

Bin Locations

Using Bin Locations in Business Processes

October 2013



- Welcome to the course: Using Bin Locations in Business Processes.
- This course is one of a series of courses available for the bin location topic.

Objectives



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

- Allocate items manually and automatically in business processes:
 - Sales and Purchasing
 - Inventory
 - Pick and Pack
 - Production

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

- Allocate items manually and automatically in business processes:
 - Sales and Purchasing
 - Inventory
 - Pick and Pack
 - And Production

Agenda

- Business example and a brief reminder of the Setup process
- Manual allocation processes
 - Incoming allocations
 - Outgoing allocations
- Automatic allocation processes
 - Incoming allocations
 - Outgoing allocations
- Additional Scenarios
- Bin Locations in inventory documents
- Allocations in Pick and Pack
- Allocations in the Production process

- This is the agenda for the current course.
- We will start by shortly reviewing the setup process we discussed in the Setup course of bin locations.
- Then, we will see how to perform manual allocation of incoming and outgoing transactions.
- After that, we will learn the different automatic allocation methods.
- After we get familiar with the automatic methods we will see how the system allocates items according to these methods.
- We will also examine different scenarios involving bin locations like making a change in the allocation made, copying and canceling a document, using drafts and more.
- Later on we will allocate items in inventory transactions.
- And finally we will see how the Pick and Pack and the Production processes are affected by the new Bin Locations solution.
- But first, let us go over a short business example about OEC Computers and go over their Warehouse structure.

Business Example



You have just finished configuring the bin location setup at OEC Computers.

You now proceed with the implementation of the bin locations module.

OEC Computers buys goods from different manufacturers and distributors and then sells them to their customers.

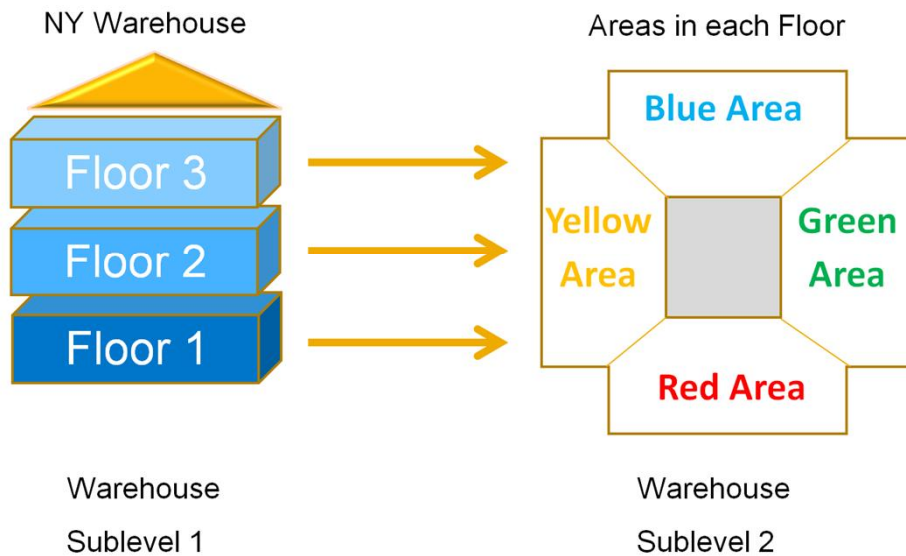
When doing so, goods are allocated to and from bin locations.

You advise the warehouse manager and his team on how to create manual allocations.

In addition, you show the warehouse manager how to define the rules for automatic allocations, and how the rules are used in the business process.

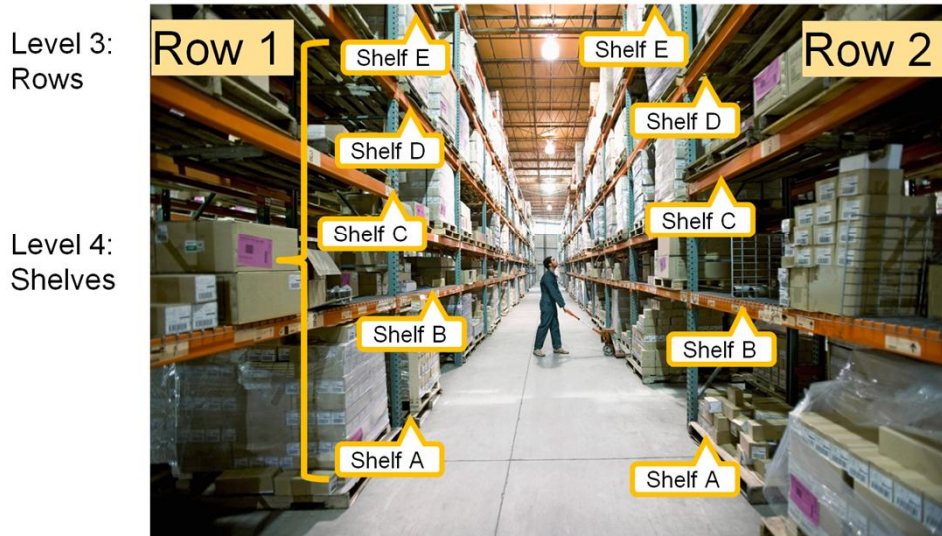
- You have just finished configuring the bin location setup at OEC Computers.
- You now proceed with the implementation of the bin locations module.
- OEC Computers buys goods from different manufacturers and distributors and then sells them to their customers.
- During these logistics processes, goods are allocated to and from bin locations.
- You advise the warehouse manager and his team on how to create manual allocations.
- In addition, you show the warehouse manager how to define the rules for automatic allocations, and how the rules are used in the business process.

Brief reminder of OEC Computers Warehouse Structure (1/2)



- Let us remember OEC Computer's warehouse structure.
- OEC Computers New York warehouse is a 3 floor building.
- Each Floor is divided into Areas: **blue**, **yellow**, **green** and **red**.

Brief reminder of OEC Computers Warehouse Structure (2/2)



© 2013 SAP AG. All rights reserved.

RKT

6

- Each Area is divided into Rows: **1** to **30**.
- Each Row is divided into Shelves: **A** to **Z**.

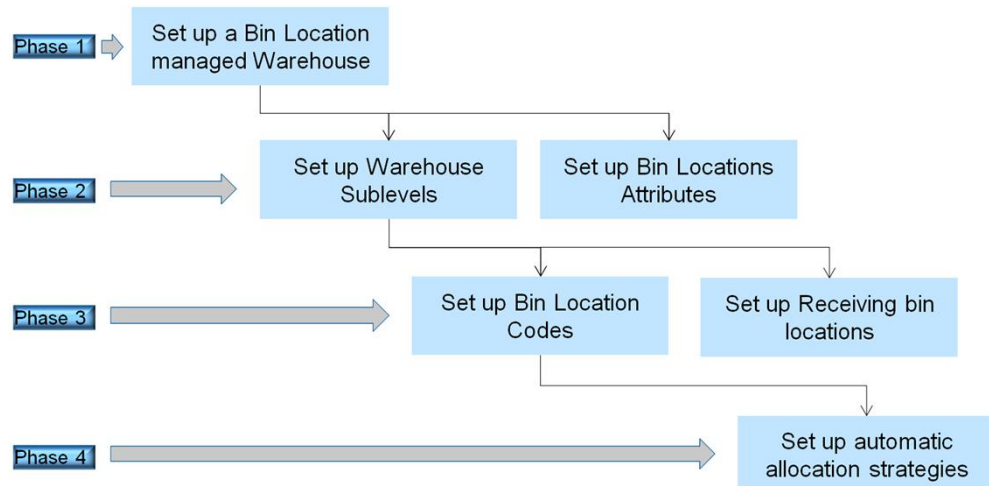
OEC Computers Bin Location Code Structure

Sub level structure	Warehouse - Sublevel1 - Sublevel2 - Sublevel3 - Sublevel4				
	↓	↓	↓	↓	↓
Bin Location Code in OEC Computers	01	–	F2	–	Blue – R01 – C
	↓	↓	↓	↓	↓
Details	Warehouse 01 – Floor 2 - Area Blue - Row 01 - Shelf C				



- This is an example of a bin location code exists in OEC Computers which is combined from all the Warehouse Sublevels mentioned before.

Brief Reminder of the Bin Locations Setup Process



- In the Bin Locations Setup course we saw the setup process of bin locations in a company.
- Let us have a brief reminder of this process.
- Look at the configuration flow displayed here.
- This workflow demonstrates a four phases process:
 - In phase one we Set up the bin location managed Warehouse.
 - In phase two we Set up Warehouse Sublevels and Attributes.
 - In phase three we set up bin location codes and *Receiving* bin locations.
 - And in phase four we set the automatic allocation strategies.
- All these definitions are necessary before creating documents that trigger incoming and outgoing inventory transactions.

Agenda

- Business example and a brief reminder of the Setup process
- Manual allocation processes
 - Incoming allocations
 - Outgoing allocations
- Automatic allocation processes
 - Incoming allocations
 - Outgoing allocations
- Additional Scenarios
- Bin Locations in inventory documents
- Allocations in Pick and Pack
- Allocations in the Production process

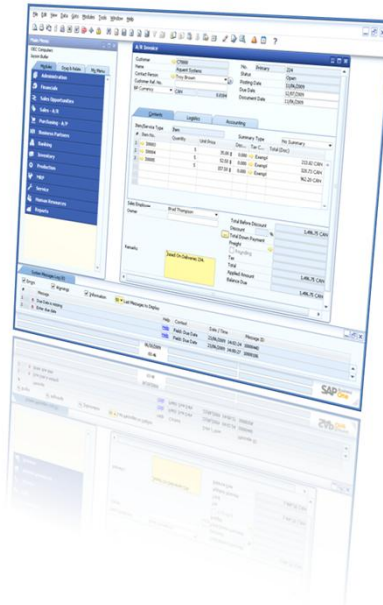
Let us see how a manual allocation is made and get to know the allocation window.

Usage in Documents



- In marketing documents, inventory transactions, Pick and Pack procedure and Production process you can allocate items to and from bin locations.
- The allocation occurs when issuing documents that create inventory transactions.
- Therefore, the bin location allocation option does not exist in documents like orders.
- It is important to mention that bin location allocation is also made in the Inventory Counting process.
- A brief explanation about this process is presented in the Overview course unit.
- In this chapter, we will follow a manual allocation process done in marketing documents for issuing goods from bin locations and receiving goods to bin locations.
- We will then go through the automatic allocation process for both incoming and outgoing transactions.
- During this process we will learn about the different automatic allocation methods.
- Let us start with a short demonstration of the allocation made in a Delivery document.

Demo: Usage in Documents



High Level Demo script notes:

- Go to a new Delivery
- Choose an Item
- Show that an automatic allocations was made in the row
- Explain the automatic allocation is made according to the methods defined in the Warehouse Setup
- Enter to the Bin Location Allocations – Issue window
- Explain you can also allocate manually in this window

Manual Allocation Processes

Incoming Allocations

The screenshot shows two SAP windows. The 'Goods Receipt PO' window on the left displays document details for Vendor V10000, Name Acme Associates, and Item C00010 (Mouse USB) with a quantity of 10. The 'Allocation - Receipt' window on the right shows the same item with a quantity of 10. A yellow callout points to the 'Original row quantity' field in the Allocation window. A blue arrow points from the 'Bin Location Allocation' field in the Goods Receipt PO window to the 'Bin Location Allocation' field in the Allocation - Receipt window. Below the Allocation - Receipt window, a 'Bin Location' table is visible with columns for Bin Location and Allocated. The table shows three rows: 1 (01-F1-BLUE-R01-B), 2 (01-F1-BLUE-R01-C), and 3 (01-F1-BLUE-R01-C). The 'Allocated' column shows values 2, 8, and 10 respectively. A blue arrow points from the 'Original row quantity' field to the 'Allocated' column in the Bin Location table.

