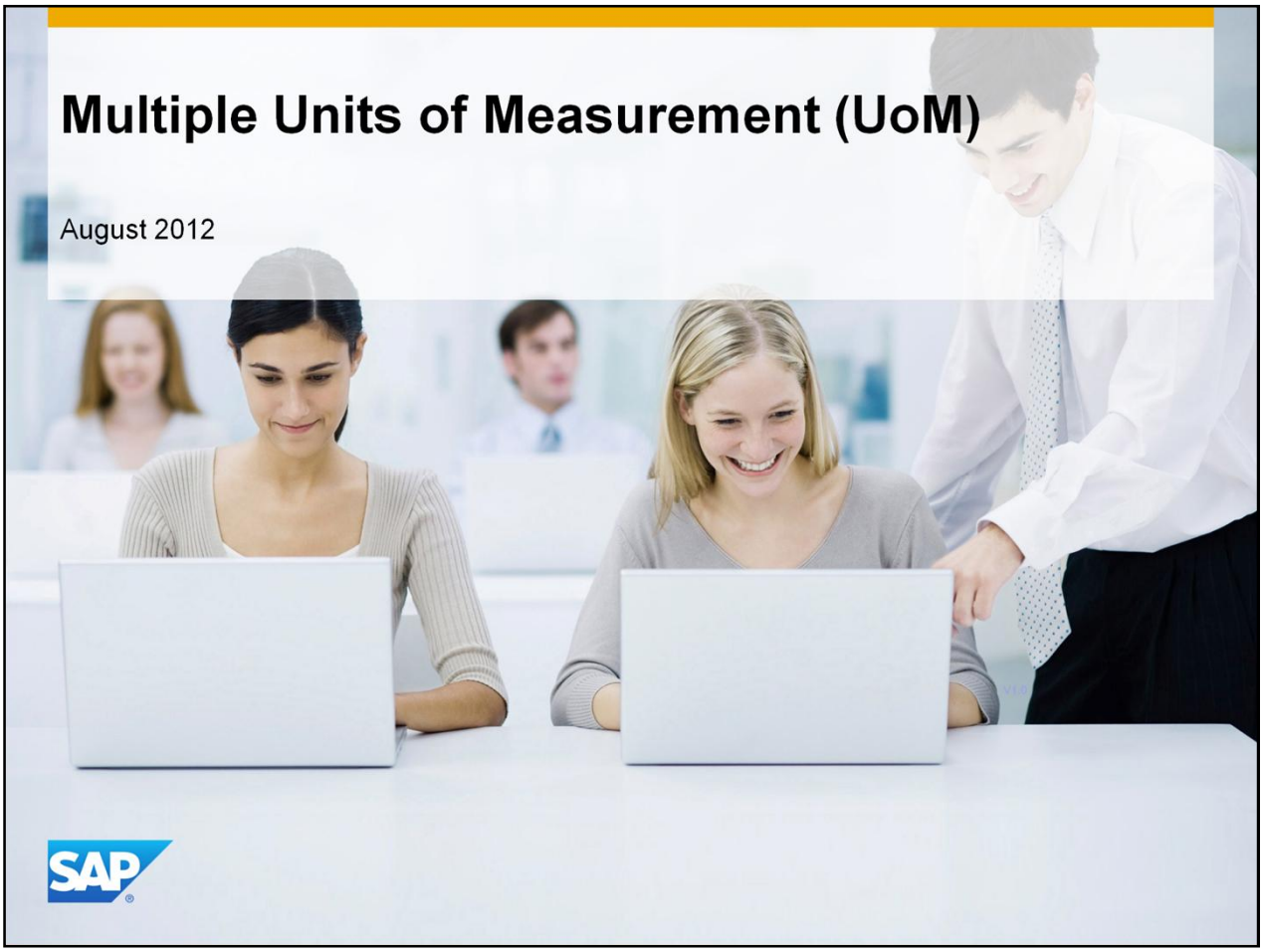
Multiple Units of Measurement (UoM)

August 2012



Objectives

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

- Outline the principles of the Multiple UoM solution and its advantages.
- Define the basic Multiple UoM definitions.
- Describe how Multiple UoM are used across different modules in SAP Business One

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Business Example

OEC computers sells equipment and office supplies to retailers in the London area.

Kathryn is the purchasing coordinator at OEC Computers.
She enters purchase orders and sends them to the suppliers.

David is Kathryn's assistant. He enters all Items into the system.
David also sets up all basic Inventory settings like: dimensions and UoM data.

Dan is the sales manager at OEC Computers who enters sales orders.

George is the warehouse manager.
George issues deliveries and packing slips.

OEC computers buys and sells items in different units of measurements.

Kathryn looks for a solution that allows managing sales and purchasing units for the same item.

You introduce them to the new Multiple UoM solution.

 RKT 3

- OEC computers sells equipment and office supplies to retails in the London area.
- Kathryn is the purchasing coordinator at OEC Computers.
  She enters purchase orders and sends them to the suppliers.
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- George is the warehouse manager.
  George issues deliveries and packing slips.
- OEC Computers buys and sells items in different units of measurement.
- Kathryn looks for a solution that allows managing sales and purchasing units for the same item.
- You introduce them to the new UoM solution.

Business Example

Item - printer paper A4

UoM	Quantity in Packs units	Dimensions	Weight	Sales/ Purchasing UoM
Pack	1 (Base)	30X21X4 cm	2.5 kg	Sales
Small Pack	0.5	30X21X2 cm	1.25 kg	Sales
6-Pack	6	30X21X24 cm	15 kg	Sales
Carton	24	42X60X24 cm	60 kg	Sales and Purchasing
Pallet	48	84X60X24 cm	120 kg	Purchasing

 RKT 4

- OEC Computers purchases and sells printer paper.
- The company purchases printer paper in **Carton** and **Pallet** units.
- The company also sells paper in **Pack**, **Small Pack**, **6-Pack** and **Carton** units.
- The **Carton** unit is used as both a sales and a purchasing unit.
- Each unit has its own volume, height and weight.
- The **Pack** unit is the base unit and the quantity of all other units are measured by this base unit.
- We can see that the **6-Pack** UoM equals 6 units of the **Pack** UoM.
- The **Small Pack** equals half a **Pack**.
- David added one Item called : **printer Paper A4** in the Item Master Data.
- Prior to the 9.0 version, we could define only one UoM for sales or purchasing.
- Starting at 9.0, David can add one item with multiple UoMs.
- Now, Kathryn can easily enter different purchase orders for the printer paper and each time choose a different UoM.
- OEC Computers manages inventory by pack units.

Agenda

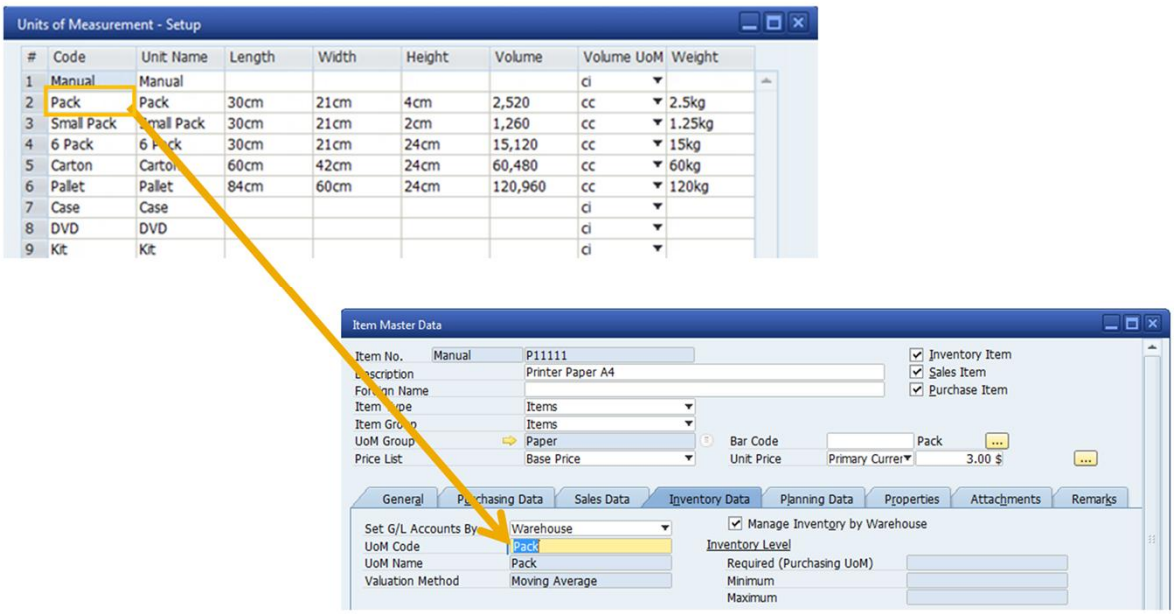
Solution Overview
Solution Benefits

- Flexibility to sell and purchase in any unit of measurement required.
- Supports unlimited global and product-specific UoMs.
- Default UoM can be automatically converted to alternative UoM during the sales and purchasing process.
- Define different packaging types for units of measurement and automatically create packing slips.
- Supports different barcode standards for each UoM, for each item.
- Allows inventory-taking process for each UoM.
- Allows different pricing for each UoM

 RKT 6

- In this slide we go over the benefits of the new Multiple UoM solution.
- The Multiple UoM allows you to define several purchasing and sales units of measurement for each item
- Prior to the 9.0 version, if an item had different units of measurement, you had to change the *items per unit* quantity in the document.
- In the 9.0 version, the multiple sales and purchasing units can be used automatically in the sales and purchasing documents.
- This may also lead to managing fewer items in companies that manage items for each UoM.
- In trade, units of measurement are often a subject of governmental regulation, to ensure fairness and transparency.
- This solution makes it possible to comply with these regulations.
- The UoM codes can be grouped together as a set.
- For each group there is a conversion rule that enables automatic translation of the sales and purchase quantities to the inventory quantities in documents and reports.
- This solution allows the creation of different packaging types for each UoM and automatically create packing slips.
- It also allows the definition of barcodes by UoM.
- In addition, the inventory-taking processes can be done by UoM.
- Finally a very important benefit is the ability to manage pricing by UoM.

Solution Overview
UoM Codes

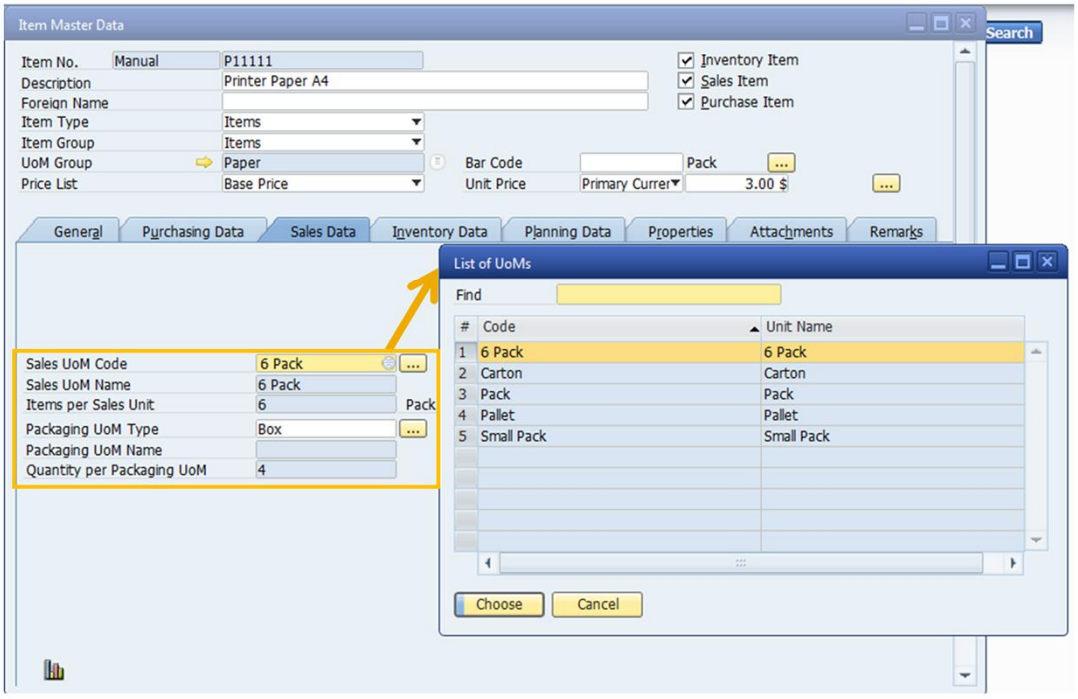


 RKT 7

- In the 9.0 version we can define a list of Units of measurement codes.
- For each code we can define its measurements: Length, width, height, volume and weight
- These codes can be related later to one or more items.

Solution Overview

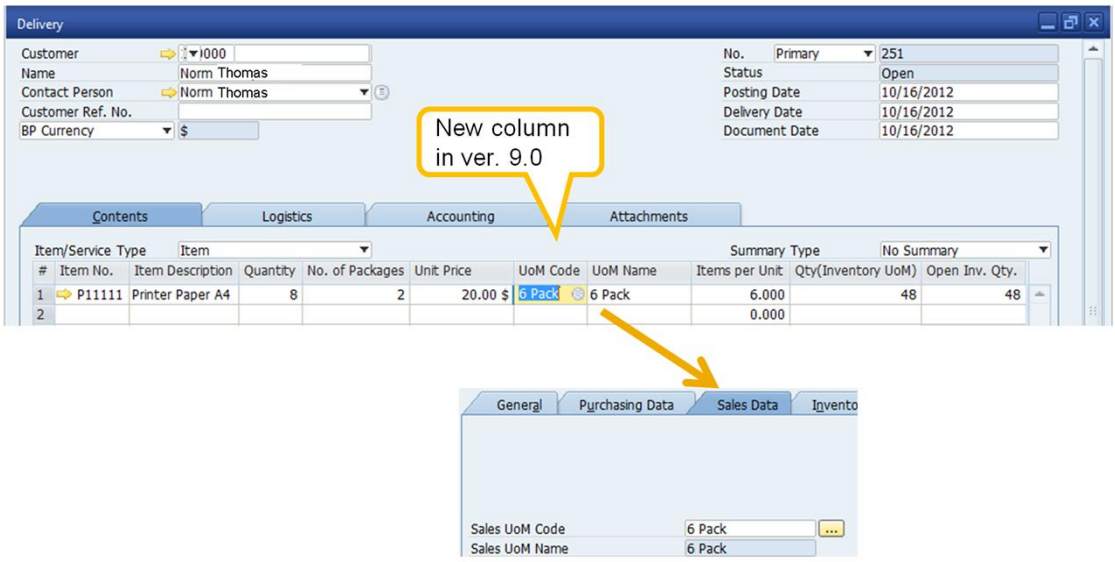
New UoM Fields in the Item Master Data



 RKT 8

- New fields were added to the item master data in which we choose the relevant default code in Sales/ Purchasing Data tabs.
- These definitions allow working easily, with different Sales and Purchasing UoM for the same item.

