

**User Guide**

**CUSTOMER**

Automated Store Allocation  
Document Version: 1.0 – 2013-06-28

**Automated Store Allocation**



# Typographic Conventions

Type Style	Description
<i>Example</i>	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Textual cross-references to other documents.
<b>Example</b>	Emphasized words or expressions.
EXAMPLE	Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.
Example	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
<b>Example</b>	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example>	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
EXAMPLE	Keys on the keyboard, for example, F2 or ENTER.

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# Document History

Version	Date	Change
1.0	2013-06-28	

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# 1 Overview

## 1.1 Scope of the Solution

The enhancements for automated store allocation significantly simplify the creation of allocation tables in SAP for Retail by providing additional functionality. The enhancements for automated store allocation consist of three main parts:

- **Automated Store Allocation:** With automated store allocation you are able to automatically generate allocation tables for any of your transfer scenarios between distribution center and store stock. Automated store allocation is based on a sophisticated control panel and flexible constraint handling. For more information, see chapter 2.
- **Assortments as allocation recipients** in the allocation table. For more information, see chapter 3. You can use this function to transfer assortments from SAP applications like SAP for Retail (create and maintain assortments in SAP ERP Retail with transactions `WSOA1`, `WSOA2`, `WSOA3`, `WSOA4` and `WSOA6`) or from non-SAP applications as allocation recipients to the allocation table.
- **Allocation constraints** for allocation recipient determination and minimum picking threshold. With this functionality, you can define DC and store specific time-dependent allocation blocks. For more information, see chapter 4.

You can access the automated store allocation functions using the area menu [Retail Store Clustering and Allocation \(/RAERP/ALLOC\)](#).

## 1.2 Prerequisites

Automated store allocation is based on SAP for Retail. Make sure that the following prerequisites are met before running automated store allocation:

Customizing and master data for the underlying SAP for Retail allocation table (SAP standard table) need to be available. Especially the following objects must be customized:

- Article hierarchy
- Allocation table types
- Recipient determination
- Allocation strategies

For an overview of technical configuration information and information about authorizations and further technical prerequisites, see [Configuration Guide for Automated Store Allocation](#).

## 1.3 Assumptions

This user guide is based on the assumption that you have some level of familiarity with the terminology and functions associated with SAP for Retail.

The aim of this user guide is to provide you with the information you need to work with automated store allocation.

## 1.4 Glossary

Term	Definition	Term
Allocation strategy	Method of allocating articles to distribution centers, stores, and customers. Allocation strategies are an alternative to allocation rules and are used to ensure that quantities are allocated according to the allocation recipients demands. Allocation strategies avoid the manual entering of allocation quantities. You can also use the allocation strategy framework to create your own allocation methods.	Allocation strategy
Assortment	Synonym for a store cluster as a group of stores.	Assortment
Merchandise category	Every article is assigned to a single merchandise category across a whole company, means the merchandise category is a grouping criteria in the merchandise hierarchy.	Merchandise category
Recipient	Recipient of goods deliveries. The allocation recipient is either a store, a customer, or a distribution center.	Recipient
Recipient determination	Determines the procedure the system should use to find the recipients of the goods.	Recipient determination
With automated store allocation, a new functionality for recipient determination is available. It allows to automatically determine the assortments assigned to an article for a specific date, based on the		With automated store allocation, a new functionality for recipient determination is available. It allows to automatically determine the assortments assigned to an article for a specific date, based on the

Term	Definition	Term
article hierarchy subtree to which the article is assigned to.		article hierarchy subtree to which the article is assigned to.