Incoming Transaction → Warehouse

- Every inventory receiving document that involves a bin locations managed warehouse requires allocation to specific bin locations.
- This allocation can be manual or automatic.
- We will start by learning about manual allocation in order to better understand the allocation mechanism.
- The Allocation is made per document row.
- A new column was added to these documents called *Bin Location Allocation*.
- Before allocating, make sure the correct quantity and correct warehouse code are updated in the row.
- In order to manually allocate the quantity of the item in the row, choose the link arrow in the *Bin location allocation* field.
- The *Bin Location Allocation – Receipt* window for this row opens.
- In the header of this window you can see information taken from the original document row: *Document Number, Row Number, Warehouse Code and Item Number*.
- You can also see the allocation quantity.
- In the matrix at the bottom of the screen, allocate the row quantity to the desired bin locations.
- You may choose a bin location code from a list or enter it manually.
- You may split the allocated quantity to many *bin location codes*.
- Use the CTRL+B keyboard combination to enter the remaining quantity in the allocated field.
- The quantity allocated can not exceed the row quantity.
- When trying to do so, the system provides an error message.
- You can clear the quantities allocated by choosing the *Clear Allocation* button.
- In the *Bin Location Allocation – Receipt* Window you can add many information fields from the selected Bin Location Master Data.
- Just enter the *Form Setting* window and add the desired fields.
- Note, you can access the Bin Location Allocation window also by right clicking the row and choosing from the context menu the option *Bin Location Allocation*.

Manual allocation processes

Outgoing Allocations

Delivery

Customer: C23900
 Name: Parameter Technology
 Contact Person: Daniel Brown
 Customer Ref. No.:
 BP Currency: \$

No. Primary
 Status
 Posting Date
 Delivery Date
 Document Date

Bin Location Allocation - Issue

Document No.: 252
 Row No.: 1
 Warehouse Code: 01
 Item No.: A00002
 Quantity: 10
 Total Allocated: 10
 Remaining:

#	Bin Location	In Stock	Available	Allocated
1	01-F1-BLUE-R01-Z	1		1
2	01-F1-BLUE-R03-Z	1		1
3	01-F1-BLUE-R04-Z	1		1
4	01-F3-RED-R20-K	871	864	7,000
		874	864	10

OK Cancel Automatic Allocation Clear Allocations

© 2013 SAP AG. All rights reserved.

RKT

13

- Every inventory issuing document that involves a bin locations managed warehouse requires allocation of items to issue from specific Bin locations.
- The *Bin Location Allocation – Issue* window structure is similar to the *Bin Location Allocation – Receipt* window.
- In this window you can see a list of bin location codes with positive quantities available to allocate from.
- This list is fixed and can not be edited or deleted.
- However, you may allocate items from any row with available quantities to allocate.
- Enter the quantity you wish to allocate from any available bin location to combine the total.
- Use the Ctrl+B keyboard combination to update the remaining quantity to allocate.
- The link arrow in the *In Stock* field opens the *Bin Location Contents List* report for the selected line filtered by the bin location code and item to allocate.
- Here, you can see a *Delivery* document made by George, OEC Computers warehouse manager.
 - George needs to issue a quantity of 10 from warehouse 01.
 - There are four bin locations with positive quantity of the item in the row.
 - George wants to empty the different bin locations in order to keep only one bin location for this item.
 - He chooses a quantity of 1 from each of the top three bin locations to empty them.
 - Then, he uses the CTRL+B keyboard combination to update the remaining quantity to allocate.
- You can perform an automatic allocation by choosing the *Automatic Allocation* button.
- We will discuss automatic allocation in the next slides.

Manual allocation processes

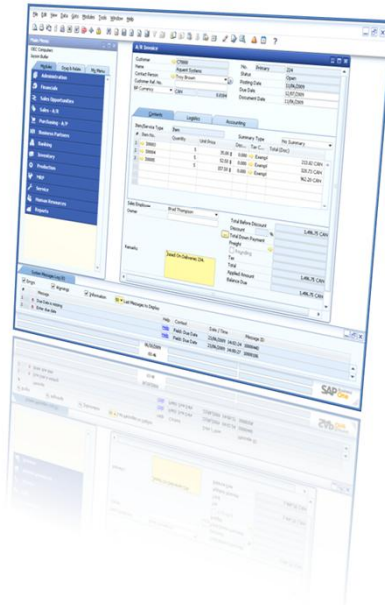
Important Notes

- Mandatory information before allocation: Item Number, Quantity and Warehouse code.
- Allocation quantity is always positive.
- It is possible to have multiple warehouses in one document: bin location managed warehouses and regular warehouses.
- After the document is added, the link arrow of the *Bin Location Allocation* column opens the Inventory Posting List.



- The *Bin Location Allocation* windows (Receipt and issue) will open only when all of the following data exists in the chosen row: Item No., Quantity and Warehouse code.
- The quantity entered in the *Allocated* field, in the *Bin Location Allocation* window, is always positive, even if the line quantity in the document is negative.
- We will see negative quantity allocation in the next slides.
- It is possible to have multiple warehouses in one document: bin location managed warehouses and regular warehouses.
- After the document is added, choosing the link arrow in the *Bin Location Allocation* column, opens up the *Inventory Posting List* report filtered for the transactions related to the relevant document line with split display by bin location. This report can be very useful when receiving goods. The warehouseman can physically allocate items in their bin locations according the issued report.

Demo: Manual Allocation



High Level Demo script notes:

- Go to a GRPO
- Enter a new line with quantity = 5
- Enter the Bin Location Allocation – Receipt window
- Give a short explanation about the header fields
- Allocate quantity of 2 in a certain Bin Location
- Choose another Bin Location and say you are pressing CTRL + B in the keyboard to automatically complete the 3 items left to allocate
- Add the document

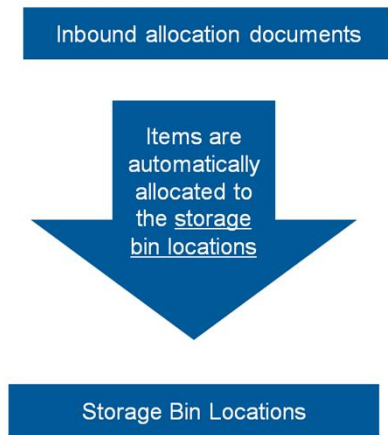
Agenda

- Business example and a brief reminder of the Setup process
- Manual allocation processes
 - Incoming allocations
 - Outgoing allocations
- Automatic allocation processes
 - Incoming allocations
 - Outgoing allocations
- Additional Scenarios
- Bin Locations in inventory documents
- Allocations in Pick and Pack
- Allocations in the Production process

- Now, we will see how automatic allocations are made.
- First we will examine the goods receiving process.
- We will learn the two automatic issuing methods for receiving goods and see how the allocation is done automatically.
- Then, we will examine the goods issuing process.
- We will go over the five automatic receiving methods and see an example for each one.
- We will also see what happens when allocation quantity is missing and what happens when changing the row details after allocation was made.
- But first, let us remember the two automatic allocation methods for receiving goods.

Auto. Allocation Strategies Vs. Receiving Bin Locations

Working with Auto. Allocation Strategies



Working with Receiving Bin Locations



© 2013 SAP AG. All rights reserved.

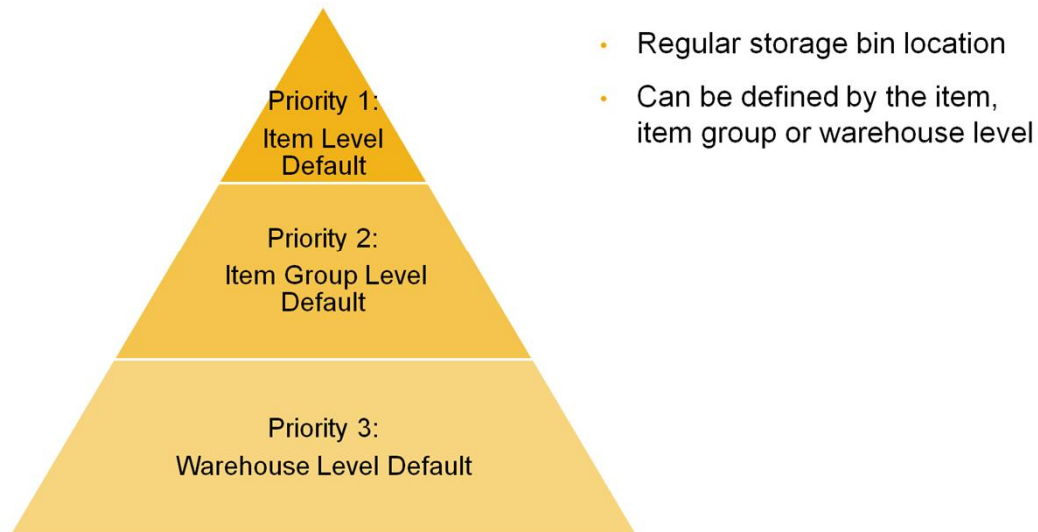
RKT

17

- In the **Setup** course unit we were introduced with the two automatic allocation on receipt methods:
 - The first method is to choose an automatic allocation strategy. There are different automatic allocation strategies. The strategy can be to choose a certain *Default* bin location or to allocate to the current or historical bin locations of the item.
 - The second method is to define bin locations as *Receiving* bin locations. The *Receiving* bin location in SAP Business One can be a transit bin location that is used as an inspection area for quality checks or any other receiving procedures.
- In the graphics demonstrated here we can see two suggested process of allocating items received in the warehouse.
- On the left, we can see a process that can be used in a warehouse that work with automatic allocation strategies.
- In this process items are allocated directly to the storage bin locations.
- On the right we can see a process that can be used in a warehouse that work with the *Receiving* bin locations method.
- In this process the items are allocated to a *Receiving* bin location. In the *receiving* bin location the items go through a goods receipt procedure. Then, the items are moved to the storage bin location.
- Let us take a closer look at these two options in the next slides.

Incoming Allocations

Automatic Allocation Strategies - Default Bin Locations



- One main strategy in the list of the automatic allocation strategies is the *Default bin location*.
- These defaults, in contrast to the *Receiving* bin locations, are the storage bin location and not a temporary location.
- *Default* bin locations can be defined on a Warehouse, Item Group or Item level.
- An incoming transaction involving a Warehouse, Item Group or Item with a *Default* bin location, will be automatically updated with the *Default* bin location code defined in these entities (According to certain priority rules).
- This automatic allocation occurs once selecting an item in the document row, as long as the *Quantity* and *Warehouse* columns are defined.
- *Default* bin locations can be enforced at any level.
- Enforcing a *Default* bin location means allocation can not be done to any other bin location, even if another automatic allocation strategy was chosen in the *Warehouse - Setup* window.