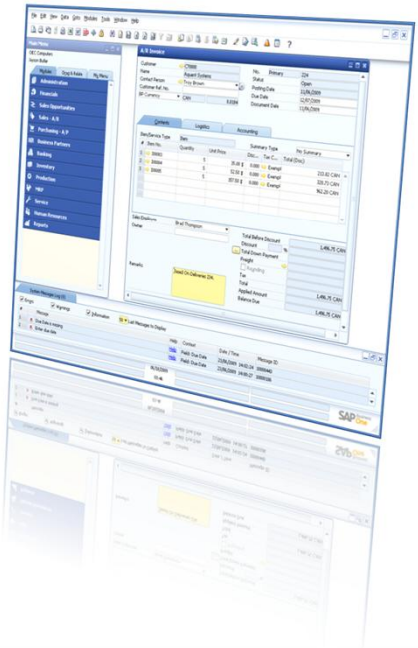
Solution Overview
Using UoM Codes in Marketing Documents

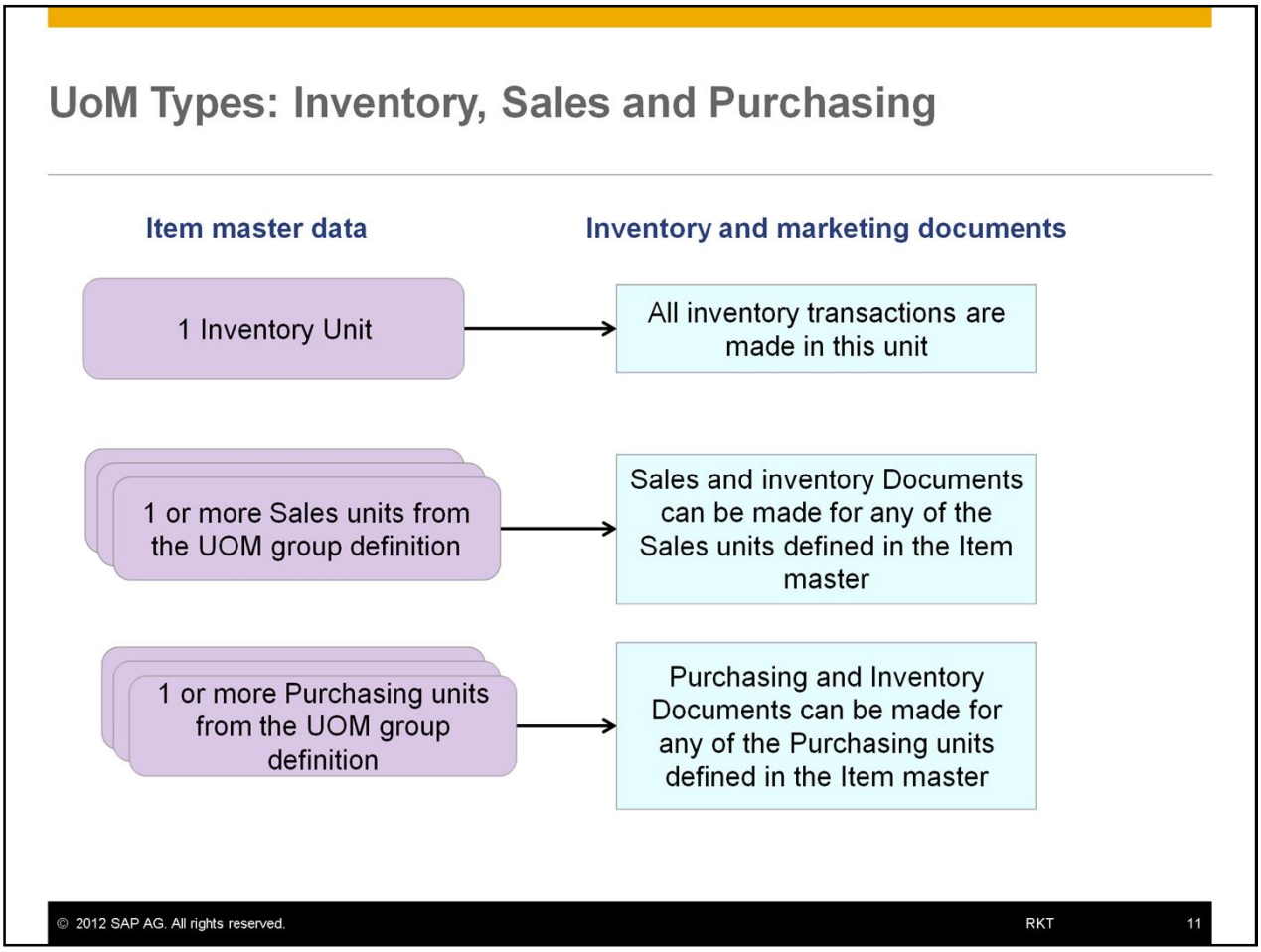


 RKT 9

These codes can be the default sales or purchasing codes in marketing documents.

Demo: Solution Overview





- Before we proceed to the setup unit, it is important to understand the different UoM types.
- In the *Item Master Data* we define three different types of UoM types:
  - The *Inventory UoM* code - This code is a single UoM code that all inventory transactions are made for.
    This code can not be changed once transactions were made for this item.
  - The *Sales UoM* codes – One item can have many Sales UoM codes related to it.
    Each of these codes can be used in a Sales or inventory document
  - The *Purchasing UoM* codes – One item can have many Purchasing UoM codes related to it.
    Each of these codes can be used in a Purchasing or inventory document.

Agenda

Unit 1 - Solution overview

Unit 2 - Multiple UoM setup

Unit 3 - Item Master Data UoM definition

Unit 4 - Marketing and Inventory documents

Unit 5 - Effects on other modules

 RKT 12

Unit 2 – Multiple Unit of Measurements definition

Setting up Multiple Units of Measurement

Setup → inventory

- Units of measurement
- Units of measurement group
- Length and Width
- Weight
- Package Type

General Settings → Inventory → Items

New user authorization

 RKT 13

- In this unit we will cover the following definitions:

In ***Setup → inventory***

- *Units of measurement*
- *Units of measurement group*
- *Length and Width*
- *Weight*
- *Package Type*

In ***General Settings → Inventory → Items***

- *New user authorization*

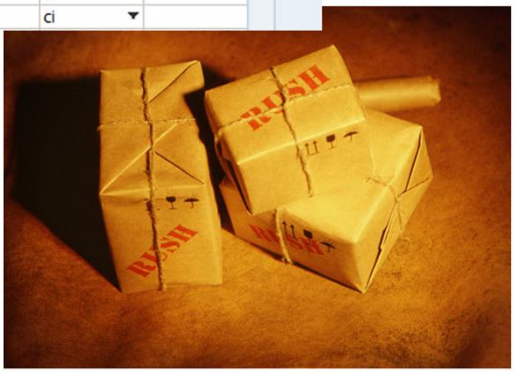
Multiple UoM Setup

Unit of Measurement Setup 1/2

Administration → Setup → Inventory → Units of Measurements

Units of Measurement - Setup

#	Code	Unit Name	Length	Width	Height	Volume	Volume UoM	Weight
1	Manual	Manual					ci	
2	Pack	Pack	30cm	21cm	4cm	2,520	cc	2.5kg
3	Small Pack	Small Pack	30cm	21cm	2cm	1,260	cc	1.25kg
4	6 Pack	6 Pack	30cm	21cm	24cm	15,120	cc	15kg
5	Carton	Carton	60cm	42cm	24cm	60,480	cc	60kg
6	Pallet	Pallet	84cm	60cm	24cm	120,960	cc	120kg
7	Case	Case					ci	
8	DVD	DVD					ci	
9	Kit	Kit					ci	
10							ci	



 RKT 14

- In order to define the units of measurement codes go to ***Administration → Setup → Inventory → Units of Measurements***.
- In this window we define a general list of all the units of measurements in the system.
- Let us use the business example we presented before.
  - David, the assistant purchasing coordinator, defined the sales and purchasing units of measurement of the printer paper.
  - Note, in this window, we define all the units of measurement used in the company.
  - The UoMs that are related to our example are highlighted in the screen shot.
- To define unit of measurements, enter *UoM Code and Name*.
- These codes will be available to choose in the *Item Master Data* as long as they are related to the UoM group of the item.

- Note!
  - You may want to view or update the system dimensions in ***Setup → Inventory → Length and width/ Weight*** before adding Units of measurements

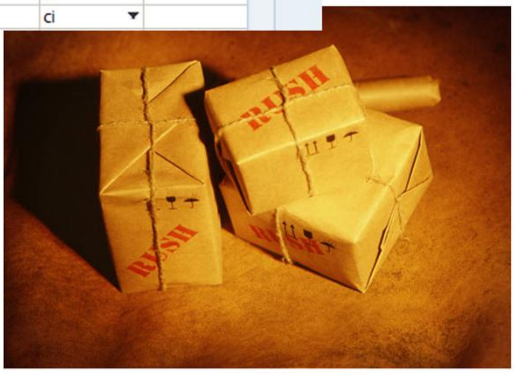
Multiple UoM Setup

Unit of Measurement Setup 2/2

Administration → Setup → Inventory → Units of Measurements

Units of Measurement - Setup

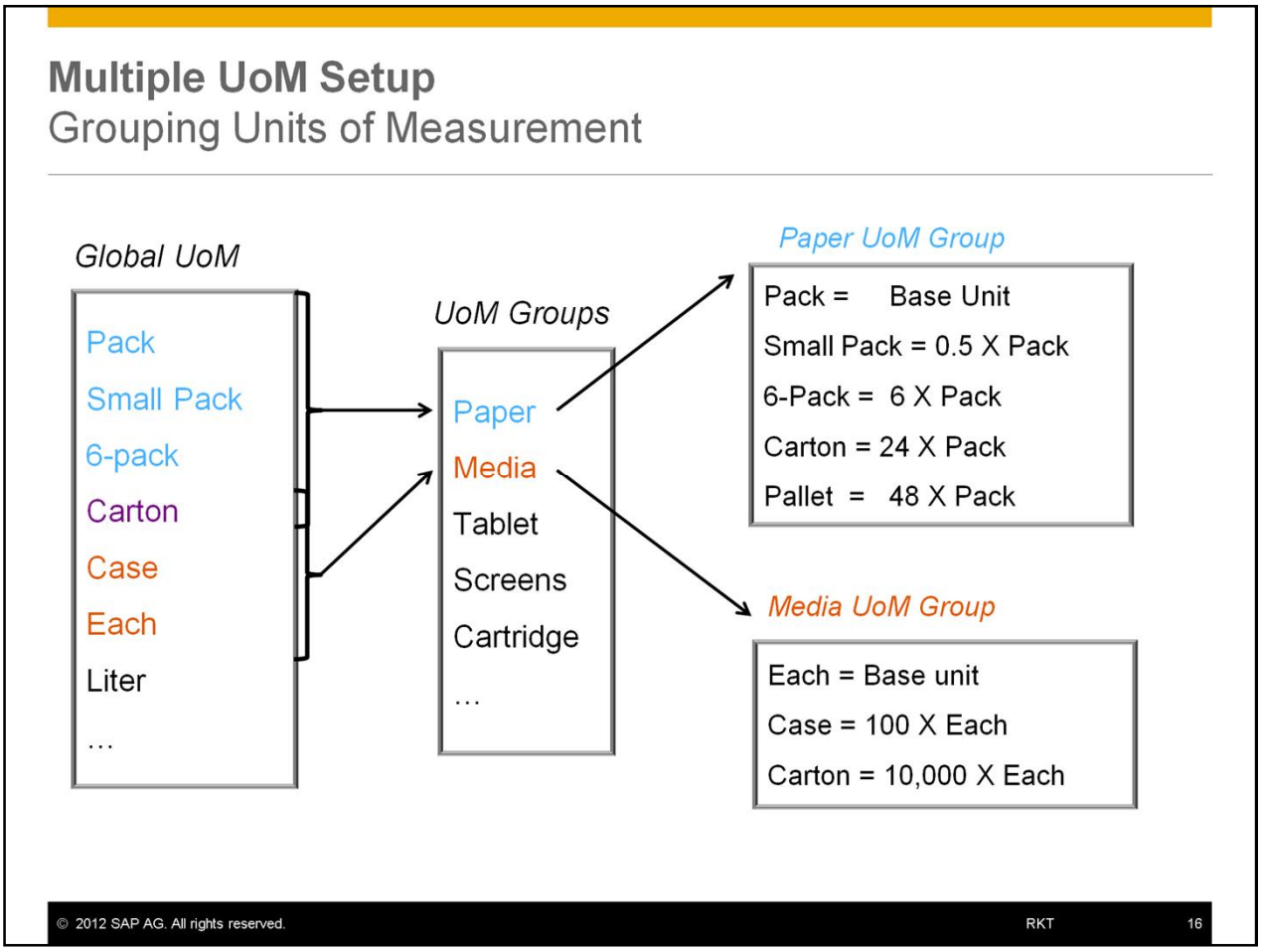
#	Code	Unit Name	Length	Width	Height	Volume	Volume UoM	Weight
1	Manual	Manual					ci	
2	Pack	Pack	30cm	21cm	4cm	2,520	cc	2.5kg
3	Small Pack	Small Pack	30cm	21cm	2cm	1,260	cc	1.25kg
4	6 Pack	6 Pack	30cm	21cm	24cm	15,120	cc	15kg
5	Carton	Carton	60cm	42cm	24cm	60,480	cc	60kg
6	Pallet	Pallet	84cm	60cm	24cm	120,960	cc	120kg
7	Case	Case					ci	
8	DVD	DVD					ci	
9	Kit	Kit					ci	
10							ci	



 RKT 15

- In the same setup window, we can also enter the volume and height dimensions for each UoM code:
  - David measured the different units and entered the *Length*, *Width* and *Height* to the *Units of Measurement Setup* window.
  - The *volume* field is calculated automatically according to the *Length*, *Width* and *Height* values.
  - David chose the volume UoM from the drop down list and entered the UoM Weight