## 1.5 List of Abbreviations

Abbreviation	Meaning
ALV	SAP List Viewer
BAdI	Business Add-In
DC	Distribution center
SAP BI	SAP NetWeaver Business Intelligence

## 1.6 Related Information

For more information about setting up and working with automated store allocation, see the following documentation:

- [Configuration Guide for Automated Store Allocation](#)
- [Solution Manager Document for Automated Store Allocation](#)

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## 2 Automated Store Allocation

### 2.1 Introduction

Automated store allocation represents the automated generation of allocation tables for typical DC allocation scenarios, for example:

- Store replenishment
- DC stock reduction
- Markdown/clearance
- Reorder simulation

Automated store allocation is mainly intended for background processing. You process background jobs to execute program *Automated Store Allocation* (/RAERP/AA\_STORE\_ALLOC) using the SAP standard solution Computing Center Management System (CCMS).

Nevertheless, you can start automated store allocation manually for test purposes or for immediate execution using transaction *Automated Store Allocation* (/RAERP/AA\_AUTOALLOC). In this way, you can for example check your selection criteria in order to create the best variant to be used for background processing. Moreover you can execute automated store allocation manually to correct allocation tables or to fulfill minor allocation tasks during the day.

### 2.2 Functional Description

Automated store allocation replaces a manual-driven (subsequent or final) allocation process by automatically generating allocation tables with the help of a sophisticated control panel tool and by using a flexible constraint network. The control panel of automated store allocation bundles allocation functions like recipient determination, allocation strategies, and stock evaluation into one single automated process flow. The flexible constraint network represents an additional instrument influencing the automated allocation table generation by defining constraints both from an allocation recipient and from the distribution center perspective (see chapter 4).

Automated store allocation consists of seven major automated processing steps (see Figure 1: Processing Steps of Automated Store Allocation).

## Automated Store Allocation – Processing Steps



**Automated generation of allocation tables based on a sophisticated control panel tool and a flexible constraint network.**



- 1 Automatic article and DC stock determination
- 2 Automatic recipient determination
- 3 Execution of dedicated allocation strategy
- 4 Verification of time-dependent allocation constraints
- 5 Usage of optimized technical set-up for parallel processing
- 6 Generation of allocation tables based on grouping criteria
- 7 Review results of automated store allocation

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Figure 1: Processing Steps of Automated Store Allocation

1. Determination of the **article set** that should participate in the upcoming store allocation run  
The remaining DC stock ready for allocation is evaluated for each article.
2. Determination of the **allocation recipients** – represented either by stores or customers  
For this step you can either use the new store cluster recipient determination that is delivered with automated store allocation (see chapter 4) or you can implement your own customer-specific recipient determination.
3. Execution of an **allocation strategy** in order to define the allocation quantities for each recipient  
SAP offers a set of standard top-down and bottom-up allocation strategies. Besides key figures like historical sales from SAP BI, these strategies also take into account operating figures like available stock in the stores, stock on order, minimum or maximum restrictions in order to determine the right quantity for the right time at the right store.  
Moreover, automated store allocation enables you to integrate new allocation strategies that are tailored to your specific business needs and your individual allocation or replenishment processes. For example, such a customer-specific allocation strategy can simulate scenarios where the remaining stock in the distribution center is not sufficient in order to cover the total store demands. The store demands are balanced against the remaining DC stock. Special top-selling stores might receive their full demand whereas slow-performing stores receive a decreased allocation quantity. There is a wide variety of allocation strategies in the retail business. Therefore, the SAP standard allocation table in combination with the automated store allocation offers a flexible framework for the definition and implementation of customer-specific allocation strategies.
4. Influencing the allocation generation process by defining **allocation constraints** via recipient blocking and via minimum picking quantities  
Recipient blocking is a flexible tool for the definition of blocking indicators at various data retention levels and from an allocation recipient perspective. As a consequence, affected stores or customers are blocked from the automated allocation of certain merchandise.  
Minimum picking quantities are defined to verify whether the determined allocation quantities justify the logistics costs for picking and shipping from a distribution center to a store or customer. Allocation line items

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that are not exceeding a certain minimum quantity are discarded by automated store allocation. Such minimum picking quantities can be maintained for each node and level of the article hierarchy.