Incoming Allocations

Automatic Allocation Strategies – More Strategies

Bin #	Bin Location Code	Current QTY of Item A	Date of last entry of item A in the bin location	Appears as first choice in the following method:
Bin_1	01-F2-RED-R02-C	10	1.7.13	Last Bin Location Used by Inbound Transaction
Bin_2	01-F2-BLUE-R01-C	12	1.6.13	Current Bin Location in Use for Item
Bin_3	01-F1-BLUE-R01-D	0	1.5.13	Historic Bin Locations Used for Item

- In order to explain the other three strategies, we use an example.
- Look at the table displayed here.
 - There are three bin locations. Bin_1 and Bin_2 currently have a non-zero quantity of item A.
 - The quantity of Bin_1 was last entered on July 1st and the quantity of Bin_2 was entered on June 1st.
 - Bin_3 has no current quantity of item A but on May 1st there was an inbound transaction of the item. The item was later sold and therefore the quantity in this bin location is currently zero.
- The Last Bin Location Used by Inbound Transaction strategy allocates the item automatically to the last bin location used in an inbound transaction to store the specific item in the specific warehouse. In our example, the system looks for the latest entry and therefore the item is allocated to Bin_1.
- In the Current Bin Location in Use for Item strategy the system allocates the item to a bin location that currently contains the item and according to the bin location code sequence. In our case there are two bin locations that currently contain this item: Bin_1 and Bin_2. The system chooses Bin_2 since the bin location code of Bin_2 appears before that of Bin_1 in an alpha-numeric sort order.
- When using the Historic Bin Locations Used for Item strategy, the system allocates to Bin_3. In this strategy, the system looks for the first bin location code in an alpha-numeric sort order among all bin locations that ever received item A.
- A useful option SAP Business One provides in all automatic allocation strategies, is the ability to automatically allocate quantity up to the maximum defined for the bin location. In order to activate this option go to the *Warehouse - Setup* window and choose the checkbox: *Receive Up to Maximum Quantity and Warn if Exceeded*. In addition, if the allocation is done manually and the quantity exceeds to maximum defined, then a warning message is provided asking to approve this allocation.

Incoming Allocations

Receiving Bin Locations



- A transit bin location that is used as an inspection area for receipt procedures
- After the receipt procedure the items are transferred to their regular storage bin

- Let us get to know the second method of automatic allocation – working with *Receiving* bin locations.
- The *Receiving* bin location is a transit bin location that can be used as an inspection area for quality check or any other receipt procedures.
- Another reason for using *Receiving* bin locations can be to allow the receiving of goods to the warehouse even if the warehouseman does not know yet where to physically allocate the goods received.
- When working with *Receiving* bin locations, all incoming transactions are placed in the *Receiving* bin locations unless alternative bin locations are chosen manually in the document.
- The automatic allocation in the document occurs when adding the document.
- If the row quantity is not fully allocated, when trying to add the document, the system raises a message suggesting allocating to the *Receiving* bin location.
- When approving this message, the system will allocate the un-allocated quantity to the bin location defined as *Receiving* in the *Bin Location Master Data* window.
- After completing the receipt, the items received can be transferred, using an *Inventory Transfer* document, to a storage bin locations.
- Please note that companies may choose to use the *Receiving* bin location as a regular storage bin. In this case, the items will not be transferred to another bin location.
- Please also note that the *Receiving* bin location functionality is active only for purchasing document and not for inventory documents including: *Good Receipt*, *Inventory Transfer*, *Receipt From Production* and any incoming assembly BOM transactions.

Incoming Allocation

Automatic Allocation Strategies Vs. Receiving Bin Locations

	Method 1 – Automatic allocation strategies	Method 2 - Receiving bin locations
Automatic allocation occurs:	After entry of item code, quantity and warehouse	After choosing the <i>Add</i> button
Possible Target bin location:	Main storage bin location	Receiving Bin Location
Possible Process after allocation:	None needed	Transfer items to the main storage bin location
When both methods are defined:	Allocation will not occur	Allocation to Receiving bin location is suggested

- This table summarizes the difference between the two different types of automatic allocation:
- When using one of the automatic allocation strategies, the bin locations are populated automatically in the document rows before adding the document.
- On the other hand, the *Receiving* bin locations are populated only after adding the document.
- In our example we use the automatic allocation strategies to allocate goods to the main storage bin location and the *Receiving* bin location as the in transit, reception area.
- In addition, in contrast with the automatic allocation strategies, after allocating to a *Receiving* bin location, we may transfer the items to the main storage bin.
- Finally, look at the last row. In purchasing marketing documents, when both automatic allocation strategy and *Receiving* bin locations apply for the document row then:
 - The system does not automatically allocate the item according to the automatic allocation strategy. This is also true when a *Default* bin location was enforced.
 - When adding the document, if no manual allocation has been made, the system suggests to allocate the unallocated quantity to the *Receiving* bin location.

Automatic Incoming allocation

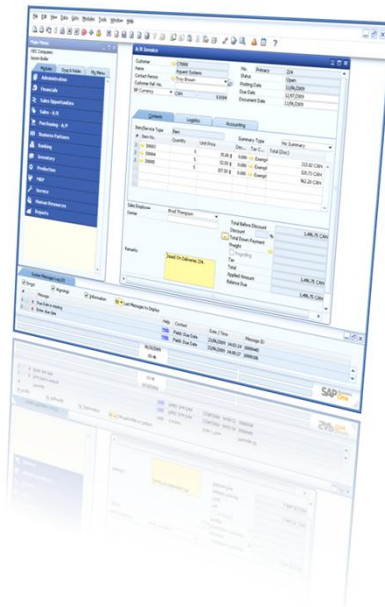
Important Notes

- An enforced Default bin location overcomes any automatic allocation strategy that is currently defined in the *Warehouse – Setup* window.
- To avoid any automatic allocation, just make sure the Default Bin Location allocation strategy is chosen and that no Default bin location was defined.
- Allocation to a bin location can be done for the whole document in the *Form Setting* window.



- Here are some important notes concerning automatic incoming allocation:
- When a *Default* bin location is enforced, then no matter which automatic allocation strategy is currently defined in the *Warehouse – Setup* window, the allocation is done to the *Default* bin location.
- It is also important to know that in case you want to avoid any automatic allocation, just make sure the *Default bin location* allocation strategy is chosen and that there is no *Default* bin location defined in the warehouses, item groups and items.
- And finally, note that in the *Form Settings* window you may choose another bin location for allocation, for the whole document. In this way you can override the automatic allocation strategy defined if necessary (unless *Default* bin location was enforced). Since this change affects all rows in the document, this action may be used to allocate items to a transit bin location from which the items will later be transferred to the main storage bin locations.
- You may also want to refer to the **Setup** course unit for more details about the definitions needed for the automatic allocation on receipt.

Demo: Incoming Allocations



© 2013 SAP AG. All rights reserved.

RKT

23

High Level Demo script notes:

Define a Receiving Bin Locations in the *Warehouse Setup* window

Go to a GRPO and add a row

Show the quantity was not automatically allocated in the row

Add the document and show the message received asking to allocate to receiving Bin Locations.

Go back to the warehouse setup window and un-check the *Enable Receiving Bin Locations* check box.

In the *Auto Allocate on Receipt* field, choose the *Item Current and Historical Bin Location* option.

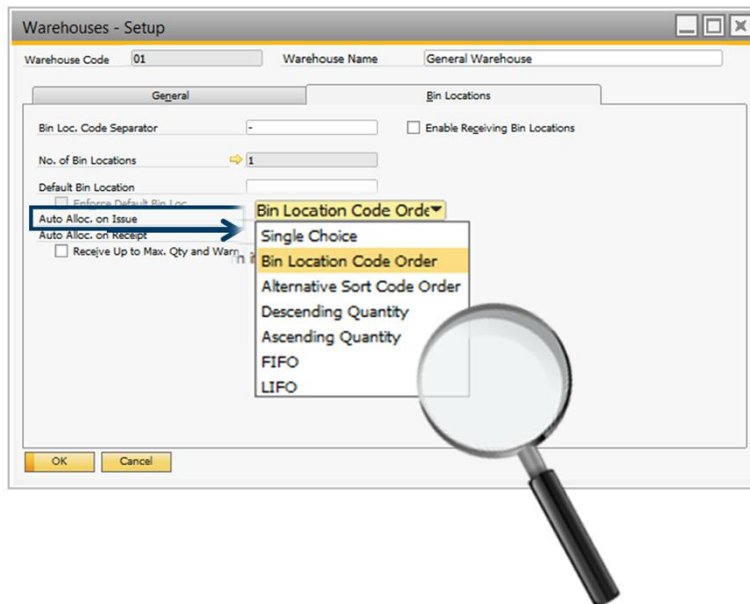
Go to a new GRPO and choose the same item

Show the item was allocated automatically in the row once item was chosen.

Outgoing Allocations

Automatic Allocation on Issue Definition

Setup → Inventory → Warehouse



© 2013 SAP AG. All rights reserved.

RKT

24

- After we covered the automatic incoming allocation methods let us discuss the automatic outgoing allocation methods.
- Allocation of items from bin locations can be done automatically when issuing documents that create outgoing inventory transactions.
- The quantity to allocate can be chosen from different bin locations in a certain order.
- The definition for this automatic allocation is done in the *Warehouse – Setup* window.
- This definition will apply to all issuing transactions.
- Having said that, it is also possible to manually change the automatic allocation method per outgoing transaction.
- We will learn how to do that in the following slides.
- Let us first go through the different automatic methods for issuing items from bin locations.

Outgoing Allocations

Automatic Allocation Issuing Methods

<u>Issuing Method</u>	<u>Description</u>
Single Choice	Automatic allocation occurs when there is only one possible allocation option.
Bin Location Code Order	Allocation is done according to the alphanumeric order of the Bin Location codes.
Alternative Sort Code Order	Allocation is done according to the alphanumeric order of the Alternative Sort codes.
Descending Quantity	Allocation is done according to the descending Bin Location quantities.
Ascending Quantity	Allocation is done according to the Ascending Bin Location quantities.
FIFO	Allocation is done according to the entrance date of the item in the bin location, starting from the earliest.
LIFO	Allocation is done according to the entrance date of the item in the bin location, starting from the latest.

- In the table we see all issuing methods along with a short description.
- The *Single Choice* method means that Automatic allocation only occurs when there is only one possible allocation option.
- The *Bin Location Code Order* method means that items are allocated according to the alphanumeric order of the bin location codes.
- The *Alternative Sort Code Order* method means that items are allocated according to the alphanumeric order of the Alternative Sort codes.
- The *Descending Quantity* method means that items are allocated according to the descending bin location quantities.
- The *Ascending Quantity* method means that items are allocated according to the ascending bin location quantities.
- Both *FIFO* and *LIFO* methods mean that items are allocated according to the order of the entrance date of the item in the bin location. In *FIFO*, the allocation starts from the earliest date and in *LIFO* from the latest.
- Let us explain each method with an example.

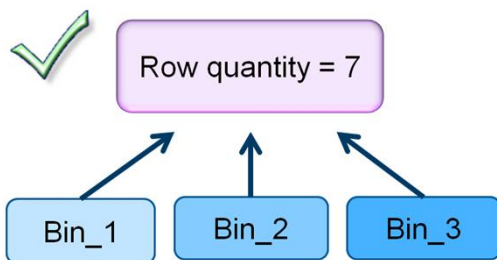
Automatic Allocation Issuing Methods

Single Choice

Bin #	Bin Location Code	Stored QTY of Item A
Bin_1	01-F2-BLUE-R01-C	2
Bin_2	01-F2-BLUE-R12-D	1
Bin_3	01-F2-RED-R02-C	4

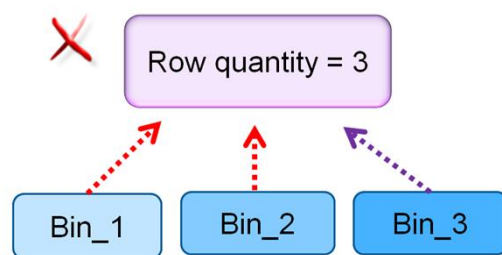
Example 1

Automatic allocation will occur



Example 2

Automatic allocation will not occur



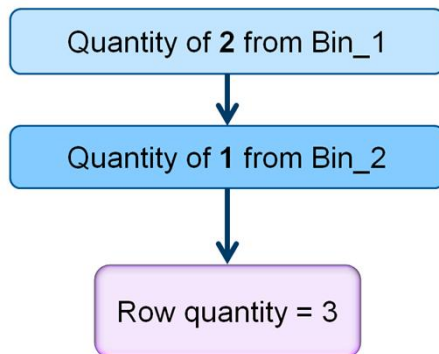
- The first option in the list is *Single Choice*.
- Businesses may choose to work with this method if they want to carefully control the allocation process.
- This method will only trigger automatic allocation when one option of allocation is possible.
- Let us have a look at the examples illustrated here.
- In the table illustrated here we see three bin locations.
- In each bin location we see the stored quantity of item A.
- In addition, we see the Alternative Sort code of each bin location.
- In example 1 we need to allocate a quantity of 7 in the document row.
- In this case it is clear we need to allocate the whole quantity from each bin location.
- There is no other option for allocation.
- In example 2 we need to allocate a quantity of 3.
- This can be done by allocating quantity of 2 from Bin_1 + quantity of 1 from Bin_2.
- Another option for allocation is to issue a quantity of 3 from Bin_3.
- When SAP Business One recognizes there is more than 1 option of allocation then no automatic allocation will be made.
- In this case a manual allocation is needed.