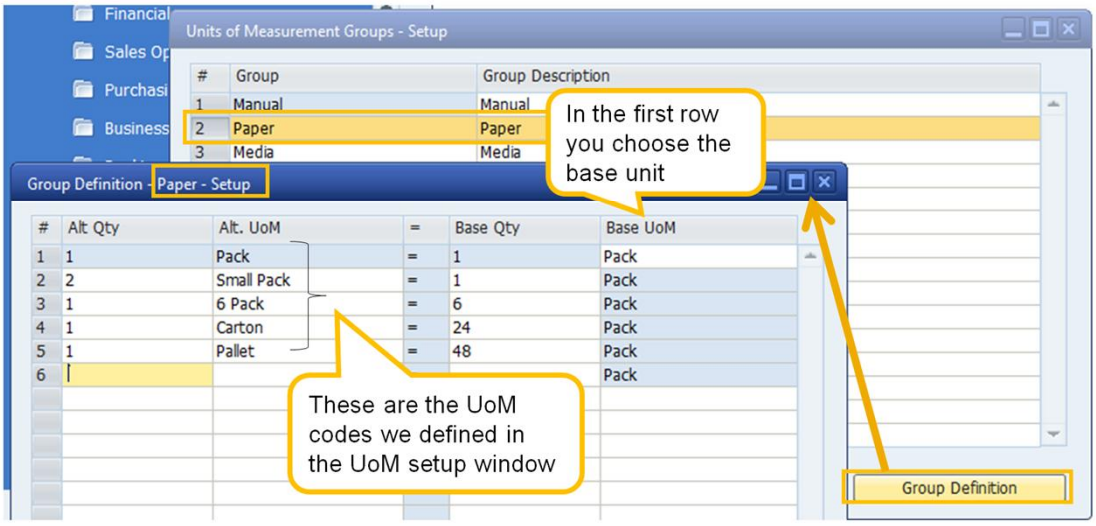
- Note!
  - The values entered in these fields will be the default values of these UoMs when we choose them in the Item Master Data.
  - These dimensions can be changed for each item.
  - For organizations that use the same UoM code for different items with different dimensions, it is recommend that these fields are left blank.



- In this illustration, we can see how global UoMs can be grouped.
- Single UoMs can be grouped together as a subset.
- Then each UoM group has definitions of the relationships between the UoMs inside the group based on conversion rules.
- The UoM codes can be used in different groups and can be related to different items.
  - This means that each UoM may have a different meaning for different items.
  - Sometimes, when using one UoM for many items, it is better not to enter the volume and weight dimensions in the Units of Measurement Setup window.
  - We can enter the dimensions manually for each Item Master data.
  - In this illustration, the Carton UoM is used in both the **Paper** group and the **Media** group.
- In OEC Computers, David creates the UoM groups, using the UoM units he created.
- David created the **Paper** group because OEC Computers sells their paper in several different types of packaging and sizes.

Multiple UoM Setup
Units of Measurement groups

Setup → Inventory → Units of Measurement Groups

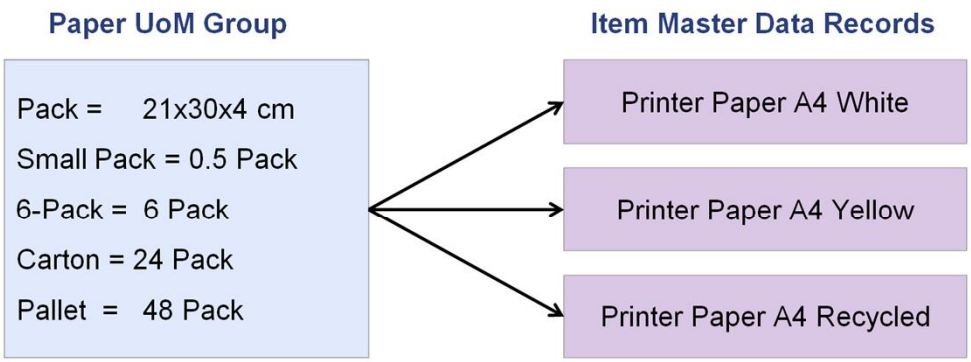


 RKT 17

- The *Units of measurement group* is a set of UoM codes that are used for specific item types.
- Each UoM group has a base UoM code. All the other codes in the same group are related to this base UoM by conversion rules.
- In OEC computers David added the **Paper** group.
- David defined the **Pack**, **Small Pack**, **6-Pack**, **Carton** and **Pallet** units of measurement.
- To open the *Group Definition* Setup window, we choose the group row and click the *Group Definition* button.
- In this window we have a row for each UoM code.
- The first row is always the base UoM.
- The first step you do when you enter the *UoM Groups Setup* screen is to choose the base unit in the first row.
- In our example, the **Pack** UoM is the base unit.
- Note that since the **Pack** is the base unit, the *Alternative quantity* and the *Base Quantity* columns are automatically set to “1” and are read only.
- In the *Base Quantity* column, for each UoM, in each row, we define how many base units it is equal to.
- In the *Alternative Quantity* column we enter the number of UoMs for each base unit.
- In our example, the base unit is **Pack**
- 1 unit of **Carton** (line 4) equals 24 units of **Pack**
- The Base Unit does not have to be the smallest unit and in our example the **Small Pack** equals half a **Pack**.
- The base quantity can be a decimal number.

Multiple UoM Setup

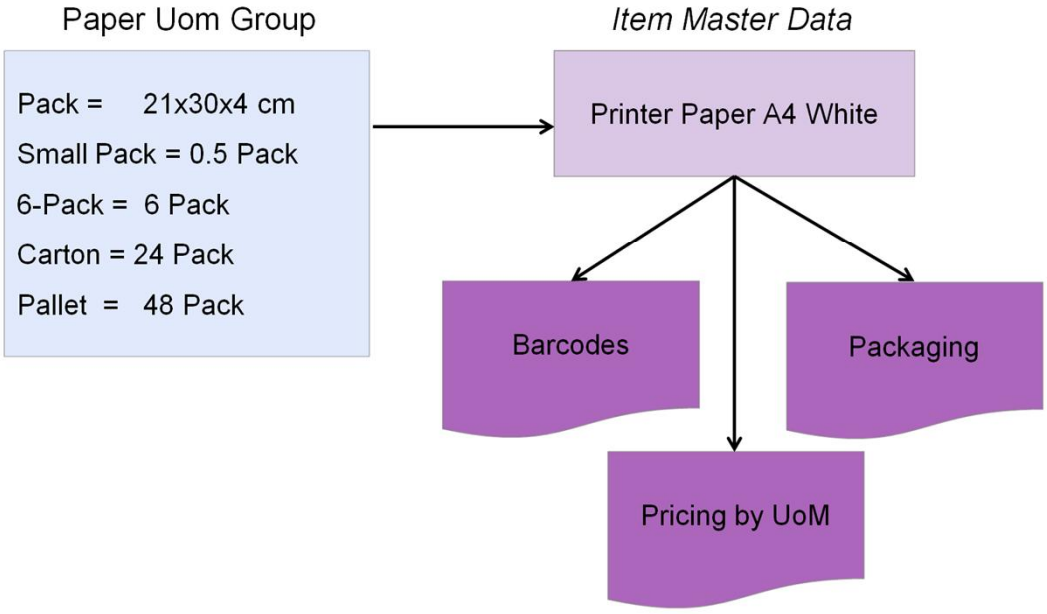
Assign UoM groups to Item Master Data Records



 RKT 18

- The UoM group for **paper** is assigned to item master data records for paper products that need the same type of relationships between the UoMs in the group.
- OEC Computers can use this same UoM group for several different types of printer paper that they sell.

Multiple UoM Setup
UoM level in Item Master Data



 RKT 19

- After a UoM group is assigned to an item master Data, you can then define barcodes, pricing and packaging for the item relating to each UoM within the group.

Multiple UoM Setup
Package type setup 1/1

Package Types - Setup

#	Type	Length	Width	Height	Volume	UoM	Weight
1	Box	60cm	42cm	24cm	60.48	cdm	0.5kg
2	Pallet	84cm	60cm			ci	
3	Container	2m	1m	2m	4	cm	200kg
4	Barrel					ci	
5						ci	

 RKT 20

- The *Package Type Setup* window existed in previous versions.
- In the 9.0 version, dimensions columns were added to this setup window.
- Entering the dimensions of the package along with the Unit of Measurement Setup we defined earlier, enables the system to calculate the number of units for each specific package.
- We will discuss this topic in detail in the following slides.
- In our example, OEC Computers purchases paper in pallets and sells paper with or without a package (depending on the quantity sold).
- When selling paper in large quantities, George, the warehouse manager, packs the paper in boxes.
- This data will be used as default for the paper item, in the Item Master Data.
- We will discuss this in the following slides.

Multiple UoM Setup
Package type setup 1/2

An empty box weighs 0.5 kg

A box containing 6 units of 6-Packs weighs 60.5 kg

A box containing 5 tablets weighs 6 kg

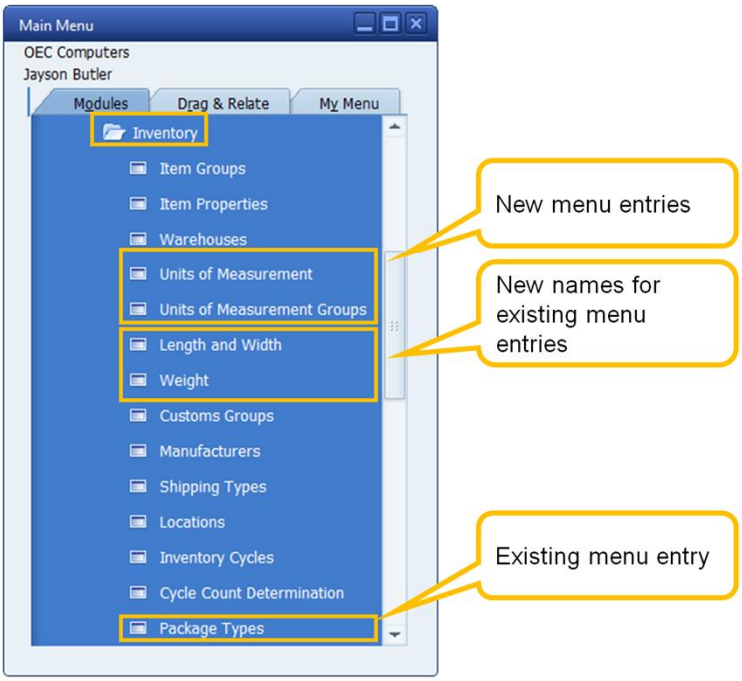
 RKT 21

- Depending on your business needs, You can refer to the *weight* column as the net package weight, without its contents.
- Alternatively, you can refer to this column as the gross weight including its contents.
- When deciding how to use this column you should take into consideration the following:
  - If you want this data to be the default value for the calculation of the number of units in each package, you should refer to the *weight* as the gross weight available for this package.
  - This means, the package definition will be relevant for either one item or a set of items.
  - Each item may have a different weight for the same package volume.
  - Therefore, in some cases it is better not to enter these default dimensions.

Multiple UoM Setup

Changes made in the Inventory setup menu

Administration → Setup → Inventory



 RKT 22

- There are new available windows in ***Administration → Setup → Inventory*** menu for the setup of both *units of measurement* and *units of Measurement groups*.
- In addition, some menu entry names have changed in 9.0:
  - The *Length and Width UoM* menu entry name was changed from “length and width” .
  - The *Weight UoM* menu entry name was changed from “weight” .

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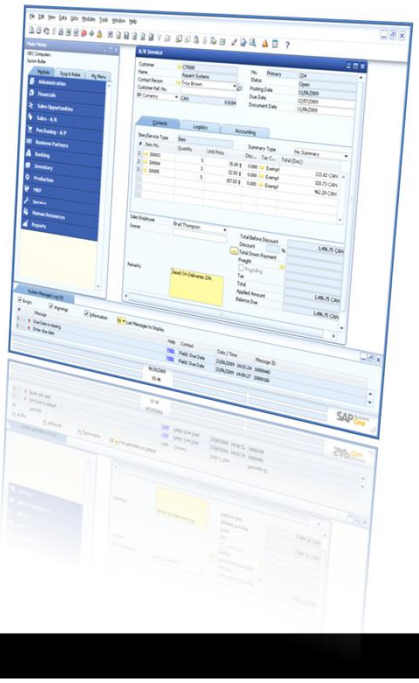
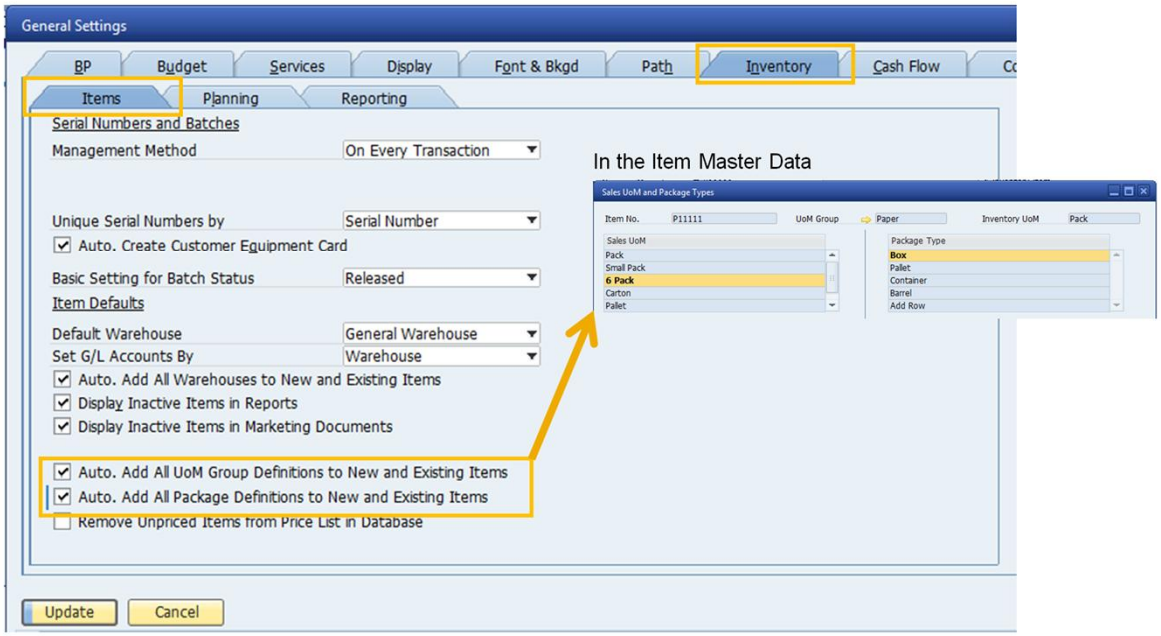
Demo: UoM Setup



Multiple UoM Setup
General settings definitions

Administration → System Initialization → General Settings → Inventory tab → Items sub tab



 RKT 24

- In *General Settings*, in the *Inventory – Items* tab, there are two new definitions:
  - The first is *Auto. add All UoM Group Definitions to New and Existing Items*
    - This definition means that all UoM codes that are related to a certain UoM group, will be populated in the *Item Master Data → Sales/ Purchasing UoM and Package Types* window.
    - This is relevant for new and existing items.
    - This process is activated for items that we related to a UoM Group, after the box is checked.
    - In addition, when we add new UoM codes to the UoM Group definitions, they are also populated for each item that is related to this UoM group.
    - If this checkbox is clear, the only UoM value that is copied to the *Sales/ Purchasing UoM and Package Types* window is the base unit from the UoM Group definition, which will also be the default UoM code.
  - The second definition is *Auto. Add All Package Definitions to New and Existing Items*.
    - This definition means that all the package types definitions will be copied to the *Item Master Data → Sales/ Purchasing UoM and Package Types* window.
    - In addition, when we add a new package type, it is also added to the *Sales/ Purchasing UoM and Package Types* window for each item.