5. In addition to these allocation-related tools, automated store allocation offers some more technical settings in order to **parallelize the processing** of the mass volume allocation workload.
6. Now that allocation quantities are determined for each allocation recipient, **the allocation tables are generated**. Within this generation step you are able to group the allocation line items either by merchandise categories or by article hierarchy levels.
7. Finally, you can **review** the generated allocation tables by using the standard transactions. Alternatively, automated store allocation can **automatically release** the generated allocation tables for the logistics follow-on process by directly creating follow-on documents like stock transfer orders.

## 2.3 Details and Execution

### 2.3.1 Elements of Automated Store Allocation

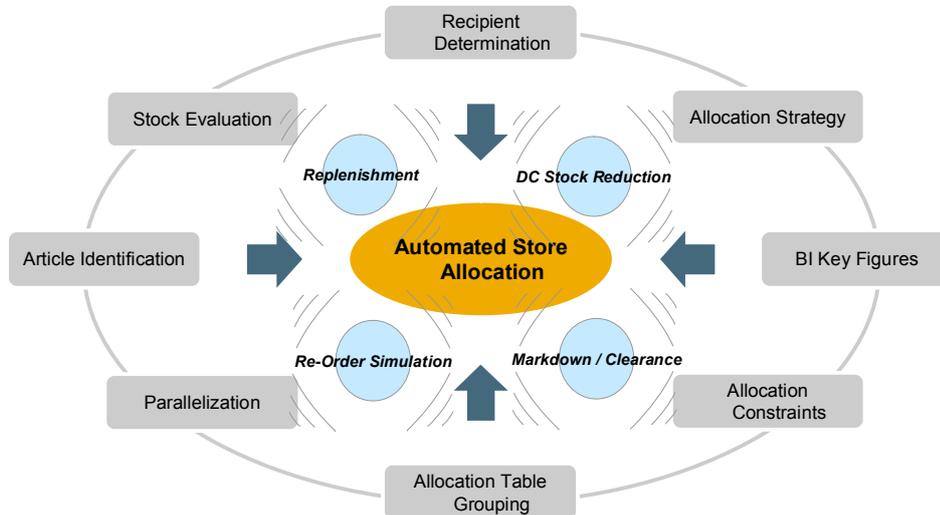
Automated store allocation combines a set of allocation tools, principles and concepts into an automated allocation decision flow, process flow and data flow (see

Figure 2). The following functions are available with automated store allocation:

- **Article identification** and specification supported by a variety of selection criteria.
- Choice of stock determination types (for example ATP check) for the **evaluation of remaining article DC stock** for allocation
- Integration of **recipient determination** methods for the automatic determination of the allocation recipients including the new recipient determination based on assortments (for more information, see chapter 3). You set up the recipient determination methods in Customizing for *Material Management* under *Purchasing → Allocation → Rcpt. determin.*
- Automatic execution of allocation strategies. You can set up allocation strategies in Customizing for *Material Management* under *Purchasing → Allocation → Allocation Strategies*. There is a choice of pre-defined allocation strategies that can be used by automated store allocation. Furthermore, you can implement new customer-specific allocation strategies, which are then automatically integrated into automated store allocation.

Allocation strategies mainly use key figures extracted from SAP BI for defining the appropriate allocation quantity for each recipient. Examples for such key figures are historical or actual sales, store planning key figures, open budgets and so on.

- **Verification of allocation constraints** (see chapter 4) resulting in the blocking of allocation recipients or blocking of articles from allocation.
- **Grouping of generated allocation tables** by merchandise category or article hierarchy level.
- **Handling of high work load** by technical parallelization facilities.



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Figure 2: Elements of Automated Store Allocation

With these functions, automated store allocation flexibly manages a variety of allocation scenarios both based on a top-down or bottom-up strategy approach, for example lean replenishment, DC stock reduction, simulation of reorders or markdown and clearance scenarios.