Automatic Allocation Issuing Methods

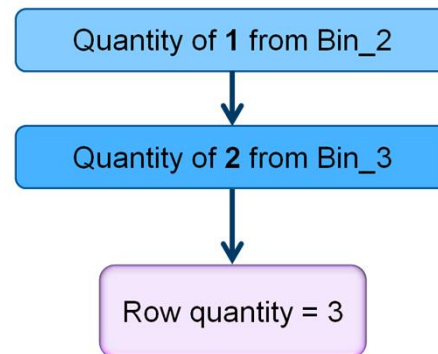
Bin Location Code Order and Alternative Sort Code Order

Bin #	Bin Location Code	Stored QTY of Item A	Alternative Sort Code
Bin_1	01-F2-BLUE-R01-C	2	00065
Bin_2	01-F2-BLUE-R12-D	1	00010
Bin_3	01-F2-RED-R02-C	4	00050

Bin Location Code Order



Alternative Sort Code Order



© 2013 SAP AG. All rights reserved.

RKT

27

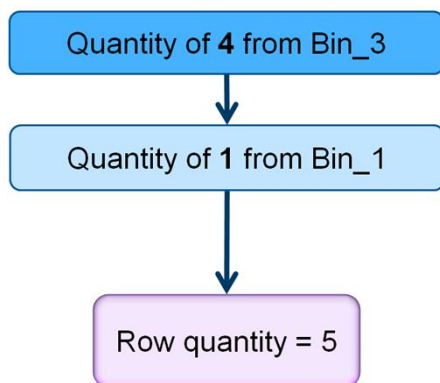
- The second and third methods perform allocation according to an alphanumeric order.
- An automatic allocation will be made whenever there is quantity available to allocate in any bin location.
- The *Bin Location Code Order* method will allocate quantity from bin locations according to the alphanumeric order of their bin location codes.
 - SAP Business One looks for bin location containing the desired item.
 - Then, the system allocates the available quantity from each bin location up to the quantity needed in the row.
 - Let us go back to our example table, this time we need to allocate a quantity of 3 of item **A**.
 - On the left we see how the system allocates items to Bin Locations when using the *Bin Location Code Order* method.
 - SAP Business One looks for the first bin location code in an alphanumeric order – Bin_1.
 - The system allocates a quantity of 2 from this bin location and moves on to the next bin location in the list.
 - The second bin location codes in the alphanumeric order is Bin_2.
 - The system will allocate the remaining quantity of 1 from this bin location.
- The *Alternative Sort Code* order method allocates quantity from bin locations according the alphanumeric order of their Alternative Sort code.
 - This method allows a different order of Bin Locations to allocate from.
 - As apposed to the bin location code, the Alternative Sort Code of the bin locations can be edited to form a different order of bin locations to allocate items from.
 - The allocation logic is the same as we previously saw.
 - On the right we see an example of using the *Alternative Sort Code Order* method.
 - SAP Business One looks for the first alternative sort codes using alphanumeric order.
 - In this case Bin_2 first because its alternative sort code is **00010**. The system allocates a quantity of 1 from this bin location.
 - The second bin location in the Alternative Sort code order is Bin_3. The system allocates the remaining quantity of 2 from this bin location.

Automatic Allocation Issuing Methods

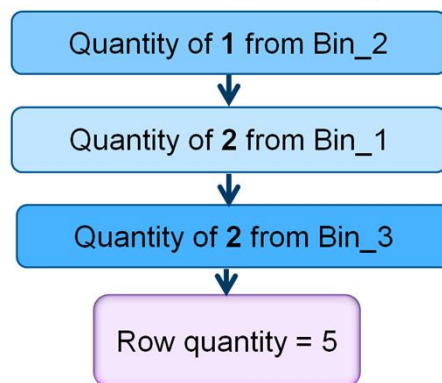
Descending Quantity and Ascending Quantity

Bin #	Bin Location Code	Stored QTY of Item A
Bin_1	01-F2-BLUE-R01-C	2
Bin_2	01-F2-BLUE-R12-D	1
Bin_3	01-F2-RED-R02-C	4

Descending Quantity



Ascending Quantity



© 2013 SAP AG. All rights reserved.

RKT

28

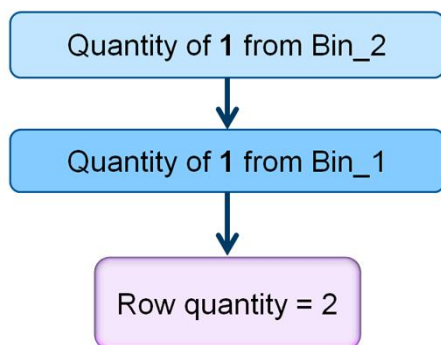
- The fourth and fifth methods perform allocations according to the order of quantity of the item in each bin location.
- An automatic allocation is made whenever there is available quantity to allocate in any bin location.
- The *Descending Quantity* method allocates quantity starting with the bin location containing the largest quantity of the item.
- As before, we have a table with three bin locations. This time, however, the three bins contain a total quantity of 5 of item **A**.
- On the left we see how the system allocates according to the Descending Quantity method. Using this method SAP Business One looks for the bin location with the largest quantity of item **A**.
- The system allocates a quantity of 4 from Bin_3.
- Then the system looks for the bin location with the next largest quantity of the item. That will be Bin_1. Therefore, the system allocates the remaining quantity of 1 from Bin_1.
- Now, let us look at the *Ascending Quantity* method example.
- The *Ascending Quantity* method allocates quantity starting with the bin location containing the smallest quantity.
- In the example on the right hand of the screen, SAP Business One looks for the bin location with the smallest quantity of item **A**.
- The system allocates a quantity of 1 from Bin_2.
- Then the system looks for the next bin location with the smallest quantity of the item.
- That will be Bin_1 from which the system allocates a quantity of 2.
- Bin_3 will be the next in line to allocate the remaining quantity of 2.
- When considering which of these two methods to choose, you should keep in mind the following:
 - The *Descending Quantity* method involves the least number of bins possible for each transaction and therefore involves the minimum number of picks.
 - The *Ascending Quantity* method eventually reduces the number of bins used for an item since the bins with the smallest quantities are emptied first.

Automatic Allocation Issuing Methods

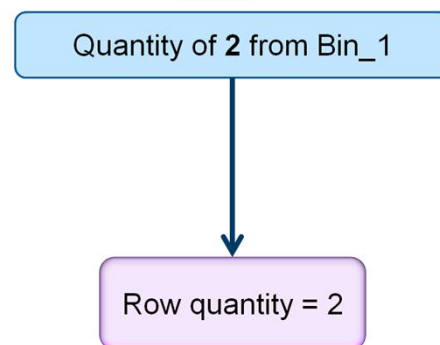
FIFO and LIFO

Bin #	Bin Location Code	Stored QTY of Item A	Entrance date of the item to the bin location
Bin_1	01-F2-BLUE-R01-C	2	Qty of 1 – 1.7.13
			Qty of 1 – 1.5.13
Bin_2	01-F2-BLUE-R12-D	1	Qty of 1 – 1.6.13

FIFO



LIFO



© 2013 SAP AG. All rights reserved.

RKT

29

- When setting the *FIFO* or *LIFO* methods, the system checks the date of the last inbound transaction made in each single bin location.
- We can demonstrate this principle by looking at the example shown here.
- Look at the *FIFO* example on the left side.
 - The system looks for the earliest date out of the last inbound transaction dates of each bin location. This is why the system allocates from Bin_2. June 1st is earlier than July 1st.
 - Since no quantity was left to allocate in Bin_2 the system looks for the next bin location, in our example it is Bin_1.
- In the *LIFO* method the system looks for the latest date out of the last inbound transaction dates of each bin location, in our example it is Bin_1. The system can allocate the whole quantity from Bin_1.

Outgoing Allocation in Marketing Documents

Changing allocation method in the document

The screenshot shows the 'Bin Location Allocation - Issue' window in SAP. The document number is 253, row number is 1, warehouse code is 01, and item number is A00002. The quantity is 2. The table below shows the allocation of the quantity across different bin locations.

#	Bin Location	In Stock	Available	Allocated
1	01-F1-BLUE-R01-Z	1		1
2	01-F1-BLUE-R03-A	1		1
3	01-F1-BLUE-R04-A	1	1	
4	01-F3-RED-R20-K	871	871	
		874		2

The dropdown menu for 'Automatic Allocation' is open, showing the following options:

- Remaining
- Single Choice
- Bin Location Code Order**
- Alternative Sort Code Order
- Descending Quantity
- Ascending Quantity

- No matter what method you have defined in the *Warehouse Setup* window, you can still change the issue method of the document and the document row before adding the document.
- To change the allocation method of the whole document, enter the **Form Settings → Document → Table tab** and choose the automatic allocation method desired.
- You can also change the allocation method in the row, just enter the *Bin Location Allocation – Issue* window and choose the *Automatic Allocation* button. There you can choose the method desired from a list.
- In the example demonstrated here, we chose the *Bin Location Code Order* method.
- Once the option was chosen, the system automatically allocates the quantity. The table is sorted by the bin location code and the first bin location has only one unit of the item.
- For this reason, the system allocates a quantity of 1 from the first bin and another 1 from the second bin.
- In our business example, OEC Computers defined the *Ascending Quantity* method as the default in the New York warehouse because this method minimizes the number of bin locations for each item in the warehouse.
- However, when many bin locations are used for one item, it is more useful to use the *Descending Quantity* method. With those items, the warehouse personnel can go to the *Bin Location Allocation* window, and choose this method from the *Automatic Allocation* drop down list.

Outgoing Allocation in Marketing Documents

Remaining method

The screenshot shows the 'Bin Location Allocation - Issue' window with the following data:

#	Bin Location	In Stock	Available	Allocated	Floor	Area	Row
1	01-F2-BLUE-R01	10	10	10	F2	BLUE	R01
2	01-F2-BLUE-R02	10	10		F2	BLUE	R02
3	01-F2-BLUE-R03	10	10		F2	BLUE	R03
4	01-SYSTEM-BIN-L	840	840		SYSTEM		

The 'Remaining' method is selected in the dropdown menu. The 'Form Settings - Bin Location Allocation - Issue' window is also open, showing the 'Table Format' tab with 'Floor', 'Area', and 'Row' selected for sorting.