Multiple UoM Setup
New User Authorizations

Subject	Authorization
General	No Authorization
Customization Tools	No Authorization
Administration	No Authorization
Exchange Rates and Indexes	No Authorization
System Initialization	No Authorization
Setup	No Authorization
General	No Authorization
Financials	No Authorization
Sales Opportunities	No Authorization
Purchasing	No Authorization
Business Partners	No Authorization
Banking	No Authorization
Inventory	No Authorization
Item Groups	No Authorization
Item Properties	No Authorization
Warehouses	No Authorization
Units of Measurement	No Authorization
Units of Measurement Groups	No Authorization
Length and Width	No Authorization
Weight	N
Customs Groups	N
Manufacturers	N
Shipping Types	N

New user authorizations entries

 RKT 25

- 2 new user authorizations entries were added under ***Administration → Setup → Inventory***:
  - *Unit of measurement*
  - *Units of measurements group*

Agenda

Unit 1 - Solution overview

Unit 2 - Multiple UoM setup

Unit 3 - Item Master Data UoM definition

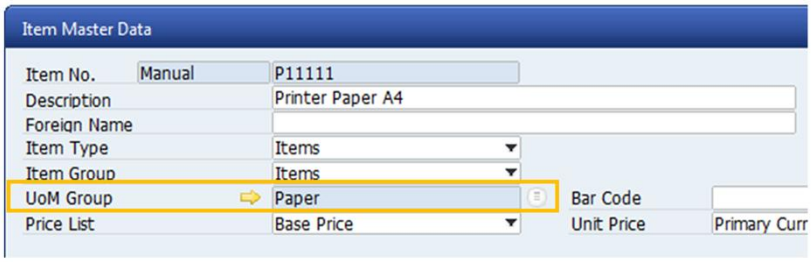
Unit 4 - Marketing and Inventory documents

Unit 5 - Effects on other modules

 RKT 26

Unit 3 – Item Master Data UoM definition

Changes Made in the Item Master Data
Header - UoM Group

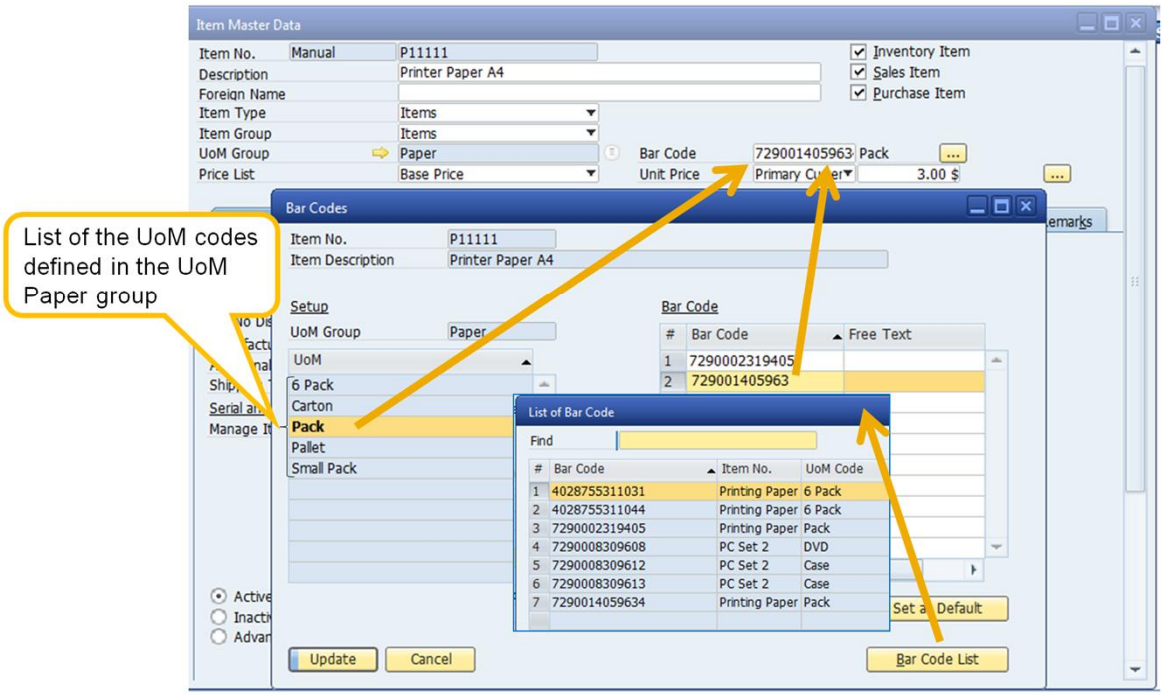


 RKT 27

- In our example we added an item called: **printer Paper A4**
- Note the change made in the *Item Master Data*:
  - A new field was added – *UoM Group.*
  - In this field choose a UoM group.
  - In our example, David added the item and chose the **Paper** group in the *UoM Group* field.

- Note!
  - Once you post a marketing or an inventory document involving this item, you cannot change the UoM group of the item.
  - The only exception is when the UoM group field is set to **Manual**.
  - We will discuss the *Manual* option in the next slides.

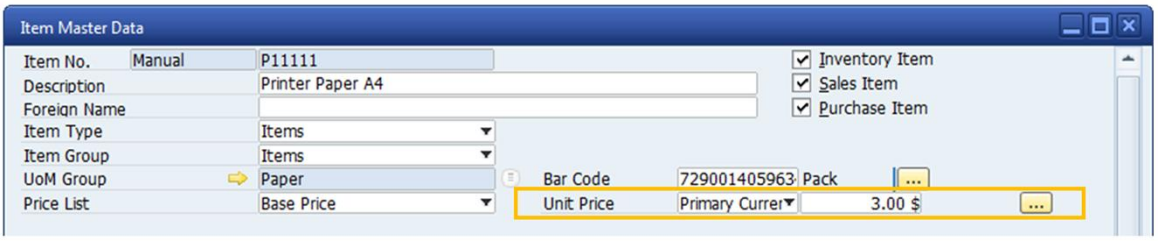
Changes Made in the Item Master Data
Header - Multiple Barcode



 RKT 28

- The *Bar Code* field position was moved.
- Now you can enter a bar code for each Uom.
- Choose the Browse button next to the *Bar Code* field to open the *Bar Codes* window
- On the left you see the list of the UoM codes we defined for the **Paper** UoM Group.
- We can see that the **Pack** UoM is in bold because it is the default UoM.
- To enter a barcode, choose the appropriate UoM.
- We can enter several bar codes for each UoM.
- David asked George, the warehouse manager, to enter the barcodes for the different UoMs.
- He can also set one bar code as default by highlighting the bar code and choosing the *Set as Default* button.
- The default bar code will be displayed in the *Bar Code* field in the *Item Master Data*.
- This default bar code will also be the default bar code in the inventory and marketing documents when using the related UoM.
- You may enter the same bar code number for different UoM and also for different items.
- When you do so, you receive a warning message saying that this bar code already exists.
- In the *Item Master Data* window, you may choose any of the bar codes entered against the inventory UoM of the item.
- We will discuss the inventory UoM in the coming slides.
- By choosing the *Bar Code List* button, we can see a list of all the bar codes for all items.
- There, we can either filter or sort bar codes of the current item and see all codes related to it.
- This means we do not have to separately choose each UoM and see only the bar codes for each UoM.
- The bar code list has no additional functionality other than to provide an easy way to view the existing bar codes.
- Note!
  - In order to save changes you make in the *Bar Code* window you should choose the *Update* button in both the *Bar Codes* window and the *Item Master Data* window.

Changes Made in the Item Master Data
Header - Prices by UoM



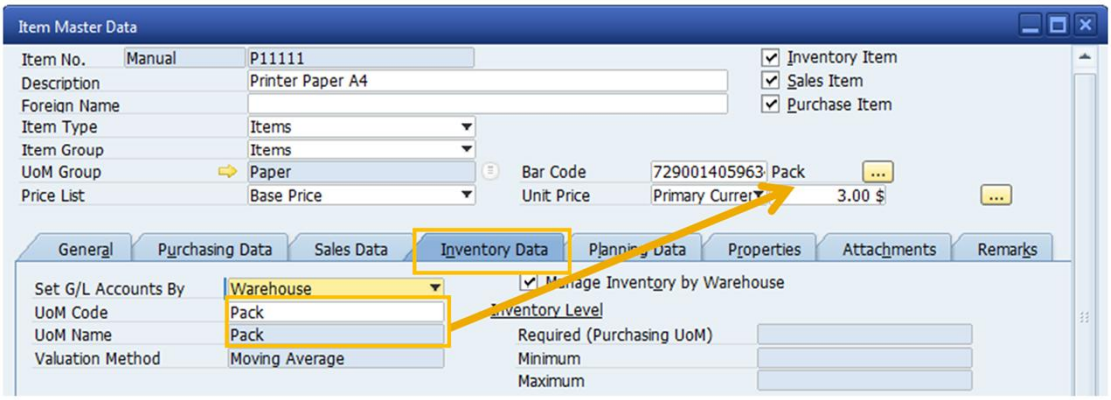
 RKT 29

In version 9.0, you can define different prices to different UoM's in the same price list for one item.

This topic is not covered in detail in this training.

Changes Made in the Item Master Data
Inventory data

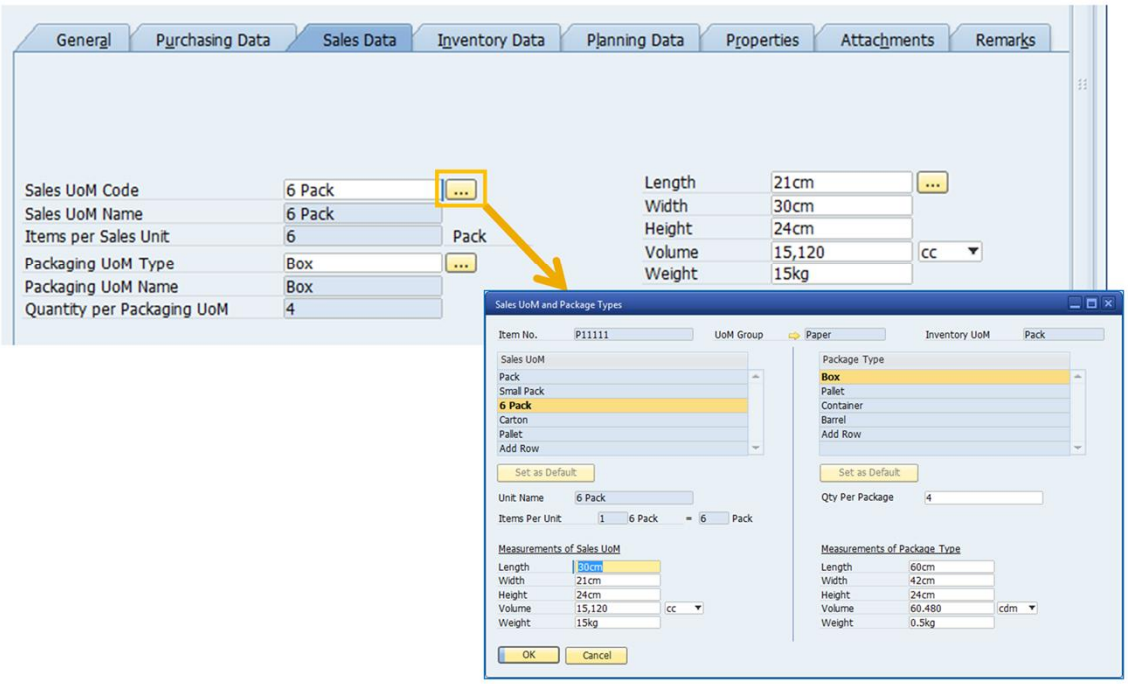
All inventory transactions will be posted in the inventory UoM



 RKT 30

- Irrespective of the UoM used in any document, the related inventory transaction will always be posted in the inventory UoM as defined in the *Inventory* tab.
- The inventory UoM is populated automatically when choosing the UoM group and can be changed manually before inventory transactions are posted against the item.
- The default value is the base unit of the UoM Group.
- The inventory UoM also determines the barcode displayed in the *Item Master Data*.
- In our example, after choosing the **Paper** UoM group, the *UoM code* field and the *Bar Code* field are automatically populated with the details of the **Pack** base unit.
- Once you add a document using this item, you cannot change its inventory UoM code or its UoM group.
- This is due to the fact that inventory transactions, for a given item, cannot be recorded in different UoMs. For instance, the system cannot calculate cumulative quantity in different UoMs.
- However, you may change the sales and purchasing UoM of an item.
- We will discuss the sales and purchasing UoMs in the next slides.