## 2.3.2 Selection Criteria for Automated Store Allocation

Enter the selection criteria to select the data input for the creation of the required allocation tables. Enter the following **mandatory** selection criteria:

- Distribution center
- Assortment, customer, customer group, site group, or site **for Recipient Selection**  
If you use a customer or site group in an allocation table, the group is broken down to all its individual sites or customers in the first step. Then the individual sites or customers are copied to the allocation table. As an alternative for the definition of the allocation recipients, you can also use an automatic recipient determination procedure by using selection parameter **Recipient Determination**.
- At least one criterion for **Article Selection**
- Allocation table type (**Generation Parameters**)
- Allocation strategy including the allocation strategy variant (**Generation Parameters**)
- Purchasing organization and purchasing group (**Generation Parameters**)
- Planned delivery date (**Generation Parameters**)

Automated store allocation enables the restriction on articles that still have some remaining DC inventory for allocation. For the **DC Stock Evaluation** various options are available so that you can control the relevancy for allocation depending on the stock:

- **Articles with DC Stock:** If you select this option, automated store allocation includes only those articles into the allocation table that have stock available in the DC.
- **DC Stock as Allocation Quantity:** If you select this option, automated store allocation creates the allocation tables using all available DC stock as the planned quantity of the allocation item.
- **Unrestricted Stock:** If you select this option, only the unrestricted-use stock is considered for the automated store allocation.
- **ATP Check:** If you select this option, the Available-to-Promise (ATP) check is used to verify the available stock of the articles. With this option the additional ATP check parameters checking rule, planning date and restriction to a storage location are available. In order to use the ATP Check for DC stock evaluation you need to define the relevant stock types, the relevance of inward and outward movements and other control parameters in the standard ATP Customizing.
- **Alternative Determination:** If you select this option, a customer-specific logic is used as an alternative way to determine the stock. You need to implement this customer-specific stock determination using Business Add-In (BAI) /RAERP/EHP\_STOCK\_CALCULATION beforehand.

The selected articles for allocation are automatically grouped into generated allocation tables by a grouping criterion. As **Grouping Criteria for Allocation Tables** you can either use no grouping criterion or group by article hierarchy node or group by merchandise category.

#### Note

Generated allocation tables are also automatically grouped when you choose the mode for parallel processing. Basically, this grouping is influenced by selection parameter *No. of Items per Process*

## 2.3.3 Manual Processing

You can process the application automated store allocation manually. In this way, you can for example check your selection criteria in order to create the best variant to be used for background processing. Moreover you can execute automated store allocation manually to correct allocation tables or to fulfill minor allocation tasks during the day. To process automated store allocation manually, proceed as follows:

1. Call up *Automated Store Allocation* (transaction /RAERP/AA\_AUTOALLOC).
2. Enter the selection criteria for the creation of the required allocation table.
3. Choose *Program → Execute*.
4. The corresponding allocation tables are created.  
The messages for the allocation processing are displayed in a dialog box. There can be success messages, information messages, warning messages, and error messages. You can display a long text for the messages.
5. The messages are written into a corresponding log, which you can display by calling transaction *Application Log: Display Logs* (transaction code SLG1). To analyze the application log enter object type /RAERP/ALLOC and choose *Program → Execute*.

Distribution Center: Display messages		
Typ	Message text	LTxt
■	The following exceptions were found when checking item 00020 ( Artic1%	
■	Alloc tbl created with number 1791	
■	Item 00010 : During execution of allocation strategy '0002' Warning o%	?
■	Item 00010 :Execution of allocation strategy endlog	
■	The following exceptions were found when checking item 00010 ( Artic1%	
■	Item 00020 : During execution of allocation strategy '0002' Warning o%	?
■	Item 00020 :Execution of allocation strategy endlog	
■	The following exceptions were found when checking item 00020 ( Artic1%	
■	Item 00030 : During execution of allocation strategy '0002' Warning o%	?
■	Item 00030 :Execution of allocation strategy endlog	
■	The following exceptions were found when checking item 00030 ( Artic1%	
■	Item 00040 : During execution of allocation strategy '0002' Warning o%	?
■	Item 00040 :Execution of allocation strategy endlog	
■	The following exceptions were found when checking item 00040 ( Artic1%	

Figure 3: Example Message Dialog Box for Automated Store Allocation

## 2.3.4 Background Processing

In a first step you create a report variant for the background processing. With the report variant you predefine the values of selection screen fields for background processing.