- The first option in the dropdown list for automatic allocation is *Remaining*.
- This option is not one of the methods defined in the *Warehouse Setup* window. Instead it is a way to control the order of allocation according to multiple parameters.
- The *Remaining* method allows you to use additional parameters that are not covered by the standard allocation methods. Using this method, you can prioritize the picking order of a delivery based on the order of additional fields that you add to a form.
- As you can see in the graphic, a number of additional fields are available in the *Form Settings* window.
- For example, OEC Computers can use the *Remaining* option to sort the allocation grid by Floors, then Areas, and then Rows. In this way, they can narrow down the picking area. Bin Locations will appear in the allocation table, sorted by both their available quantity and by their physical location. This is because the allocation is done in the order that bin locations appear in the table.
- In the example in the graphic, we see that the bin locations appear sorted by floor, area and then row. The system will allocate the quantity needed up to the maximum available in each bin and then move to the next bin on the list.

Outgoing Allocation Process

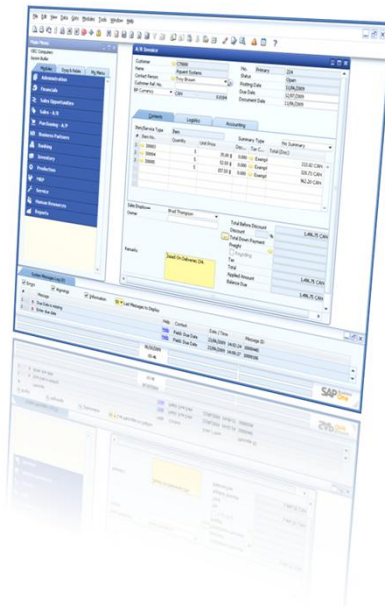
Conditions for automatic allocation

The system allocates automatically when the following condition exists:

Quantity exists in the warehouse AND (Single Choice with one allocation option OR Any method but Single Choice)

- We can conclude and say that the system allocates automatically whenever quantity exists in the warehouse used in the document row.
- In addition, when working with the Single Choice method, the system allocates automatically only when one allocation option exists.
- In all other cases you can choose to do one or more of the following:
 - Allocate manually.
 - Choose another automatic allocation for the whole document or document row.
 - Choose the *Remaining* option to allocate the items by the order you set.

Demo: Adding a Delivery with Bin Locations



© 2013 SAP AG. All rights reserved.

RKT

33

High Level Demo script notes:

In the warehouse setup choose single choice

Add a delivery and choose an item stored in many Bin Locations

Go to the Bin Location allocation window and explain no allocation was made because of the single choice method

In the Allocation window choose another automatic method and show how the automatic allocation was made

Go to the Warehouse setup again and choose another method

Go to a delivery, choose an item with quantity

Enter the allocation window and show how the automatic allocations was already made

Automatic Allocation Vs. Manual Allocation

Automatic Allocations

- Fast process
- No human mistakes
- Optimize allocation according to allocation rules



Manual Allocations

- Flexible
- Full manual control
- Handle exceptions in automatic processes

- Now that we are familiar with both automatic and manual allocation procedures, we are facing the question: when should we use each procedure.
- The general recommendation is to use automatic allocation when automatic methods meet business requirements.
- Automatic allocation saves time, prevents human mistakes and assures allocation is made according to the allocation rules defined.
- On the other hand manual allocation is flexible and allows a full manual control of each allocation.
- A good example when automatic allocation is useful will be when the same bin location is used regularly for a specific item.
Then it make sense to set a *Default* bin location for this item.
- But, let us say, that the physical allocation to the bin locations is done first by the warehouseman, with no pre-defined rules, then, to match the actual allocation, we need to manually allocate the items in the document.
- In some cases we use automatic methods that combine manual allocation.
- For example, when using the **Single Choice** method for outgoing allocation, the system automatically allocates only when there is one allocation option. If that is not the case, we need to allocate the item manually.
- Remember that when automatic allocation rules are set, we can always change the allocation made before adding the document.

Agenda

- Business example and a brief reminder of the Setup process
- Manual allocation processes
 - Incoming allocations
 - Outgoing allocations
- Automatic allocation processes
 - Incoming allocations
 - Outgoing allocations
- Additional Scenarios
- Bin Locations in inventory documents
- Allocations in Pick and Pack
- Allocations in the Production process

In the additional processes we will see what happens when saving a document as draft and when cancelling it.

Insufficient Quantity in Outgoing Allocation

The screenshot shows two SAP windows. The top window is 'Delivery' with the following data:

Customer	C23900	No.	Primary	253
Name	Parameter Technology	Status	Open	
Contact Person	Daniel Brown	Posting Date	12/10/2012	
Customer Ref. No.		Delivery Date	12/10/2012	
BP Currency	\$	Document Date	12/10/2012	

The bottom window is 'Bin Location Allocation - Issue' with the following data:

Document No.	253
Row No.	2
Warehouse Code	01
Item No.	100033
Quantity	2
Total Allocated	1
Remaining	1

The 'Contents' tab in the 'Delivery' window shows a table with the following data:

#	Item No.	Quantity	Bin Location Allocation	Invent.	Unit Price	Base	I...
1	L10001	1	0	No	7.50	01	
2	I00033	2	1	No			
3				No			

Annotations in the image highlight 'No quantity available' for the first row and 'Partial quantity available' for the second row. The 'Bin Location Allocation - Issue' window also shows a table with the following data:

#	Bin Location	In Stock	Available	Allocated
1	01-SYSTEM-BIN-LOC	1		1.000

- The procedure described in the former slides was based on the assumption that there is a sufficient quantity to allocate. But what happens if there is not enough quantity to allocate?
- When there is insufficient quantity available in the warehouse for the item, only the available quantity is automatically allocated. The partial allocated quantity is displayed in red in the *Bin Location Allocation* field.
- We can see this in the image shown here. In the first row of the delivery – there is no quantity available to allocate for the item and therefore we see a zero in the field. In the second row there is only one unit available in the warehouse.
- When we enter the *Bin Location Allocation – Issue* window we can see that the quantity needed is 2 but the available quantity is only 1.
- Note, in this case, if there is available quantity in other warehouses, you may change the warehouse in the rows to fully allocate the quantity. Changing the warehouse in the row triggers the automatic allocation again.
- In case you add a document and you do not notice that the quantity was not fully allocated, the system opens the *Bin Location Allocation – Issue* window automatically to allow you to complete the missing allocation.

Allow Negative Inventory in Outgoing Allocation

The screenshot shows the 'Bin Location Allocation - Issue' window. The main table displays the following data:

#	Bin Location	In Stock	Available	Allocated	Allow Negative Inventory
1	01-F1-BLUE-R01-B	884	-116	1,000	<input checked="" type="checkbox"/>
		884	-116	1,000	

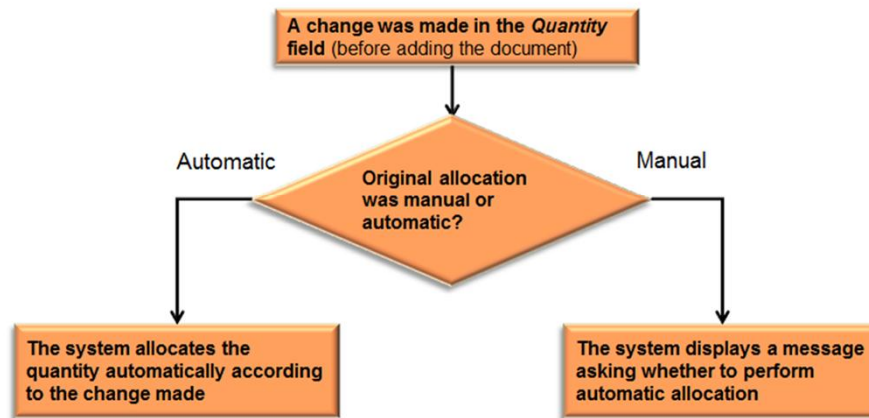
Form Settings - Bin Location Allocation - Issue dialog box:

Column	Visible	Active
#	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Bin Location	<input checked="" type="checkbox"/>	<input type="checkbox"/>
In Stock	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Available	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Allocated	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Allow Negative Inventory	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Warehouse	<input type="checkbox"/>	<input type="checkbox"/>

- In some cases, in OEC Computers, the warehouse worker issues a *Delivery* document for items that are still located in the receiving area. This happens when due to workload the warehouse worker did not manage to enter an *Inventory Transfer* yet to the regular storage bin. Since the *Inventory Transfer* will be added eventually, the worker issues a *Delivery* document from the regular storage bin of the item. This transaction may lead to a negative quantity of the item in the storage bin.
- In situations where the quantity needed for allocation exceeds available quantity, you have an option to allow negative quantity. To do this, you need to add the column *Allow negative inventory* in the *Form Settings* window.
- We see an example of this in the graphic. The total quantity needed to allocate is **1,000**, but there are only **884** units available.
- After checking the *Allow Negative Inventory* box, we can allocate the full quantity.
- Note the available quantity left in this bin location after the allocation shows as **-116** units.

Outgoing Allocation in Marketing documents process

Making a change in the row details



- Sometimes, you may want to make changes to the row details after an allocation is made. For example, if you need to increase or decrease the quantity needed, or substitute a different item on the row.
- If you change the item or warehouse in the row, the system clears the allocation. The system will try to automatically allocate items if possible.
- This flow chart demonstrates what happens when the user changes the quantity in a row.
- If the original allocation was automatic, then an automatic allocation will occur for the new values.
- If you alter the quantity for a manual allocation, the system gives you the option of whether to allocate manually or automatically. This behavior was designed with the assumption that if you originally made a manual allocation for this row, you may want to do it again.

Automatic Allocation

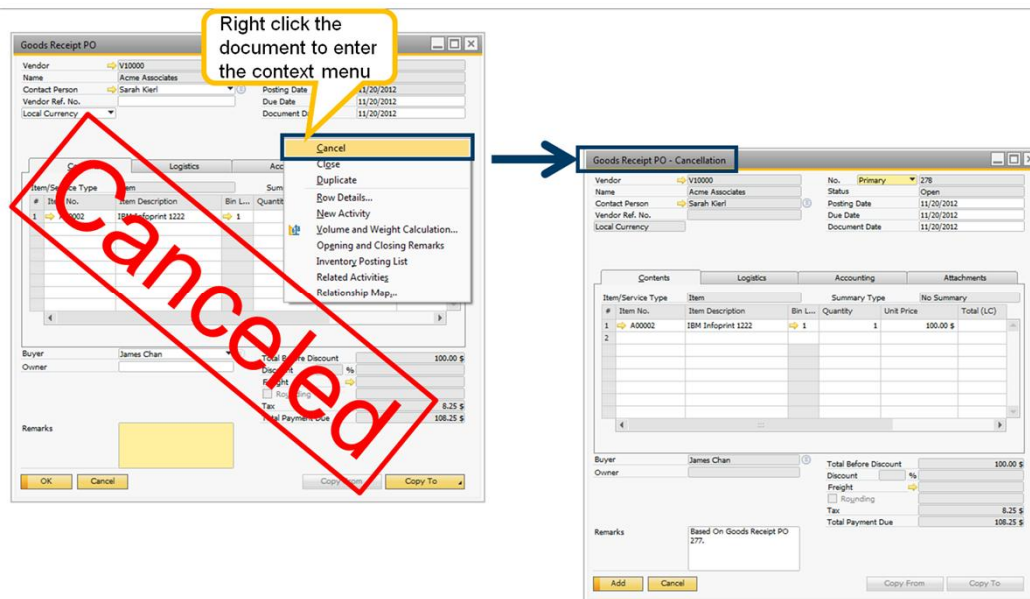
Working with Drafts



- When saving a document as a draft, manual allocations are saved with it
- Automatic allocations are not saved.
- Any update made in the *Bin Location Allocation – Issue/Receipt* window, causes the allocation to be considered as manual allocation.

