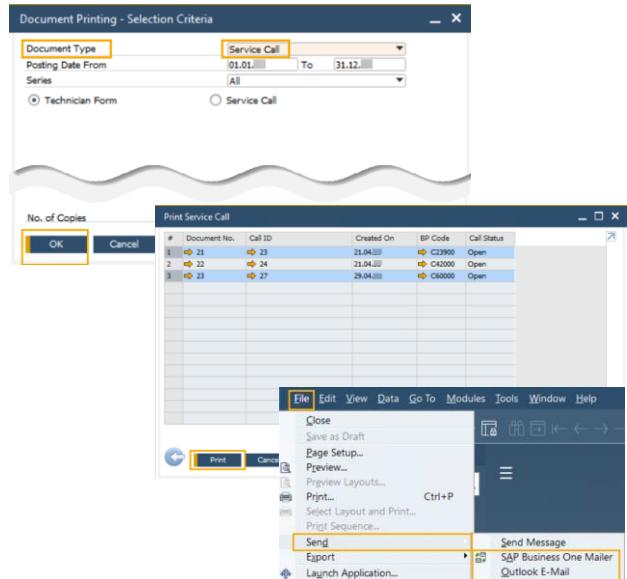
E-Mail Document, and

Export to PDF

## Service Call and Service Contract Multiple Document Printing

You have the option to:

- Print multiple service calls and service contracts
- Email multiple service calls and service contracts via SAP Business One Mailer or Outlook E-Mail



In the *Document Printing* window, you have the option to:

Print multiple service calls and service contract, and

Email multiple service calls and contracts via SAP Business One Mailer or Outlook E-Mail.

## Summary



Here are some key points:

- A service call needs to be opened when a customer has a service issue.
- A customer equipment tracks a serialized item sold to a customer. Equipment cards can be created automatically or manually.
- Service contracts are based on contract templates. Contract templates can be associated with an item master record to set up automatic contract creation.
- When a equipment card is created automatically, a service contract can be automatically assigned.
- Contract settings for response time, resolution time and hours of coverage are used to determine the deadlines for service response by a technician and resolution of the problem in a service call.
- There are multiple settings and options available to define print preferences for Service Calls and Service Contracts

- A service call needs to be opened when a customer has a service issue.
- A customer equipment tracks a serialized item sold to a customer. Equipment cards can be created automatically or manually.
- Service contracts are based on contract templates.
- Contract templates can be associated with an item master record to set up automatic contract creation.
- When a equipment card is created automatically, a service contract can be automatically assigned.
- Contract settings for response time, resolution time and hours of coverage are used to determine the deadlines for service response by a technician and resolution of the problem in a service call.

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