1. Call up *Automated Store Allocation* (transaction /RAERP/AA\_AUTOALLOC).
2. Enter the selection criteria for the creation of the required allocation tables.
3. Save the selection criteria as report variant. Choose *Goto* → *Variants* → *Save as Variant*.
4. Enter a variant name and a description for the variant.

In the next step you use the SAP standard functionality Computing Center Management System (CCMS) to schedule the run of the report in background processing. Choose *SAP Easy Access Menu* → *Tools* → *CCMS* → *Background Processing* → *Define Job* (transaction code SM36) and define the background processing.

Afterwards the automated store allocation is processed automatically by the background job processing at the specified date and time. Based on the chosen variant articles are collected, recipients are determined and the allocation tables are created with the use of strategies.

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## 3 Assortments as Allocation Recipients in the Allocation Table

### 3.1 Introduction

The SAP standard allocation functionality enables the assignment of site groups as allocation recipients. These site groups are maintained in the classification system of SAP ERP. With automated store allocation a new and much more flexible allocation recipient determination is available. With the new allocation recipient determination you can take over assortments as allocation recipients. These assortments can be defined in various applications:

- Assortments defined in SAP for Retail
- Assortments defined in non-SAP applications.

### 3.2 Functional Description

The new recipient logic automatically determines the assortments for each allocation line item based on a bottom-up search within the article hierarchy sub tree to which the corresponding article is assigned. The evaluated assortments are displayed via a new screen so that the allocator can select the required volume clusters. Furthermore, the allocator can overrule the default assortment determination by entering an alternative hierarchy node from which the assortments are then taken. The selected assortments and their stores are transferred as recipients into the store and store group views of the allocation table and are ready to participate in the subsequent automatic or manual allocation strategy.

To set up assortments as allocation recipients you maintain a new recipient determination ID in the SAP standard Customizing. For more information, see chapter 5.

You can use the new recipient determination logic:

- As generation parameter within the **automated store allocation**
- For the items within the manual **allocation table maintenance**

### 3.3 Details and Execution

For information about the Customizing of assortments as allocation recipients, see chapter 5.

#### 3.3.1 Recipient Determination in Automated Store Allocation

Within automated store allocation the assortments are determined without user interaction for the participating articles and the current date. The allocation recipient determination in background processing evaluates the

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default assortments and takes over those assortments and their stores into the allocation tables. If you want to select alternative determination types for recipients, choose sites or site groups for the *Recipient Selection* on the *Automated Store Allocation* selection screen.

### 3.3.2 Recipient Determination in Allocation Table Maintenance

Within the allocation table maintenance (transactions WA01, WA02) you select an allocation item and choose the pushbutton *Execute Ship-To Party Determination* or in the menu *Edit* → *More Functions* → *Execute Ship-To Party Determination*. The following dialog box is displayed:

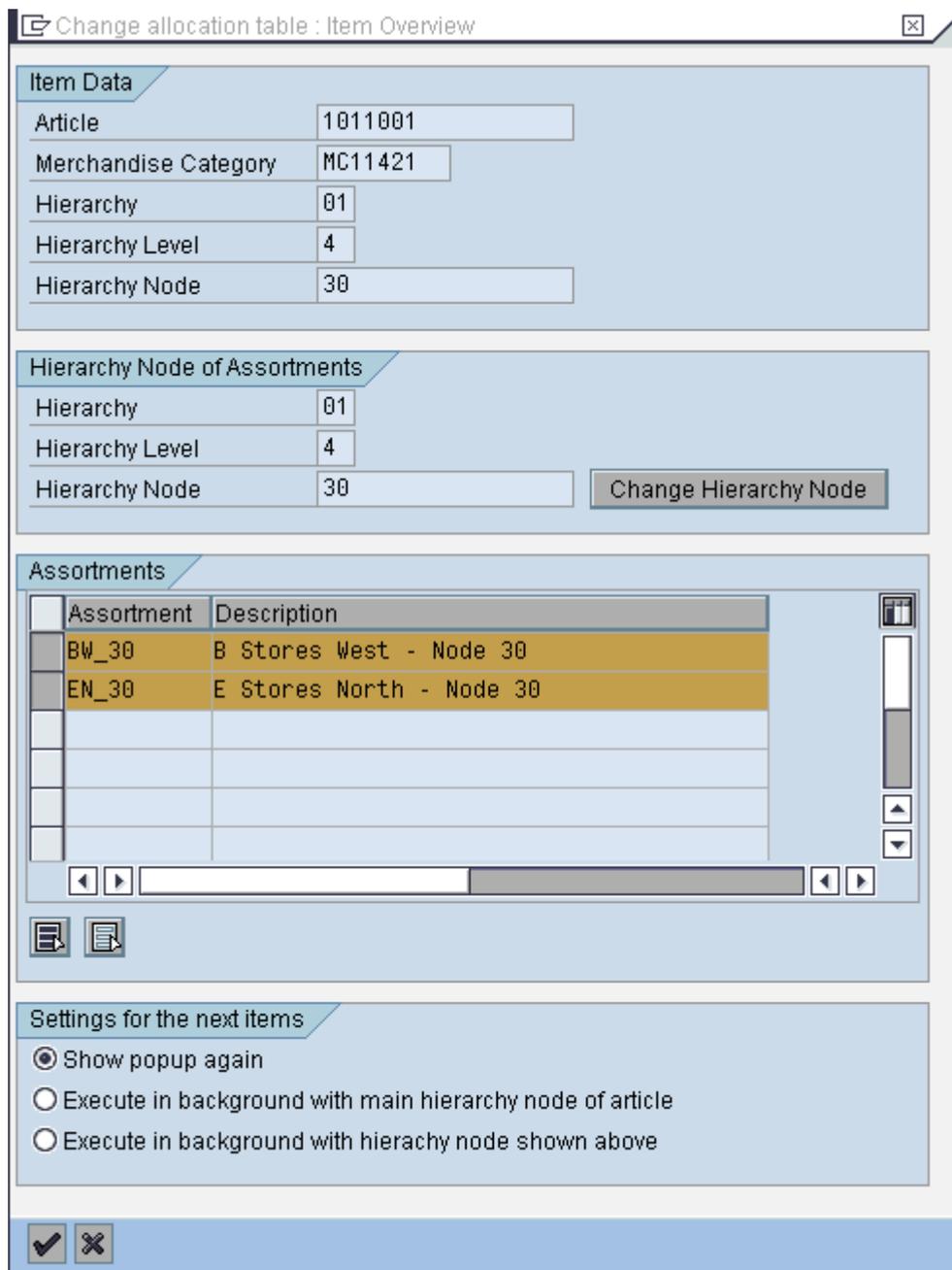


Figure 4: Allocation Recipient Determination - Sample Dialog Box

The dialog box displays article information and the assortments the article is assigned to. For the **article** the merchandise category and the default article hierarchy information are displayed (hierarchy, hierarchy level and hierarchy node to which the article is assigned). The hierarchy information for the determined assortment is displayed next. The **assortments** for the article are retrieved via a bottom-up search within the article hierarchy. The assortments are the identified allocation recipients.