Changes Made in the Item Master Data
Sales Data

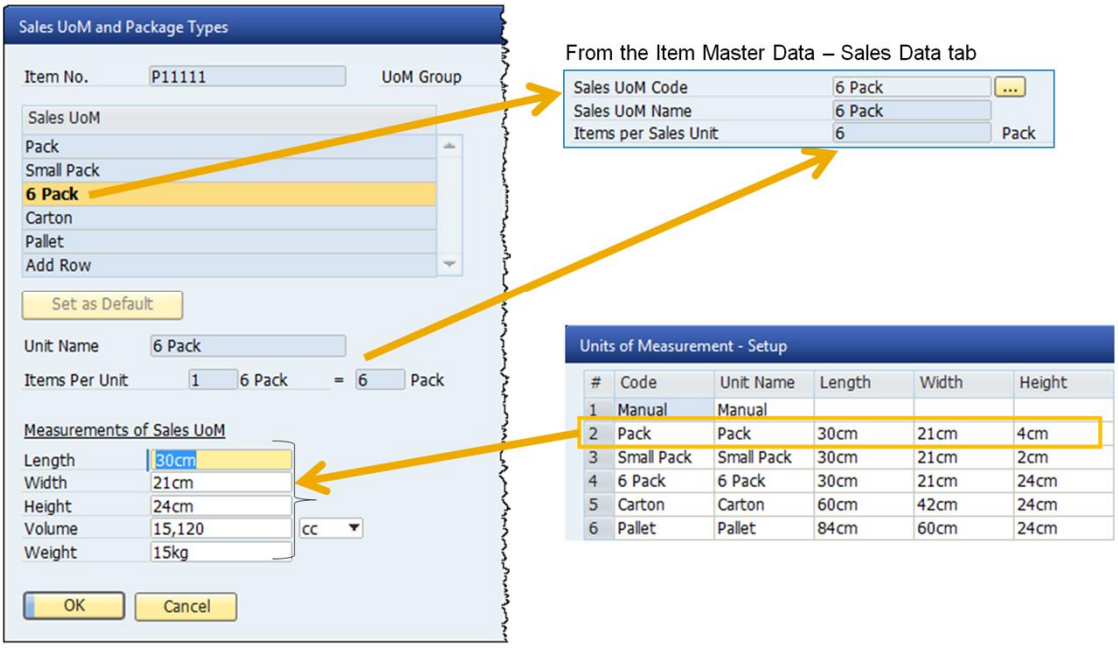


 RKT 31

- New fields were added to the *Sales Data* tab - Sales UoM information and Packaging UoM information
- The dimension fields exist from prior versions and their default values derive from the *Sales UoM definitions*.
- The sales UoM will be the default UoM in the sales documents.
- We will review this topic later on.
- When choosing the browse button, the *Sales UoM and Package Types* window opens.

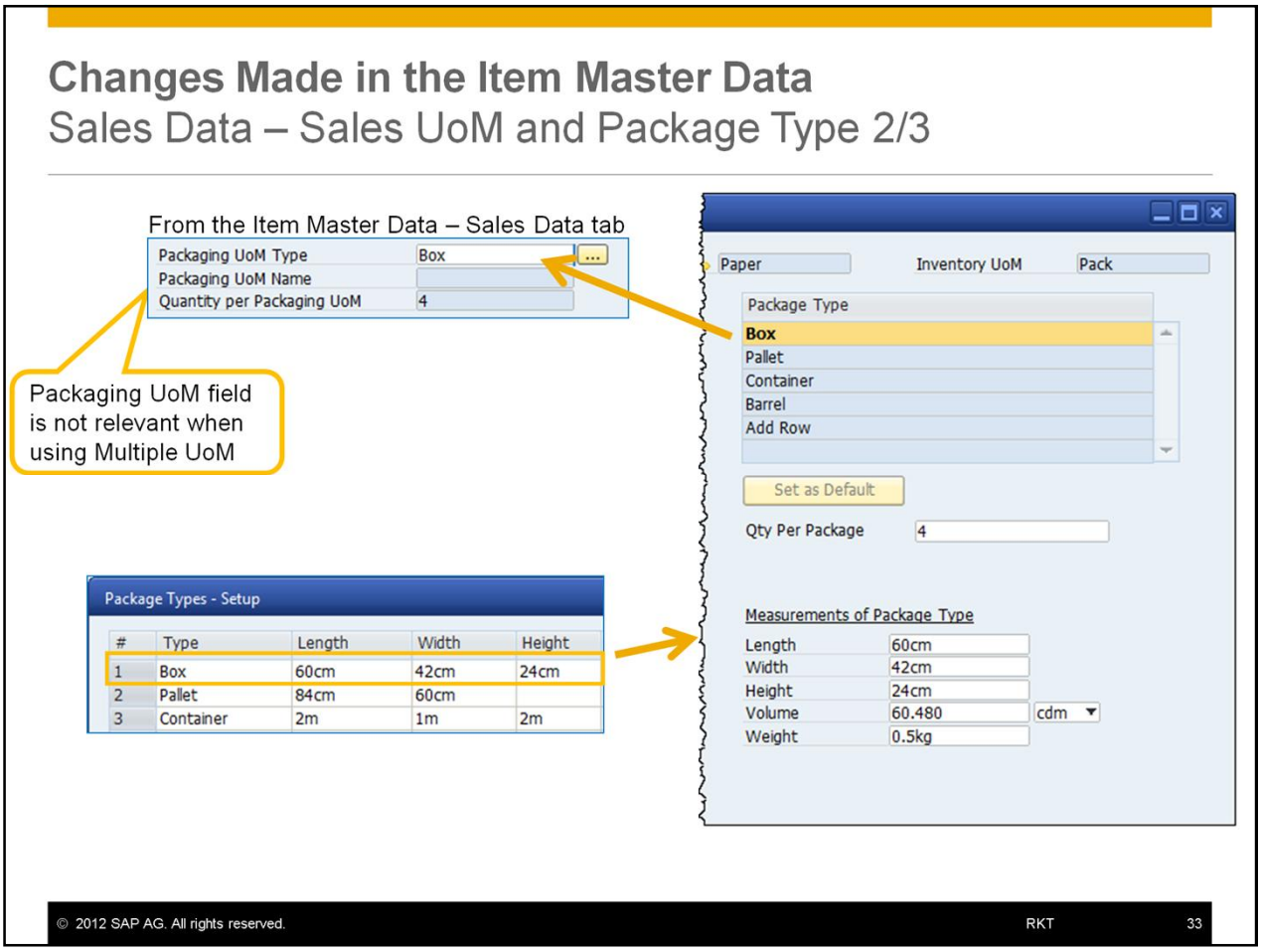
Changes Made in the Item Master Data

Sales Data – Sales UoM and Package Type 1/3



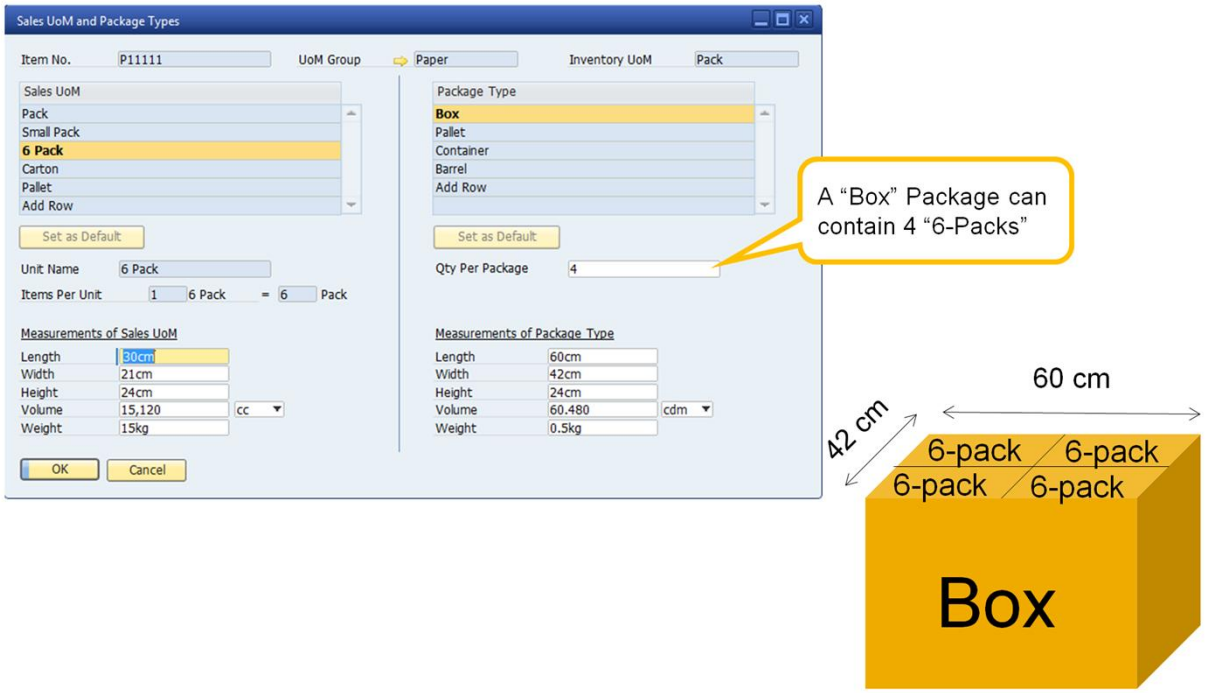
 RKT 32

- In the *sales UoM and Package Types* window, we define the UoM data, measurement data and packaging data for each item.
- In the graphic, we see the left side of the *Sales UoM and Package Types* window.
- On this side we see the UoM data and measurements.
- We can see all the UoM codes that are related to the **Paper** UoM group.
  - The reason is that we selected the *Auto add All UoM Group Definitions* checkbox in *General Settings*..
  - If this checkbox was not selected, then we would need to add the UoM codes individually by using the *Add Row* button.
  - In order to delete a UoM, we can right-click the UoM code to open the context menu and choose *Remove*.
- When we highlight a certain UoM from the sales UoM list, we can see and define its measurements (dimensions) at the bottom of the window.
- These measurements are drawn from the *Unit of Measurements* Setup and can be changed manually.
- We can set one of the sales UoM as the default.
- The default sales UoM is copied to the *Sales UoM Code* field in the *Sales Data* tab.
- David asked Dan, the Sales manager, which unit is the most popular one.
- Dan told David he usually sells **6-pack** units.
- David set the **6-Pack** unit as default for Sales.
- For each sales UoM, we can see how many inventory UoM (items per unit) it is made up of.
- In our example, the **6-Pack** UoM equals 6 units of **Pack**.
- Note the calculation is by inventory UoM and not by the base UoM defined in the *UoM group*. In our example the base UoM = inventory UoM = **Pack**.
- This information is copied to the *Items Per Unit* field in the *Sales Data* tab.



- In the graphic, we now see the right hand side of the *Sales UoM and Package Type* window.
- On this side we see the package information for each item.
- We see all the package types available which we defined in the *Package Types* setup window.
  - The reason is that we selected the *Auto. add All Package Definitions* check box in the general settings.
  - If this checkbox was not selected, then we would need to add the package types individually by using the *Add Row* button.
  - In order to delete a package type, we can right click the Package Type to open the context menu and choose *Remove*.
- When we highlight a certain Package type, we can see and define its dimensions.
- The dimensions are drawn by default from the Package Types Setup and can be changed manually.
- We can set one of the package types as default by UoM.
- The default package type is copied to the *Packaging UoM Type* field in the Sales Data tab.

Changes Made in the Item Master Data
Sales Data – Sales UoM and Package Type 3/3

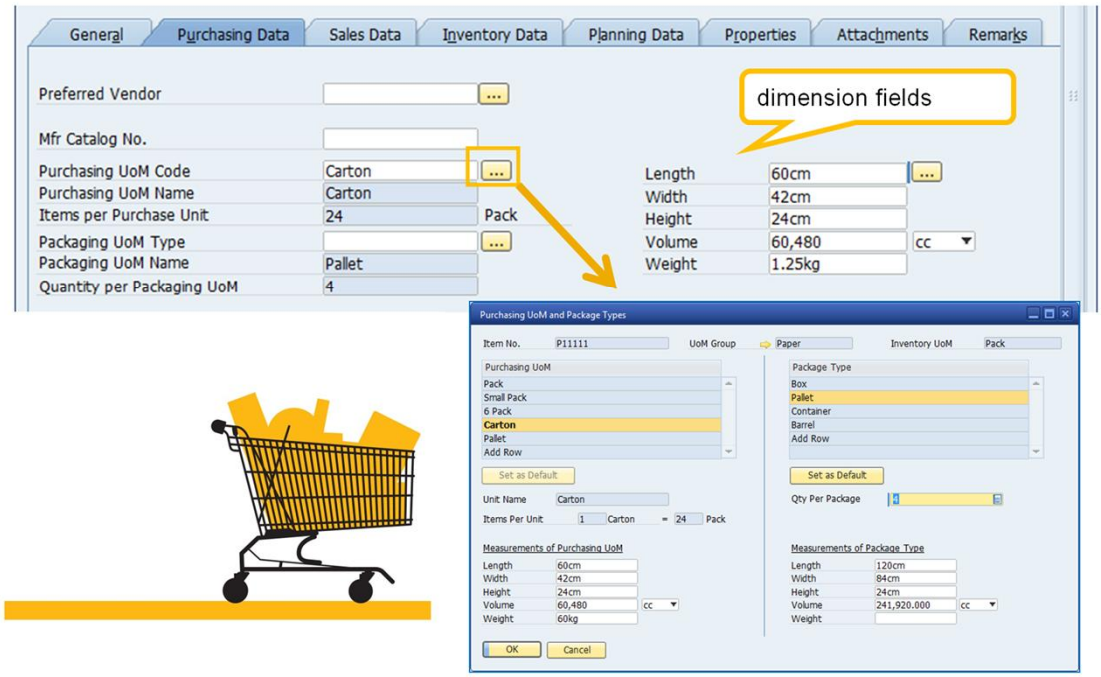


 RKT 34

- Now we can see the connection between the left hand side and the right hand side of the *Sales UoM and Package Type* window.
- Let us see how the system automatically calculates the *Quantity per Package* value.
- Look at the dimensions of the **6-Pack** UoM – It is 30 centimeters long and 21 centimeters wide.
- Now, look at the dimensions of the **Box** Package – It is 60 centimeters long and 42 centimeters wide.
- The **6-Pack** UoM and the **Box** package are the same height.
- This means that 2 **6-Pack** units can fit in the **Box** length and another 2 **6-Packs** units can fit in the **Box** width.
- 2 units long times 2 units wide equal 4 units.
- Since there can be only 1 layer of **6-Packs** in the **Box** (the **Box** height equals the **6-Pack** height), the total quantity per package is 4.
- You may change the quantity manually if necessary.