- When saving a document as a draft, all manual allocations are saved with it.
- Automatic allocations however, are not saved.
- Note, any update made in the *Bin Location Allocation – Issue/Receipt* window, causes the allocations to be considered as manual. This is true even for updates that change an automatic allocation.

Cancel and Copy Marketing Documents



- There are two cancellation options of marketing documents in release 9.0:
 - The first is to copy the document to a reverse document (for example copy a Delivery to a Return document).
When copying the document, all automatic processes for incoming and outgoing allocations apply in the normal way.
 - The second option is to right click the document and choose the *Cancel* option.
 - In this case a new document of the same type opens in *Add* mode and the items should be allocated again.
 - The allocations made in the original document are copied to the cancellation document.
- Automatic allocation processes also apply to documents that create inventory transactions and are copied from other base documents.

Allocating Negative Quantities

Bin Location Allocation - Issue

Document No. 255
 Row No. 1
 Warehouse Code 01
 Item No. A00004
 Quantity 1,000
 Total Allocated 1,000

For negative quantity in an incoming allocation document, the *Bin Location Allocation – Issue* window opens.

#	Bin Location	In Stock	Available	Allocated	Allow Negative Inventory
1	884	-116	1,000		

Update Cancel Automatic Allocation Clear Allocations

Bin Location Allocation - Receipt

Document No. 273
 Row No. 1
 Warehouse Code 01
 Item No. C00010
 Quantity 10
 Total Allocated 10

For negative quantity in an outgoing allocation document, the *Bin Location Allocation – Receipt* window opens.

#	Bin Location	In Stock	Available	Allocated	Allow Negative Inventory
1					
2	01-F1-BLUE-801-C				
3					

OK Cancel Clear Allocations

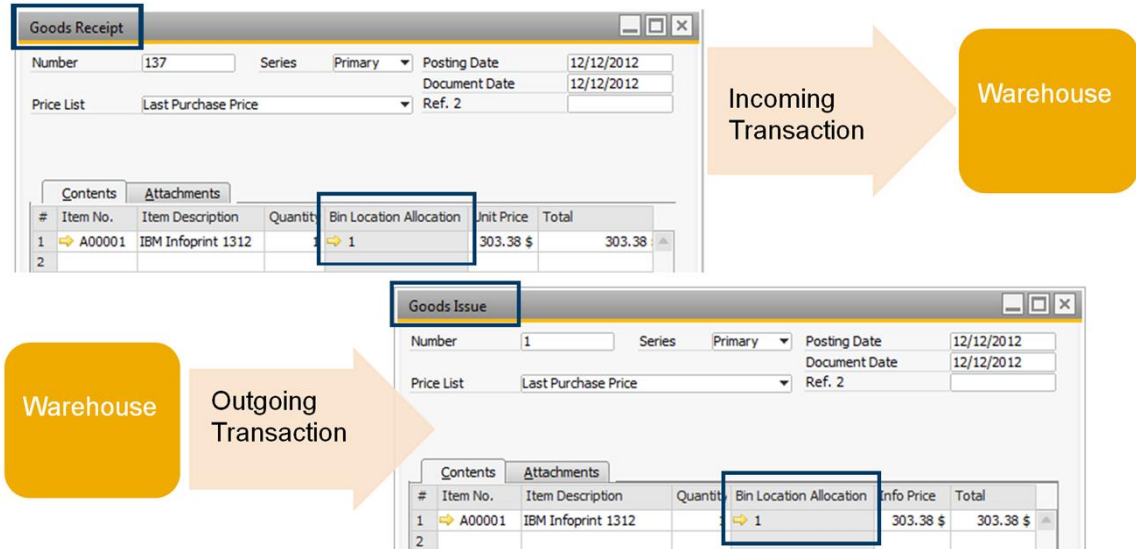
- When the line quantity is negative, for incoming transactions, the *Bin Location Allocation – Issue* window opens.
- The *Bin Location Allocation – Receipt window* opens for outgoing transactions with negative quantity.

Agenda

- Business example and a brief reminder of the Setup process
- Manual allocation processes
 - Incoming allocations
 - Outgoing allocations
- Automatic allocation processes
 - Incoming allocations
 - Outgoing allocations
- Additional Scenarios
- Bin Locations in inventory documents
- Allocations in Pick and Pack
- Allocations in the Production process

- Let us see how allocations are made in inventory documents.

Automatic Allocation in Goods Receipt and Goods Issue



- Allocation procedures in *Goods Receipt* and *Goods Issue* are similar to those of the incoming and outgoing marketing documents respectively with one exception:
- In inventory documents, there is no automatic allocation to *Receiving* bin location.

Allocation in Inventory Transfer (1/2)

These fields contain the default values for the fields in the grid

#	Item No.	Item Description	From Warehouse	To Warehouse	From Bin Loc...	To Bin Loc...	Quantity
1	A00002	IBM Infoprint 1222	01	01	871	871	871

- In our example, OEC Computers works with *Receiving* bin location.
- Remember, when working with bin locations we may need to transfer the goods received from the receiving area to the storage bin locations.
- Therefore, George enters several *Inventory Transfers* a day to transfer inventory from the *Receiving* bin location to the Storage bin location.
- The *Inventory Transfer* document was adapted to handle inventory transfer between bin locations.
- This transfer is also possible within one warehouse, from one bin location to another.
- Look at the image, two new bin location columns were added to the *Contents* table: *From Bin Location* and *To Bin Location*.
- Prior to release 9.0, the *From Warehouse* field appeared only in the header and the *To Warehouse* field appeared only in the Contents table.
- In release 9.0 both fields appear in both areas and they behave slightly differently.
- The fields in the header holds the default values for the fields in the grid.
- The inventory transaction will be made according to the values indicated in the rows.
- This new structure allows the *Inventory Transfer* document to be created for multiple originating warehouses simultaneously. This ability is available even when bin location functionality is not activated for any warehouse.
- In any row where an originating or receiving warehouse does not manage bin locations, the respective from/to bin locations field is grayed out.
- Note, If you are upgrading to release 9.0:
 - The value of the old *From Warehouse* field in the header is populated in the new *From Warehouse* column for all historic *Inventory Transfer* documents. This is true whether they are posted or still in draft form.
 - The *To Warehouse* field in the header is not populated on upgrade.

Allocation in Inventory Transfer (2/2)

The screenshot illustrates the 'Inventory Transfer' window and its associated allocation sub-windows. The main window shows a table with columns: #, Item No., Item Description, From Warehouse, To Warehouse, From Bin Locations, To Bin Locations, and Q..

#	Item No.	Item Description	From Warehouse	To Warehouse	From Bin Locations	To Bin Locations	Q..
1	A00001	IBM Infoprint 1312	01	01	1	1	
2			01	01			

Two arrows point from the 'From Bin Locations' and 'To Bin Locations' columns to two sub-windows:

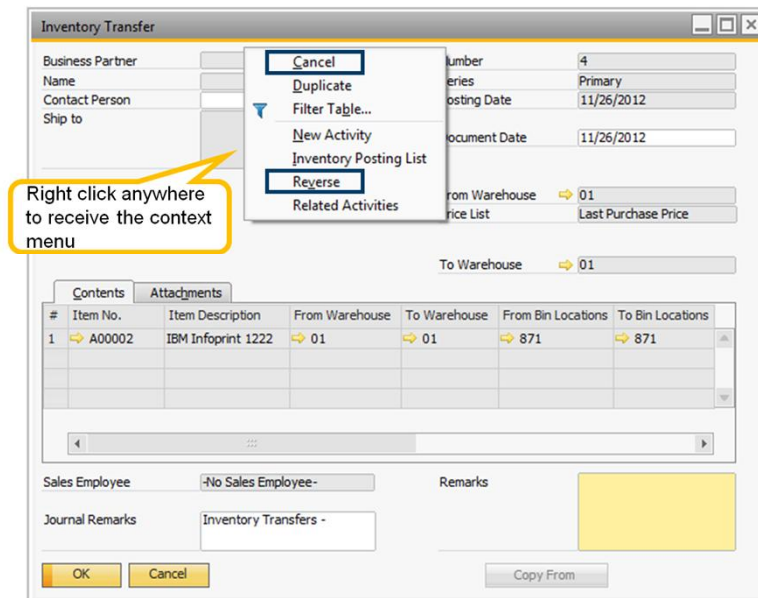
- Bin Location Allocation - Issue:** This window shows details for the 'Issue' allocation. It includes fields for Document No. (5), Row No. (1), Warehouse Code (01), Item No. (A00001), Quantity (1), Total Allocated (1), and Remaining. Below these fields is a table showing bin locations and their allocated quantities.
- Bin Location Allocation - Receipt:** This window shows details for the 'Receipt' allocation. It includes fields for Document No. (5), Row No. (1), Warehouse Code (01), Item No. (A00001), Quantity (1), Total Allocated (1), and Remaining. Below these fields is a table showing bin locations and their allocated quantities.

- Note, the inventory Transfer creates the two kinds of allocations - incoming and outgoing allocations.
 - Choosing the *From Bin Locations* field link arrow will open the *Bin Location Allocation – Issue* window
 - Choosing the *To Bin Locations* field link arrow will open the *Bin Location Allocation – Receipt* window.

Note,

The inventory transfer document is used in a replenishment process. This will be discussed in the course on reporting for bin locations.

Cancelation and Reverse of Inventory Transfer



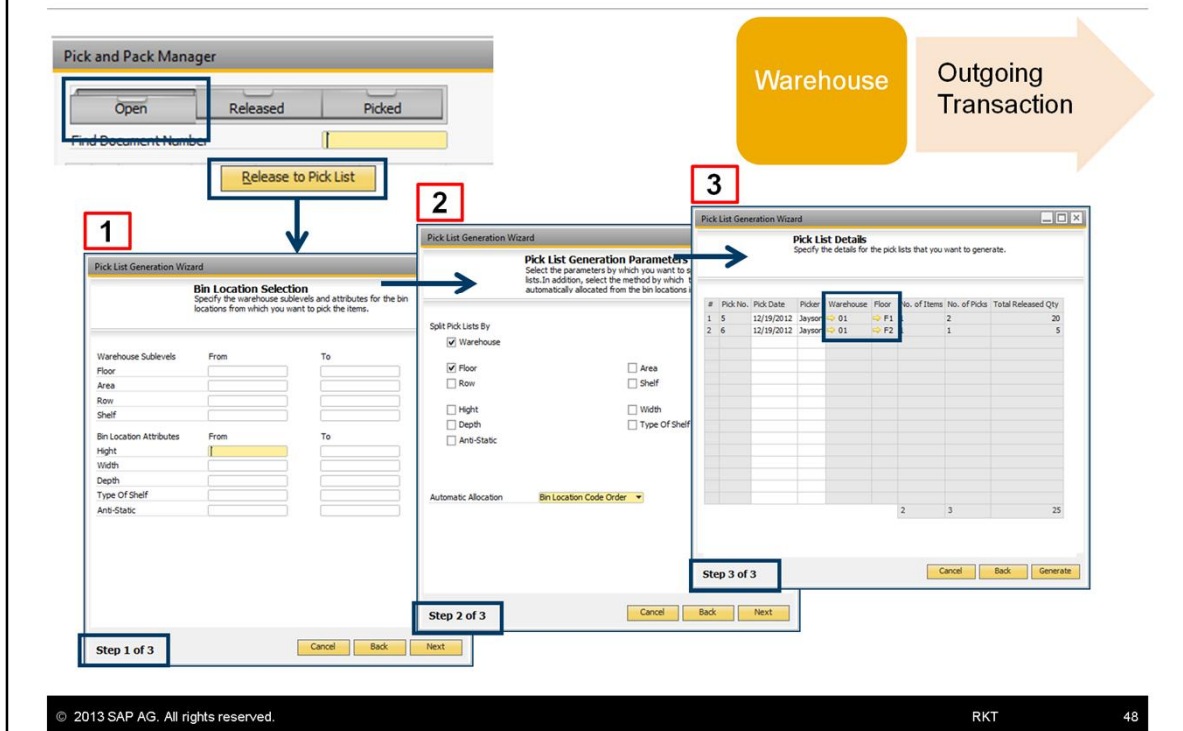
- You may choose to cancel or reverse an existing Inventory Transfer.
- The ability to reverse a document is new in release 9.0.
- In both cases, the system creates another *Inventory Transfer* document with opposite signs for the quantities.
- When canceling an *Inventory Transfer*, a cancellation *Inventory Transfer* is added automatically.
 - If as a result from the canceled *Inventory Transfer*, the quantity falls below zero quantity, then the system prompts a warning message.
 - The transaction is made with the same bin locations used in the original *Inventory transfer*, with reversed signs for quantity.
- When reversing an *Inventory Transfer*, a new *Inventory transfer* opens automatically in *Add* mode and can be changed manually before it saved.
 - In the new document the assignment of the *From Bin Locations* and *To Bin Locations* fields are reversed.
 - The *From Warehouse* and *To Warehouse* fields are also reversed.
 - The Reverse functionality is available even if bin location functionality has not been activated.