- <u>Note!</u>
  - If any of the volume dimensions are missing and the volume cannot be calculated, then the Quantity per Package field will be calculated according to the weight.
  - The system does not check both volume and weight dimensions.
  - In addition, if you want the quantity calculation to be based on the weight, you should refer to the weight field of the package as the gross weight and not weight of the package itself.
  - It is important to remember this because the dimensions are drawn by default from the Package Type definitions and there you may enter the package weight and not the gross weight.
  - Another point to highlight is that only integers can be entered into the *Quantity Per Package* field.
    - This means that if the calculation of the quantity for a specific UoM, is less then 1, we will see nothing (which is 0) in the field.
    - The result of the calculation will always be rounded down.

Changes Made in the Item Master Data
Purchasing data



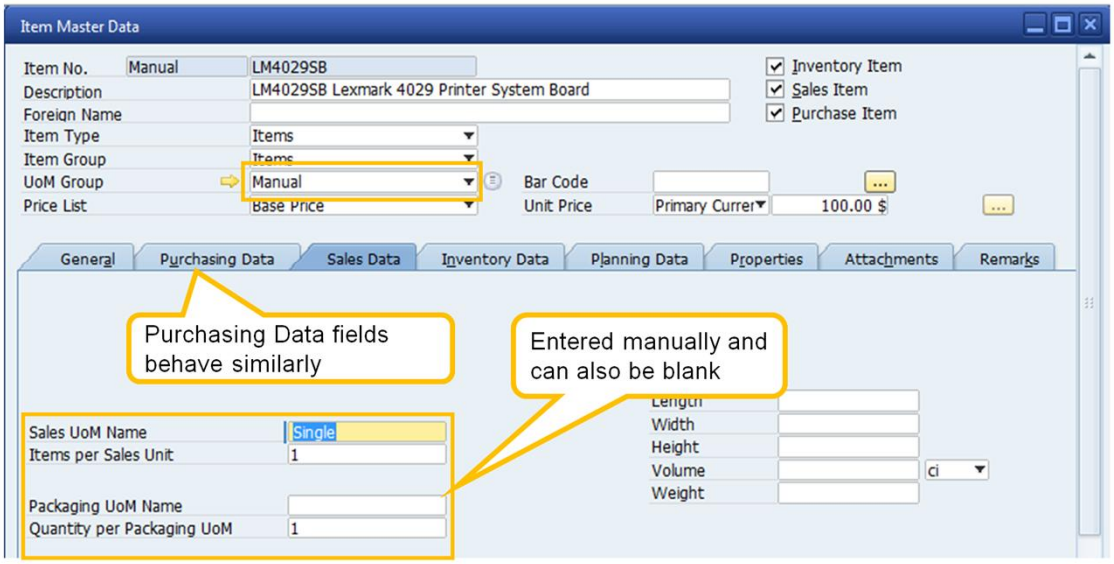
 RKT 35

- The changes made in the *Purchasing Data* tab are similar to the changes made in the Sales Data tab.
- In our example we see that the purchase UoM is **Carton** and the packaging type is **Pallet**.
- We can also see that 4 **Carton**s fit into 1 **Pallet**.

<u>Note!</u>

- When you make changes in the *Sales/ Purchasing UoM and Package Types* window, you should update both this window and the general *Item Master Data* window.
- If there is no sales/ purchasing UoM code and the UoM group is not **Manual**, then the dimension fields are disabled.

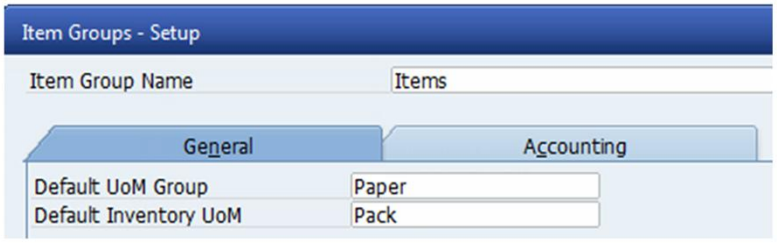
Changes Made in the Item Master Data
Manual method



 RKT 36

- For each item you can choose whether or not to work with the Multiple UoM solution.
- If you choose not to use the new functionality, you can continue to use single units of measure by setting the UoM group in an item master to *Manual.*
- This setting allows a user to edit UoM fields in the Inventory, Sales and Purchasing Data tabs manually.
- When upgrading to the version 9.0, all items are automatically populated with the *Manual* group.
- This means “business as usual” after the upgrade and no special setup is mandatory.

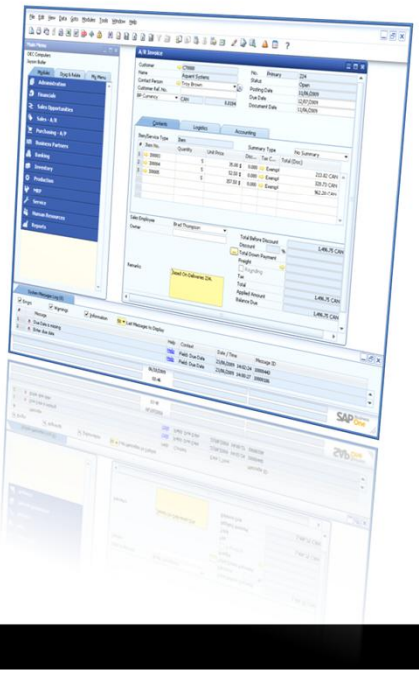
Changes Made in the Item Master Data
Default definitions



 RKT 37

- SAP Business One allows you to define default values for the UoM group and Inventory UoM by Item group.
- If you enter only the default UoM Group and not the inventory UoM, when adding a new item with this group the inventory UoM will be the base unit in the UoM group definition.
- In OEC Computers, Kathryn, the purchasing coordinator, entered the **Paper** group as the default for the **Items** group.
- She also entered the **Pack** as the *Default Inventory UoM*.
- When a new item is added to the **Items** group, these default values are updated automatically in the item.
- When updating the default inventory UoM, a system message appears, asking if we want to update all existing items in this group as well.
- This update will take place only for items with no inventory transactions.
- Please remember, the Inventory UoM is the UoM used in all inventory postings and it can not be changed once there are transactions for the Item.
- This means that in some cases you will not want to set a default Inventory UoM but defining it manually for each Item.

Demo: Sales UoM and Package Type window



Agenda

Unit 1 - Solution overview

Unit 2 - Multiple UoM setup

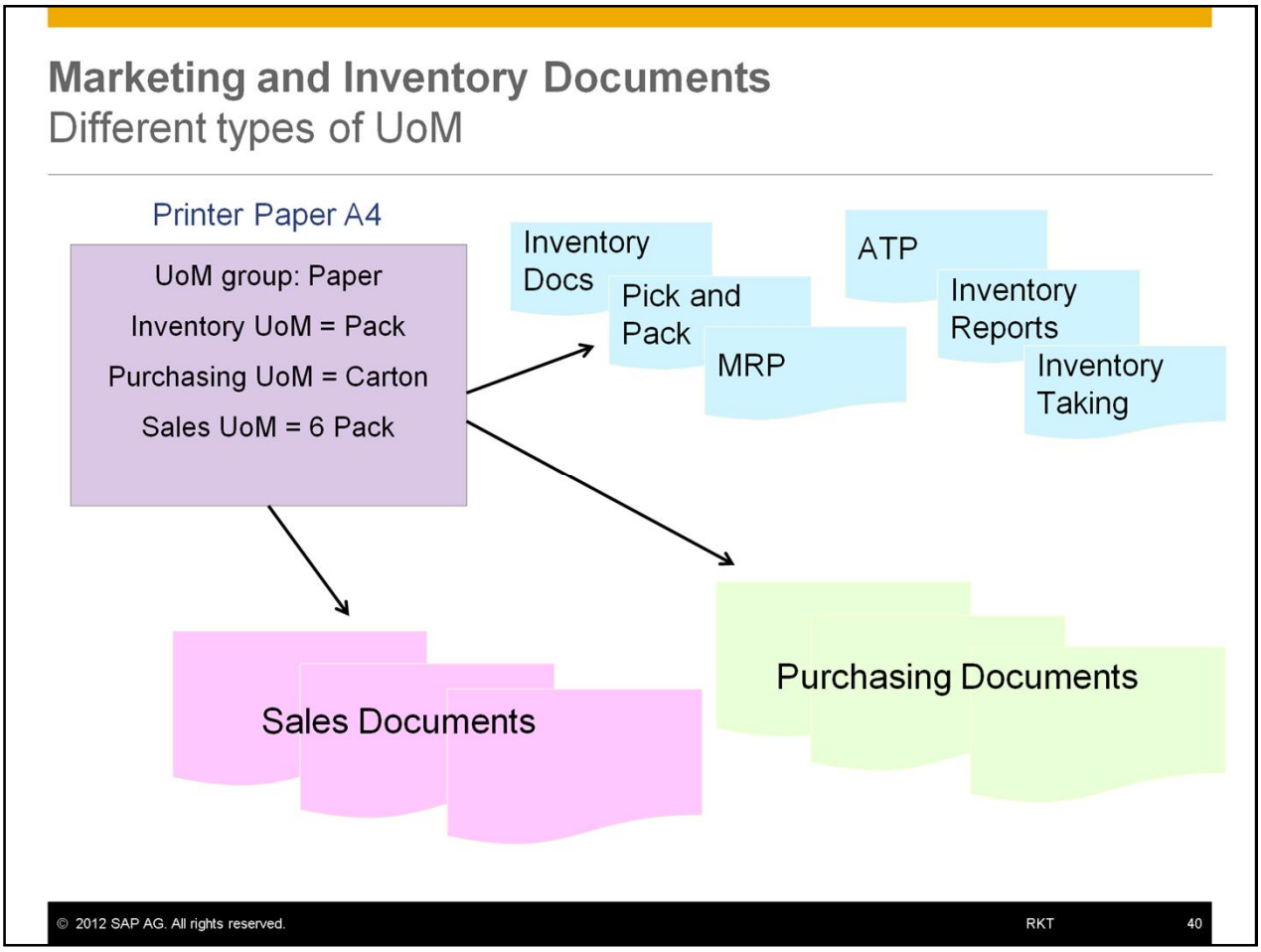
Unit 3 - Item Master Data UoM definition

Unit 4 - Marketing and Inventory documents

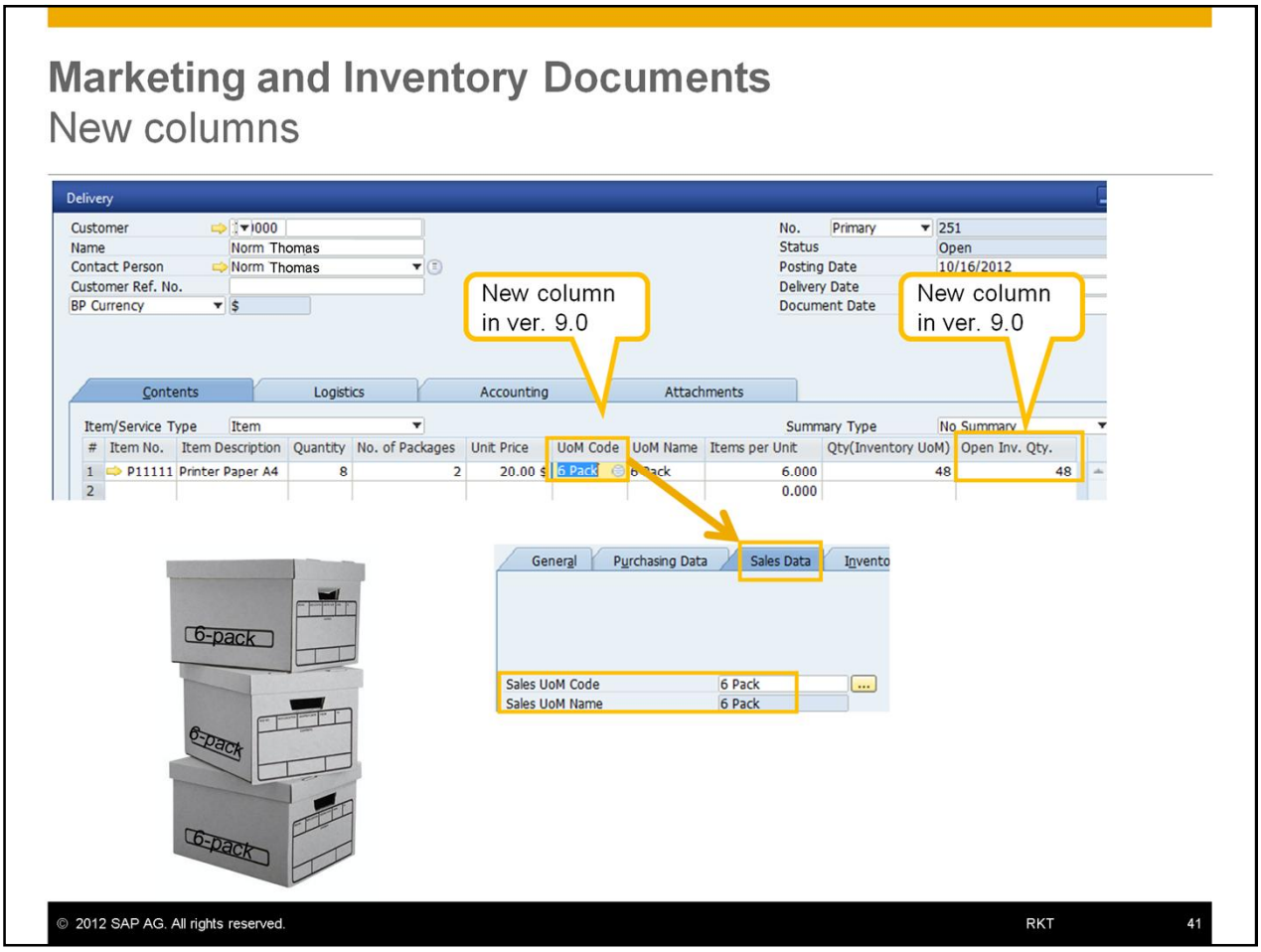
Unit 5 - Effects on other modules

 RKT 39

Unit 4 – Marketing and inventory documents



- This graphic shows the relationship of the different units of measurement set inside the *Item Master Data*.
- All inventory transactions are posted in the Inventory UoM which is set in the *Inventory Data* tab.
- The Purchasing UoM reflects the most common **paper** UoM, OEC Computers purchases.
  - Typically OEC Computers buys paper in cartons from their vendors.
  - This UoM is used by default on purchasing documents.
- The Sales UoM is the default unit for sales.
  - OEC Computers chose the **6-pack** UoM for the Sales UoM because this is the most common size paper packaging that they sell.
  - This unit of measurement is used by default on sales documents.

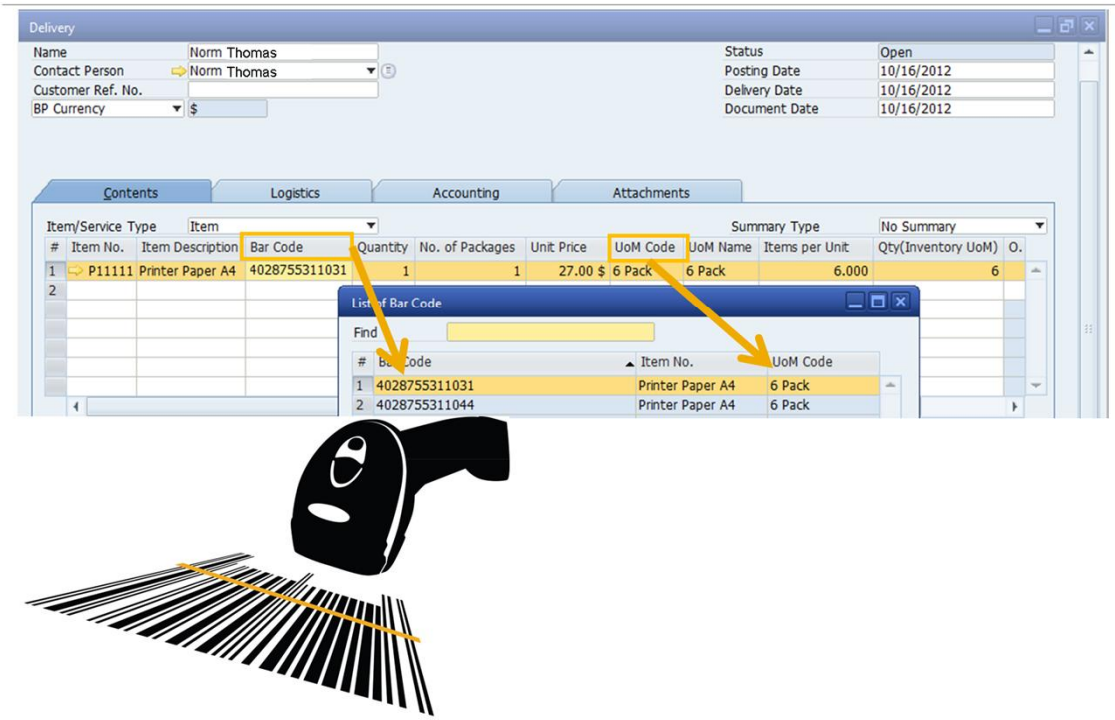


- Let us review the changes made in the marketing documents.
- New columns were added to the marketing documents: *UoM Code* and *Open Inventory Quantity*.
- In the *UoM Code* field, we see the UoM code we defined in the *Sales Data* tab in our item.
- This code is the default UoM code but can be changed to any other sales UoM code that is related to the item.
- George, the warehouse manager, added a Delivery document for the **printer Paper** Item.
- The default sales UoM code for this item is **6-Pack**.
- In purchasing documents (like a purchase order) we see the purchasing UoM code.
- Prior to version 9.0, there was a column named: Unit of Measurement.
- This column name was changed to *UoM Name* and now shows the UoM name of the UoM code in the row.
- The *Open Inventory Quantity field* is a new information field.
- This field represents the open quantity of the row in inventory UoM units.

- Note!
  - The UoM code cannot be changed in a base document or in a target document.

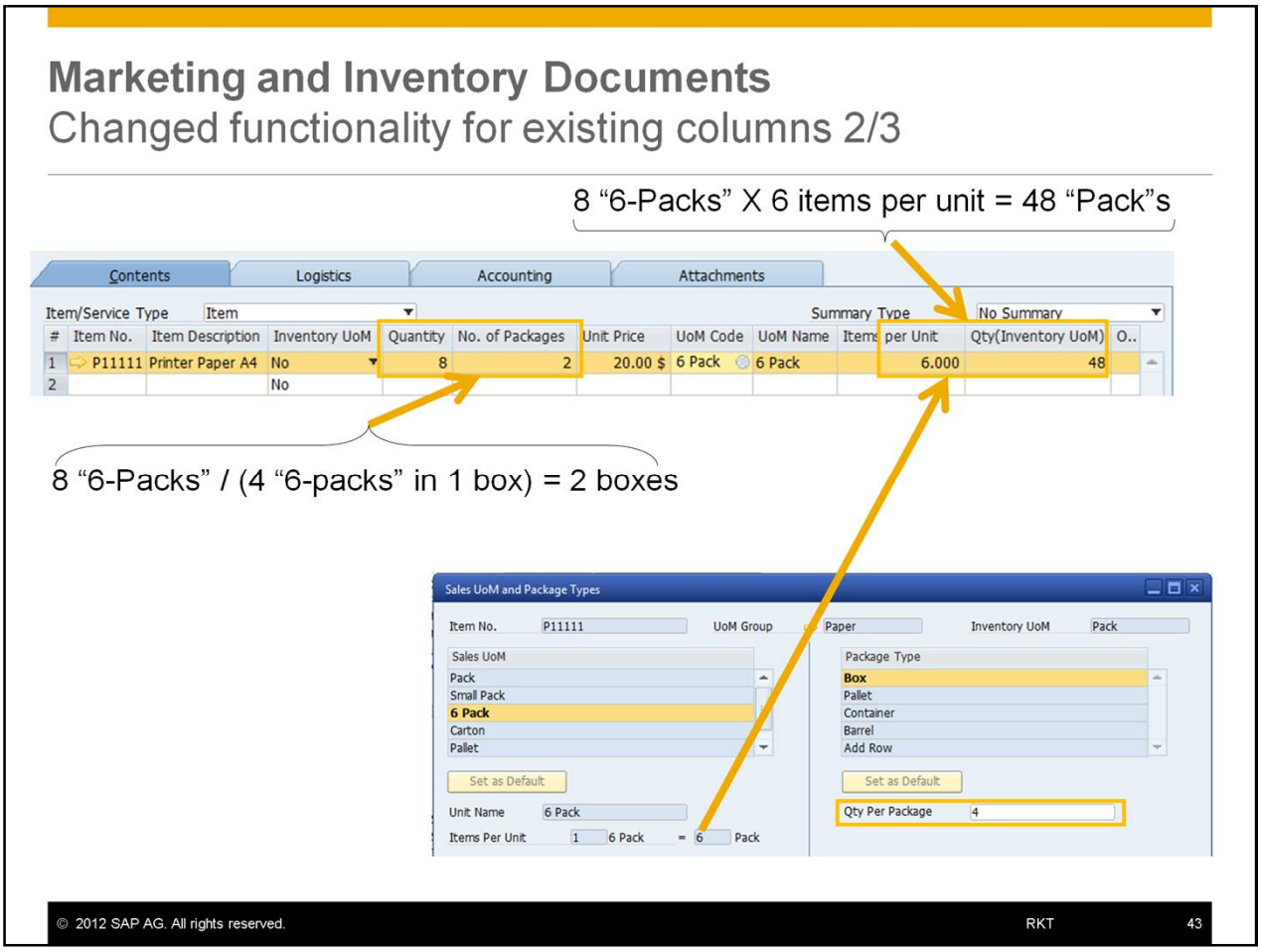
Marketing and Inventory Documents

Changed functionality for existing columns 1/3



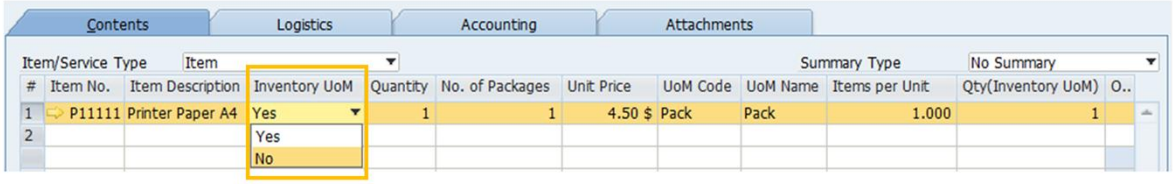
 RKT 42

- Many of the existing columns operate differently in version 9.0.
- In the *Bar Code* field, we can choose a bar code from the list of bar codes defined for the UoM code and item code that appear in the same row.
- If there is a default bar code for this UoM and item, it appears automatically in the bar code field.
- If not, you are able to choose a bar code form the list of barcode related to this item and UoM.
- Entering a bar code automatically updates the item code (Assuming only one item is related to the selected bar code) and all row data is updated accordingly.



- The *Number of Packages* field is now a calculation of the quantity entered in the row, divided by the quantity per package, that is defined in the *Sales/ Purchasing UoM and Package Type* window.
- The package will be the default chosen in the *Sales/ Purchasing UoM and Package Type* window.
- In our example, the default package type is **Box**.
  - We can see that box can contain 4 units of **6-Pack**
  - This means that in order to sell 8 units of **6-Pack** we need 2 packages.
- The *items per Unit* field quantity is driven from the definition made in the *Sales/ Purchasing UoM and Package Type* window.
- The *Quantity (Inventory UoM)* field is a calculation of the quantity times the items per unit.
- In our example, the items per unit defined in the *Sales/ Purchasing UoM and Package Type* window, is 6.
  - This means 1 **6-Pack** unit = 6 units of **Pack**.
  - The *Quantity (inventory UoM)* field shows the total quantity of **Pack** units.
  - The calculation is: quantity of 8 times 6 items per unit equals 48 inventory units.

Marketing and Inventory Documents
Changed functionality for existing columns 3/3



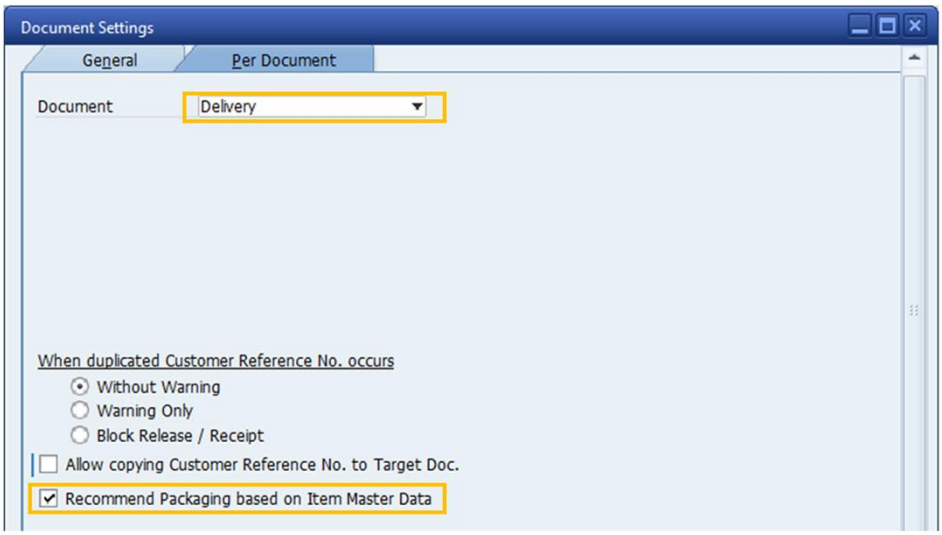
 RKT 44

- We can choose to work with inventory UoMs in the document.
- Take a look at the *Inventory UoM* field – we can choose **Yes** or **No**
- If we want to work with sales or purchasing UoM (like we did in the previous examples) we should choose **No**
- **No** is the default for this field.
- If we want to work with the inventory UoM of an item that was defined in the inventory tab in the *Item Master Data*, we should choose **Yes**.
- This means there is no conversion of sales or purchasing units into inventory units.
- When we choose **Yes**, the following happens:
  - The fields *UoM code*, *UoM Name, Quantity (Inventory UoM)* and *Open Inventory Quantity* are disabled
  - The field *Items per Unit* is set to 1
  - The quantity in inventory UoM is equal to the quantity.
- In our example, we can also see the UoM code is now **Pack**, which is the inventory UoM (and not **6-Packs** which is the sales UoM).

Marketing and Inventory Documents

Automatic creation of a packing slip - set Up Definition

System initialization → Document Settings → Per Document

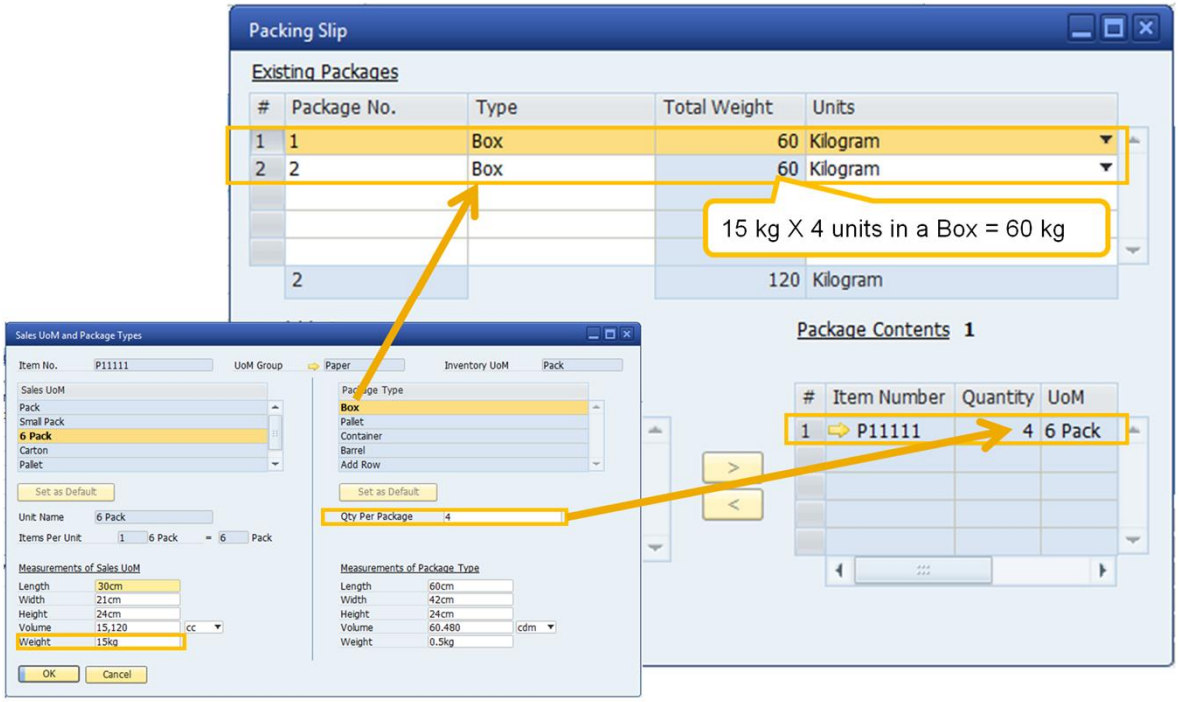


 RKT 45

- SAP Business One can create an automatic Packing Slip for deliveries and A/R invoices made for multiple UoM items.
- In ***Administration → System Initialization → Document Settings → Per Document → document field***, choose *Delivery* or *A/R Invoice.*
- A new definition appears at the bottom of the screen: *Recommend Packaging based on Item Master Data*.
- In order to create an automatic packing slip, check this box.