Agenda

- Business example and a brief reminder of the Setup process
- Manual allocation processes
 - Incoming allocations
 - Outgoing allocations
- Automatic allocation processes
 - Incoming allocations
 - Outgoing allocations
- Additional Scenarios
- Bin Locations in inventory documents
- Allocations in Pick and Pack
- Allocations in the Production process

Let us go over the Pick and Pack allocations procedure

Allocation in Pick and Pack Releasing orders



- The *Pick and Pack manager* has been adapted to handle outgoing allocations for the *Pick List*.
- A new wizard was added when releasing order lines to *Pick List*.
- In the *Open* draw, choose the *Release to Pick list* button to enter the new *Pick List Generation Wizard*.
 - In the first step you can filter the Warehouse Sublevels and Attributes of bin locations you want to pick from.
 - Then, in the second step, you can indicate if you want to create several pick lists by splitting the order rows by a Warehouse, Warehouse Sublevel or Attributes and also choose the automatic allocation method.
 - Note, since this wizard can run for several warehouse simultaneously, the allocation method is not copied from the *Warehouse Setup* window.
 - Therefore, the default method is set to *Bin Location code order*.
 - In the third step you can see and edit the list of the proposed Pick Lists about to be generated. In the grid, the system displays a column for each Warehouse Sublevel or Attribute chosen in the second step.
 - Choosing the *Generate* Button creates the Pick Lists that appear on screen.
- A two steps wizard will be provided for picking items from a non bin location activated warehouse.
- Note, In some cases we will pick items from different rows, related to different warehouses, while some are bin locations managed and some are not.
- When doing so, a single *Pick List* will be generated for all the document rows related to the non-bin location warehouses.
- The *Pick and Pack manager* also allows you to create *Deliveries* and *Invoices*.
- The documents created are subject to the automatic allocation rules we covered earlier.
- Let us look at a business example.

Pick and Pack Allocation – Business example

Pick List Generation Wizard

Pick List Details
Specify the details for the pick lists that you want to generate.

#	Pick No.	Pick Date	Picker	Warehouse	Floor	No. of Items	No. of Picks	Total Released Qty
1	5	12/19/2012	Jayson	01	F1	1	2	20
2	6	12/19/2012	Jayson	01	F2	1	1	5
						2	3	25

Step 3 of 3

Cancel Back Generate



- Let us go back to our business example.
- In OEC Computers' New York three-story warehouse, preparing a shipment for a delivery previously was a difficult task. During the implementation, a decision was made to include the following steps to improve the process:
 - First, the warehouse manager George nominated a warehouse worker for each floor.
 - Second, from now on, when creating the *Pick Lists*, George creates a separate *Pick List* for each Floor by splitting the pick list in the *Pick List Generation Wizard* by the Floor Warehouse Sublevel.
 - In addition, in the *Pick List*, for each Floor, George indicates the Picker name.
 - For big shipments, George occasionally split the *Pick List* also by the Area Sublevel and assign different pickers for different areas.
 - George assesses the workload anticipated by looking at *Number of Picks* and *Total Released quantity* columns in the third step of the wizard.
 - If needed George goes back one step to split the *Pick Lists* by another sublevel.

Pick and Pack – Released Drawer

Pick and Pack Manager

Open Released Picked View Detailed

#	Pick No.	Tran...	Doc. No.	Doc. Row	Delv/D...	Customer Name	Item Number	Item Description	Whse	Open Quantity	Released	Bin Location Allocation	Avail. to Pick
1	1	OR	253	1	12/06/2012	Microchips	A00001	IBM Infoprint 131	01	1	1	1	78.4
2	1	OR	255	1	12/18/2012	Parameter Techn	A00001	IBM Infoprint 131	01	1	1	1	78.4
3	1	OR	256	1	12/18/2012	Parameter Techn	A00001	IBM Infoprint 131	01	5	4.1	4.1	78.4
4	2	OR	256	1	12/18/2012	Parameter Techn	A00001	IBM Infoprint 131	01	5	1	1	78.4
5	3	OR	256	1	12/18/2012	Parameter Techn	A00001	IBM Infoprint 131	01	5	1	1	78.4
6	1	OR	256	2	12/18/2012	Parameter Techn	A00002	IBM Infoprint 122	01	4	3	3	874
7	3	OR	256	2	12/18/2012	Parameter Techn	A00002	IBM Infoprint 122	01	4	1	1	874

Choosing the link arrow opens the *Bin Location Allocation – Issue* window, there you can change the automatic allocation made

- There is an opportunity to make changes to allocations in the *Released Drawer*.
- When you open the list of released rows, you can choose any link arrow in the *Bin Location Allocation* column to open the *Bin Location Allocation – Issue* window. From there, you can reallocate row quantities or fill in missing quantities for allocations.
- A re-allocation is possible also for Warehouse Sublevels or Attributes that were not included in the *Pick List Generation Wizard*.
- For example, let us say that in the *Pick List Generation Wizard* I chose only the **Blue** Area.
- The quantity to allocate in the row is **10** and there is a quantity of **6** in the **Blue** area and another **4** in the **Green** Area.
- The system will automatically allocate only **6** items but I can still enter the *Bin Location Allocation – Issue* window and allocate another **4** items from the **Green** Area.
- When choosing the *Create* button in the *Released* draw, you can create a *Delivery* or *Invoice* including the allocations made.
- The *Released* Drawer also provides the option to create a *Delivery* or *Invoice* that includes allocations.

Pick List

Pick List

Pick Number: 5
 Pick Date: 12/19/2012
 User: Jayson Butler
 Picker: Jayson Butler
 Status: Released

Remarks:

#	Transact. Type	Doc. No.	Customer Code	Delv/Due...	Item Description	Whse	Bin Location	Released	Picked	Avail. to Pick
1	OR	262	C40000	12/19/2012	IBM Inprint 1222	01	01-F2-BLUE-R01-A	10	0.000	10
2	OR	262	C40000	12/19/2012	IBM Inprint 1222	01	01-F2-BLUE-R02-A	2		10

Right click to enter the Allocation window

Bin Location Allocation - Issue

Document No.: 5
 Row No.: 0
 Warehouse Code: 01
 Item No.: A00002
 Quantity: 12
 Total Allocated: 12
 Remaining:

#	Bin Location	In Stock	Available	Allocated
1	01-F2-BLUE-R01-A	10		10
2	01-F2-BLUE-R02-A	10		2
3	01-F2-BLUE-R03-A	10	1	
4	01-SYSTEM-BIN-LC	840	836	0.000
		870	837	12

OK Cancel Create

OK Cancel Automatic Allocation Clear Allocations

© 2013 SAP AG. All rights reserved.

RKT

51

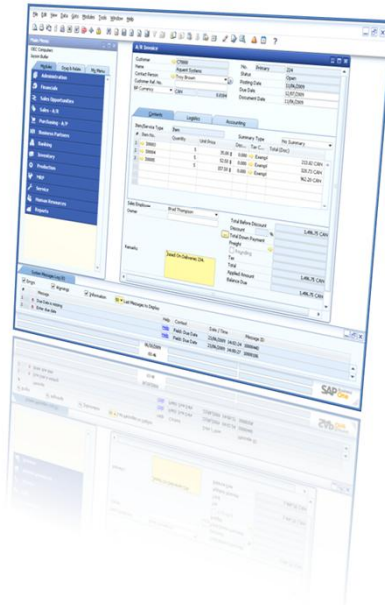
- The *Pick List* was also adapted to handle bin location Allocation.
- In the *Pick List* we see one line per bin location per Sales Order line.
- Before items are picked, you can still reallocate them.
- Just right click the line to receive the context menu and select the *Bin Location Allocation* option.
- The *Bin Location Allocation – Issue* window appears and there you can change the bin location allocations for this item.
- Note, reallocation is made per item per original document line, even if the item is allocated from several bin locations (and there for several lines in the *Pick List*).
- This means that quantity from several rows in the *Pick List* may be allocated in one *Bin Location Allocation – Issue* window.
- In the image we see a pick list containing 2 rows for the same item.
 - The item is split because the bin location in the first row is different than the bin location in the second row.
 - In the allocation window we can see the quantity to allocate is 12 which is combined from 10 units from the first row and another 2 from the second row.
- SAP Business One allows you to save time by reallocating items directly in the *Pick List* rather than having to navigate back to the list of released items. This is useful because sometimes a picker may select items from different bins than those that were originally chosen in the *Pick and Pack Manager*.

Pick List from Sales Order



- In release 9.0, you can create a *Pick List* directly from the sales order.
- Instead of generating a *Pick List* via the *Pick and Pack Wizard*, just right click the *Sales Order* and choose the option *Generate/ View Pick Lists* from the context menu. When doing so, a new *Pick List* is opened already containing the relevant items, warehouses and bin locations (according to the automatic allocation rules).
- This solution also supports companies that pick the goods of each sales order separately. You may follow this suggested process:
 - 1) Issue the *Open Items List* report.
 - 2) From the report, enter each sales order to be delivered.
 - 3) Right click the order to generate the *Pick List*.
 - 4) Assign the pick list to the pickers in the warehouse.
- Alternatively, you may issue a *Sales Analysis* report to receive a list of sales orders already filtered by certain items, customers, groups etc.
- Note that an automatic generation of the pick list will be done only if items can be fully allocated to bin locations. If not fully allocated then the first step of the *Pick and Pack Wizard* opens, already containing the sales order lines.
- Further more, the direct pick list option is available for both bin location and non-bin location managed warehouses and can also be issued from a Reserve Invoice.

Demo: Pick and Pack



High Level Demo script notes:

Go through the Pick and Pack process

Agenda

- Business example and a brief reminder of the Setup process
- Manual allocation processes
 - Incoming allocations
 - Outgoing allocations
- Automatic allocation processes
 - Incoming allocations
 - Outgoing allocations
- Additional Scenarios
- Bin Locations in inventory documents
- Allocations in Pick and Pack
- Allocations in the Production process

Finally we will see how the Production order was impacted by the Bin Location solution

Production Process

#	Order No.	Item No.	Quantity	Whse	Bin Location Allocation	Item Cost	Planned
1	156	LM4029	5	01	5	192.63 \$	



- In the production process, bin locations can be specified in the *Receipt from Production* and *Issue for Production* documents.
- A new *Bin Location Allocation* column was added to each of these documents.
- Automatic allocation rules apply to the allocation of the parent product to bin location and the allocation of its components from bin locations.
- When working with the *Backflush* method the component items are automatically allocated from bin locations.
 - In case automatic allocation rules do not apply (when working with *Single Choice* for example), then the system will allocate the components from the *Default* bin location.
 - If no *Default* bin location was defined then the allocation is made from the System Bin Location (Read more about the System Bin Locations in the Setup unit).
 - This allocation will probably cause a negative quantity in the System Bin Location since in most cases this bin location will not contain any quantity.
 - To complete the production procedure, and to clear the negative quantity created in the System Bin location, a manual *Inventory Transfer* is needed to allocate the components from their actual bin locations.
- Let us see the solution SAP Business One provides to override the need of a manual *Inventory Transfer* from the System Bin Location.

Production Process Transfer Components

Production Order

Type: Standard
Status: Released
Product No.: LM4029
Product Description: LM4029 Lexmark 4029 Printer
Planned Quantity: 5
Warehouse: 01

No.: 156
Primary
Order Date: 12/24/2012
Posting Date: 12/24/2012
Contact Person: Jayson Butler
Manual

Cancel
Duplicate
New Activity
Report Completion
Transfer Components
Relationship Map...

Item No.	Base Qty	Planned Qty	Issued	Available	Wareho...	Issue Method
LM4029MC	2	10	10	164	02	Backflush
LM4029D	1	5	5			
LM4029PH	1	5	5			
LM4029PS	1	5	5			
LM4029SB	1	5	5			

Remarks

OK Cancel

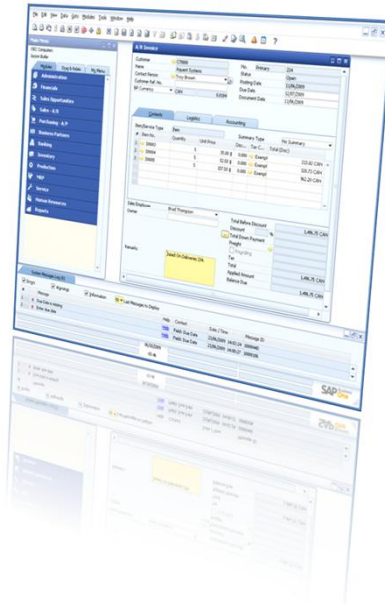
Inventory Transfer

Business Partner:
Name:
Contact Person:
Ship To:
Number: 15
Series: Primary
Posting Date: 12/26/2012
Document Date: 12/26/2012
From Warehouse: 01
Price List: Last Purchase Price
To Warehouse: 01

Item No.	To Warehouse	From Warehouse	From Bin Locations	To Bin Locations	Quantity	I..
1 LM4029MC	02	01	10		10	
2 LM4029D	02	01	5	5	5	
3 LM4029PH	02	01	5	5	5	
4 LM4029PS	02	01	5	5	5	
5 LM4029SB	02	01	5	5	5	
6	02	01				

- This solution creates an *Inventory Transfer* to a production area warehouse.
- In order to use this solution you first need to define a warehouse for the production area.
- Then, add a production order and indicate the new production warehouse in the rows.
- After adding the *Production Order*, open the context menu to choose the *Transfer Components* option. A new *Inventory Transfer* opens, and the components from the *Production Order* appear in the rows.
- The *To Warehouse* is automatically populated with the production warehouse that was specified in the production order.
- When you add the *Inventory Transfer*, the items are then transferred to the production warehouse.
- Note that all component items are fully copied to the *Inventory Transfer*, even if the production order was partially manufactured.

Demo: Transfer Components from Production



© 2013 SAP AG. All rights reserved.

RKT

57

High Level Demo script notes:

Add a production area warehouse

Add a production order to a bom

Choose the transfer components option and enter the inventory transfer document

Show the rows in the inventory transfer were updated automatically from the production order

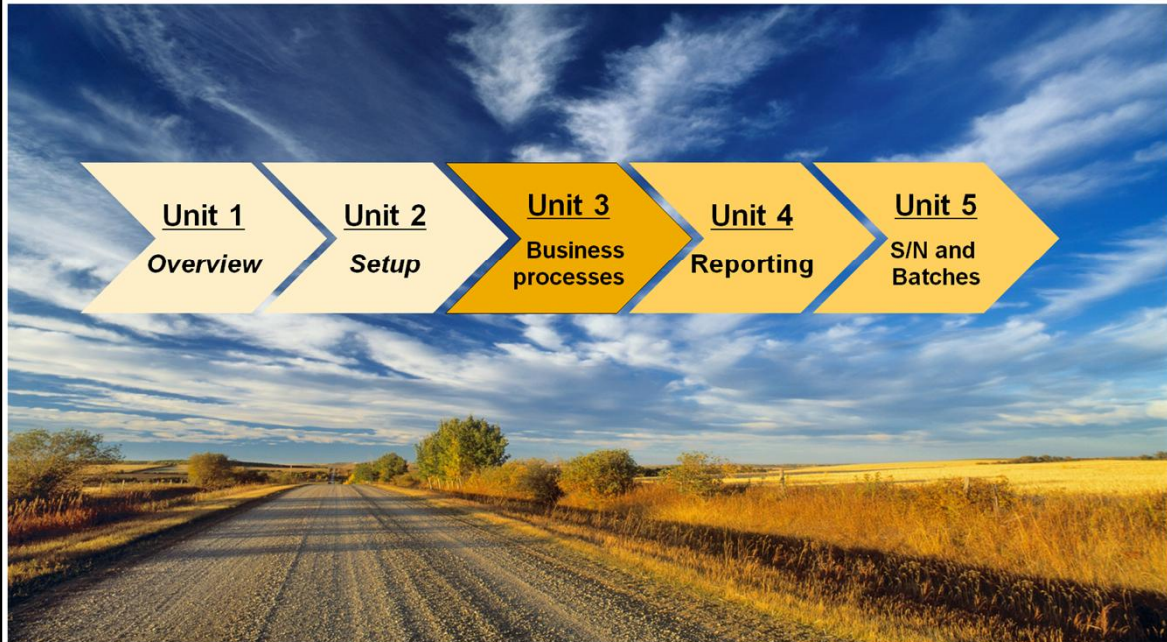
Explain the allocation was made according the automatic allocation rules

Change the target warehouse to the production area

Add the inventory transfer document

Go back to the added document and show the inventory posting list report filtered for this document transaction

What is Next..



© 2013 SAP AG. All rights reserved.

RKT

58

- This course unit was designed to help a SAP Business One implementer better understand business processes involving bin locations in a company.
- We recommend that you feel fully comfortable with its contents before continuing to Units 4 and 5.
- For example, understanding how allocations are made in inventory transactions is essential to understanding the changes made in the Inventory Posting List report (which is explained in Unit 4).
- Additionally, the section in Unit 5 on inventory transactions for serial numbers and batches is based on the allocation processes covered in this unit.
- We also highly recommend that you go through the reporting unit (Unit 4) before implementing bin locations in a company. Unit 4 **Reporting** will help you to understand how the decisions you make during implementation will affect your options in reports.
- For implementing bin locations in companies who work with serial numbers or batches, you will find Unit 5 **Serial Numbers and Batches in Bin Locations** extremely helpful.
- See you in unit 4 – **Reporting**.

Summary



You should now be able to

- Allocate items manually in incoming and outgoing documents and inventory transactions.
- Explain the rules of automatic allocations in incoming and outgoing inventory transactions
- Create an *Inventory Transfer* with bin location Allocations
- Create a Pick and Pack Process with bin location Allocations
- Create a simple Production process with bin location Allocations

- You should now be able to
 - Allocate items manually in incoming and outgoing documents and inventory transactions
 - Explain the rules of automatic allocations in incoming and outgoing inventory transactions
 - Create an *Inventory Transfer* with bin location Allocations
 - Create a Pick and Pack Process with bin location Allocations
 - Create a simple Production process with bin location Allocations

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP AG. The information contained herein may be changed without prior notice.

Some software products marketed by SAP AG and its distributors contain proprietary software components of other software vendors.

Microsoft, Windows, Excel, Outlook, PowerPoint, Silverlight, and Visual Studio are registered trademarks of Microsoft Corporation.

IBM, DB2, DB2 Universal Database, System i, System i5, System p, System p5, System x, System z, System z10, z10, zVM, zOS, OS/390, zEnterprise, PowerVM, Power Architecture, Power Systems, POWER7, POWER6+, POWER6, POWER, PowerHA, pureScale, PowerPC, BladeCenter, System Storage, Storwize, XIV, GPFS, HACMP, RETAIN, DB2 Connect, RACF, Redbooks, OS/2, AIX, Intelligent Miner, WebSphere, Tivoli, Informix, and Smarter Planet are trademarks or registered trademarks of IBM Corporation.

Linux is the registered trademark of Linus Torvalds in the United States and other countries.

Adobe, the Adobe logo, Acrobat, PostScript, and Reader are trademarks or registered trademarks of Adobe Systems Incorporated in the United States and other countries.

Oracle and Java are registered trademarks of Oracle and its affiliates.

UNIX, X/Open, OSF/1, and Motif are registered trademarks of the Open Group.

Citrix, ICA, Program Neighborhood, MetaFrame, WinFrame, VideoFrame, and MultiWin are trademarks or registered trademarks of Citrix Systems Inc.

HTML, XML, XHTML, and W3C are trademarks or registered trademarks of W3C®, World Wide Web Consortium, Massachusetts Institute of Technology.

Apple, App Store, iBooks, iPad, iPhone, iPhoto, iPod, iTunes, Multi-Touch, Objective-C, Retina, Safari, Siri, and Xcode are trademarks or registered trademarks of Apple Inc.

IOS is a registered trademark of Cisco Systems Inc.

RIM, BlackBerry, BBM, BlackBerry Curve, BlackBerry Bold, BlackBerry Pearl, BlackBerry Torch, BlackBerry Storm, BlackBerry Storm2, BlackBerry PlayBook, and BlackBerry App World are trademarks or registered trademarks of Research In Motion Limited.

Google App Engine, Google Apps, Google Checkout, Google Data API, Google Maps, Google Mobile Ads, Google Mobile Updater, Google Mobile, Google Store, Google Sync, Google Updater, Google Voice, Google Mail, Gmail, YouTube, Dalvik and Android are trademarks or registered trademarks of Google Inc.

INTERMEC is a registered trademark of Intermec Technologies Corporation.

Wi-Fi is a registered trademark of Wi-Fi Alliance.

Bluetooth is a registered trademark of Bluetooth SIG Inc.

Motorola is a registered trademark of Motorola Trademark Holdings LLC.

Computop is a registered trademark of Computop Wirtschaftsinformatik GmbH.

SAP, R/3, SAP NetWeaver, Duet, PartnerEdge, ByDesign, SAP BusinessObjects Explorer, StreamWork, SAP HANA, and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP AG in Germany and other countries.

Business Objects and the Business Objects logo, BusinessObjects, Crystal Reports, Crystal Decisions, Web Intelligence, Xcelsius, and other Business Objects products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of Business Objects Software Ltd. Business Objects is an SAP company.

Sybase and Adaptive Server, iAnywhere, Sybase 365, SQL Anywhere, and other Sybase products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of Sybase Inc. Sybase is an SAP company.

Crossgate, m@gic EDDY, B2B 360°, and B2B 360° Services are registered trademarks of Crossgate AG in Germany and other countries. Crossgate is an SAP company.

All other product and service names mentioned are the trademarks of their respective companies. Data contained in this document serves informational purposes only. National product specifications may vary.

The information in this document is proprietary to SAP. No part of this document may be reproduced, copied, or transmitted in any form or for any purpose without the express prior written permission of SAP AG.