Marketing and Inventory Documents

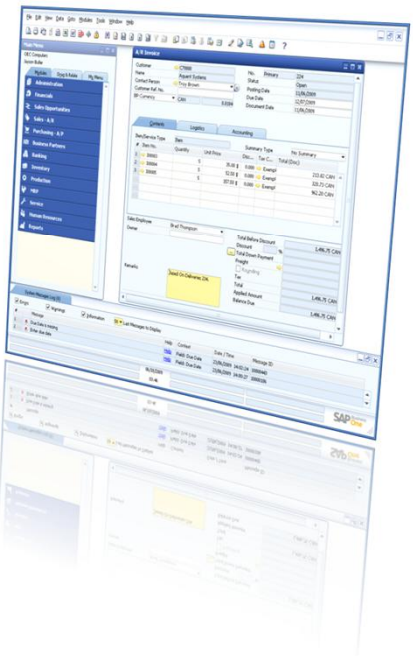
Automatic creation of a packing slip



 RKT 46

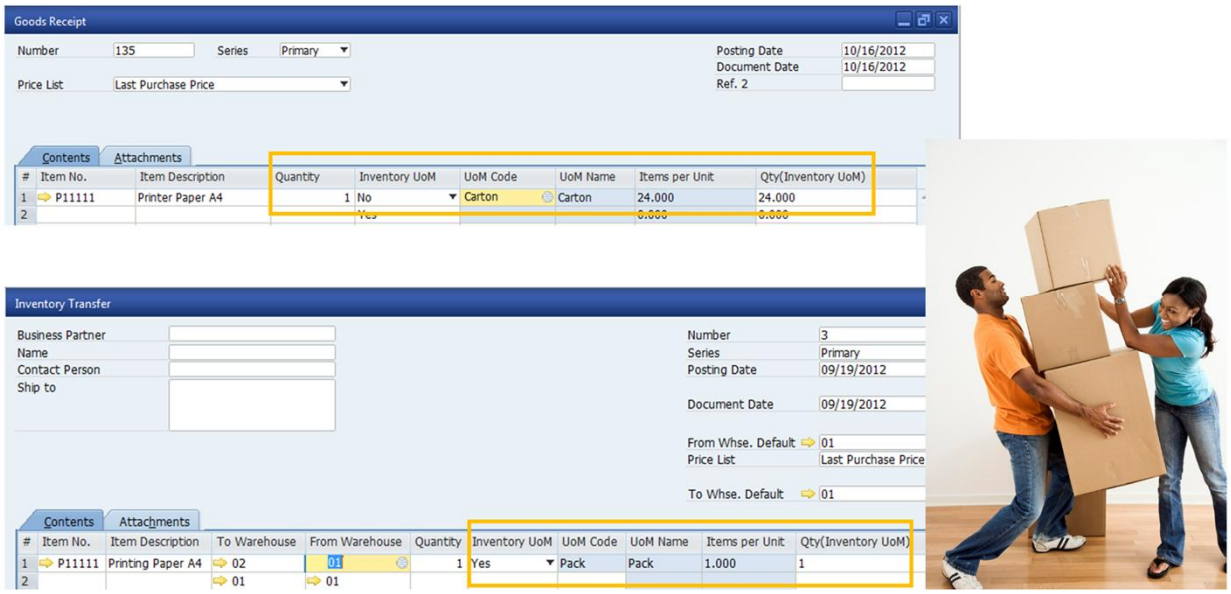
- A Packing slip was automatically created for the delivery we viewed in slide 43.
- By right clicking the Delivery, we enter the packing slip and can see that the Packing Slip was automatically populated with the data shown in this screen shot.
- The data is drawn from the *Sales UoM and Package Type* window combined with the data entered in the delivery.
- In our example, we issued a delivery for 8 units of **6-Pack**.
- According to the definitions made in the *Sales UoM and Package Type* window, 4 units of **6-Pack** fit 1 box.
- This means, we need 2 boxes to deliver 8 units.
- The total weight is a calculation of the weight per unit times the number of units in each package.
- In our case, 1 unit of **6-Pack** weighs 15 kg and 1 box contains 4 units.
- This means that the total weight of the box is 60 kg.
- When we choose a line of a package in the existing packages, we can see the items packed in this package at the bottom right of the window.
- In this section, we see that each box contains 4 units of **6-Pack**.

Demo: Marketing Documents



Marketing and Inventory Documents

Changes made in inventory documents



 RKT 48

- All inventory documents and landed costs support the multiple UoM solution.
- In this example we can see a *Goods Receipt* for our **printer paper**.
- The default value for the *Inventory UoM* field is **Yes**.
- When we choose **No** in the *Inventory UoM* field, we can choose a sales or purchasing UoM that is related to the item in the row.
- In our example I chose the purchasing UoM **Carton**.
- 1 **Carton** equals 24 units of **Pack**.

Marketing and Inventory Documents
Inventory transactions made for MUoM items

Inventory Posting List

Posting Date	Document	Whse	Inventory UoM	Qty	Price after Disc.	Balance
P11111						
08/02/2012	PD 269	01	Pack	240	40.00 $	240
08/30/2012	DN 246	01	Pack	-48	20.00 $	192
09/02/2012	DN 247	01	Pack	-48	20.00 $	144
09/02/2012	DN 248	01	Pack	-48	20.00 $	96
09/02/2012	DN 249	01	Pack	-48	20.00 $	48
09/02/2012	DN 250	01	Pack	-48	0.00 $	
09/02/2012	PD 268	01	Pack	480	40.00 $	480
						480

 RKT 49

- It is important to remember that all inventory transactions are recorded in the inventory UoM.
- It does not matter which sales or purchasing unit we use.
- This rule also applies to *Manual* items that were changed to Multiple UoM items.
- All *Manual* inventory transactions, that were posted while the item was **Manual**, will be retroactively updated with the inventory UoM.
- In most inventory reports a new column was added, presenting the inventory UoM of the item.
- The graphic shows an example of an Inventory Posting List with two Goods Receipt POs and five Deliveries of printer paper.
- Notice that the inventory UoM for our printer paper item is always **Pack**, regardless of whether it is a sales, purchasing or inventory document.
- The quantity, of course, refers to the inventory **Pack** unit.

Agenda

 RKT 50

Unit 5 – Other SAP Business One modules affected by Multiple UoM in a nut shell

Effects on Other Modules
Pricing

- Price list definition for UoM

Base Price - UoM Prices

Item P11111

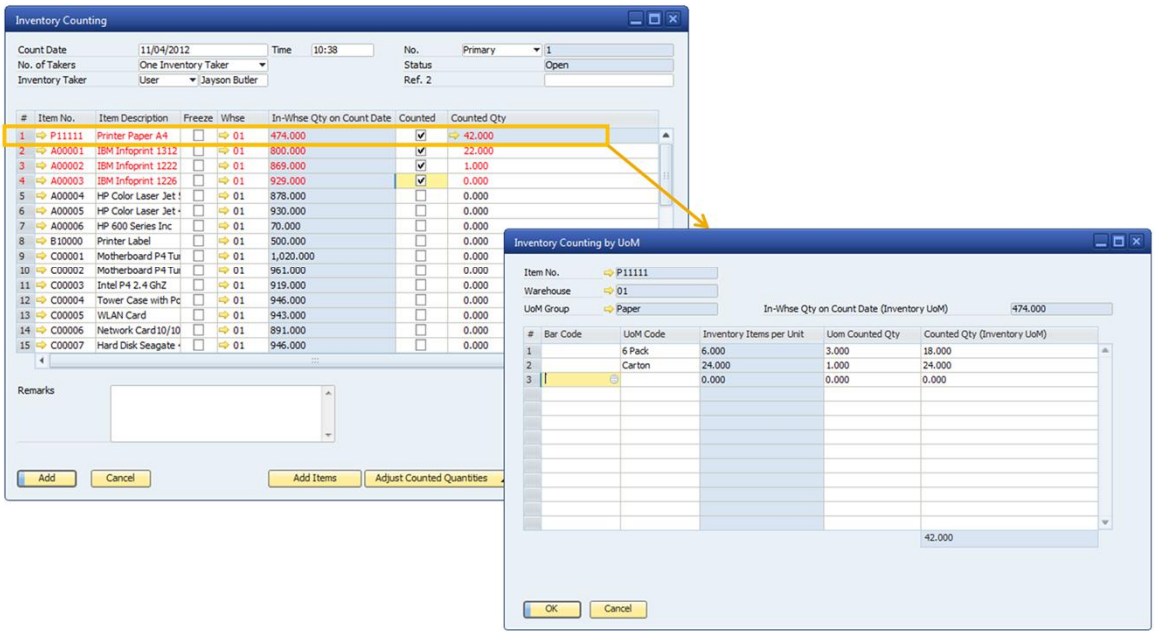
			Primary Currency			
#	UoM C...	UoM Name	Base Price	Reduce By %	Unit Price	Auto
1	Pack	Pack	3.00 $		3.00 $	☐
2	6 Pack	6 Pack	18.00 $	0.000	18.00 $	☑
3	Carton	Carton	72.00 $	0.000	72.00 $	☑
4				0.000		☑

- Allows you to manage prices for each UoM used by an item

 RKT 51

- By double-clicking the line number of the *Price Lists* rows, an option to define the UoM prices will be provided.
- The price for each UoM can be calculated automatically according to the number of items per unit.
- The price can also be manually adjusted, for example, to reflect a discount given to a big Unit of measurement.

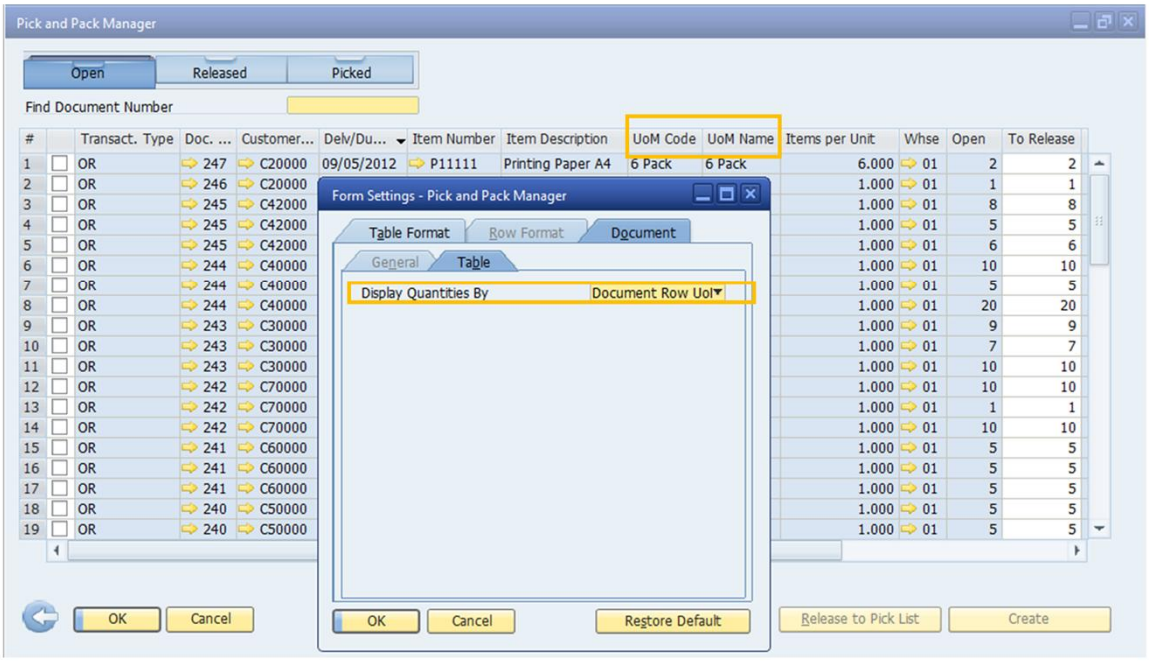
Effects on Other Modules
Inventory Taking



 RKT 52

- In 9.0, we can count and post items by any UoM of an item.
- In the *Inventory Counting* window, in the *Inventory UoM* column, for the rows you wish to count in Sales or Purchasing unit of measurements, choose the value *No*.
- Then, right click the row to open the context menu and choose “Inventory Counting by UoM”
- The *Inventory Counting by UoM* window is opened.
- You can add a row for each unit of measurement defined in the UoM group of the item
- Then, you can enter the units counted for each UoM.
- The quantities entered are translated automatically to the inventory units of the item.
- The postings are stored in the inventory UoM.

Effects on Other Modules
Pick and Pack



 RKT 53

- The *Pick and Pack* procedure can now be done by UoM code.
- The following changes were made:
  - A *UoM Code* value was added to the expanded selection criteria in the selection criteria window.
  - UoM columns were added to the *Pick and Pack Manager* window
  - In the *form settings* we can choose to display quantities in the document UoM (sales/ purchasing) or in the inventory UoM.

Summary

You should now be able to

- Setup UoM Definition
- Manage items with multiple UoM
- Add marketing documents for different UoM‘s
- Understand inventory reports

- You should now be able to:
  - Setup UoM Definition
  - Manage items with multiple UoM
  - Add marketing documents for different UoM‘s
  - Understand inventory reports

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