You can

- accept the proposed assortments as allocation recipients by confirming the dialog box

- 
- select a subset of the proposed assortments. Deselect the assortments you do not want to confirm as allocation recipients.
  - select another hierarchy level and hence different assortments.  
To determine alternative assortments, choose *Change Hierarchy Node*. Another dialog box is displayed where you select the alternative hierarchy and hierarchy node. In the next dialog box the article hierarchy tree with the selected node is displayed. You can navigate to the hierarchy node with the assortment you want to assign as allocation recipient. Mark the hierarchy node and confirm your selection.
  - cancel the recipient determination.

After the confirmation in the case of multiple allocation line items in the allocation table the assortments for the next items are displayed. If you do not want to choose the assortments manually for each item in the case of multiple allocation line items, you can select the background transfer of the automatically determined assortments. In *Settings for the next items* choose one of these two options:

- *Execute in background with main hierarchy node of article:*  
When you choose this option, the main hierarchy node of the article is used to determine the assortments assigned to this node. These assortments are automatically transferred as allocation recipients.
- *Execute in background with hierarchy node shown above:*  
When you choose this option the (alternative) hierarchy node displayed in the dialog box is used to determine the assortments assigned to this node. These assortments are automatically transferred as allocation recipients.

The assortments identified as allocation recipients are transferred as site groups to the allocation table and the sites as users of these assortments are automatically taken over as individual recipients into the allocation table.

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# 4 Allocation Constraints

## 4.1 Introduction

The allocation constraints functionality enables you to block certain stores or customers from allocation or to define minimum picking quantities for certain article hierarchy nodes:

- The **minimum picking quantities** can be used for automated store allocation as well as for any allocation scenario during which mainly automated bottom-up strategies are executed.
- The **recipient blocking** can be used for automated store allocation as well as for any allocation scenario during which automated top-down and bottom-up allocation strategies are executed.

## 4.2 Functional Description

The allocation constraint of **minimum picking quantities** verifies whether the determined allocation quantities justify the logistics costs for picking and shipping from a distribution center perspective. Allocation line items that are not exceeding a predefined minimum quantity are discarded by the automated or manual allocation. You can maintain such minimum picking quantities for each node and level of the article hierarchy.

The allocation constraint of **recipient blocking** allows you to flexibly define blocking indicators at various data retention levels and from an allocation recipient perspective. As a consequence, affected stores or customers are blocked from the automated allocation of certain merchandise.

All warning and error messages resulting from the verification of minimum picking quantity and store blocking checks are collected in the **incompleteness log** and in the **application log**. These logs are prompted and populated during the allocation table creation (for more information, see chapter 4.3.3).

## 4.3 Details and Execution

Allocation constraints are activated per allocation table type. You can activate either minimum picking quantities or store blocking or both for an allocation table type. For information about the activation of the constraints per allocation table type in the Customizing, see chapter 5.

### 4.3.1 Time-dependent Minimum Picking Quantities

With this functionality, you can automatically exclude allocation quantities from the picking process if a minimum quantity per SKU is not reached for automated store allocation and other allocation scenarios.

## 4.3.1.1 Logic of the Minimum Picking Quantity Check

At the end of the automated or manual creation process of allocation tables, the system checks the completeness, correctness, and the alignment of the allocation data with the defined business rules. This is the task of the so called incompleteness log of the allocation table (see chapter 4.3.3). The verification coverage of the incompleteness log is enhanced by the following logic for the minimum picking quantities:

- Check whether the minimum picking quantity constraint is activated for the allocation table type.
- Check for each allocation line item whether minimum quantity information is maintained for the corresponding article and DC combination. For this purpose, the article hierarchy tree is searched bottom-up until the first matching article hierarchy node with the assigned minimum quantities is found.
- Compare the planned quantity of the allocation item (total quantity over all allocation recipients) with the minimum picking quantity:
  - If the planned allocation quantity is less than the minimum picking quantity then the system inserts an error message into the incompleteness log and blocks the allocation table line item. For such an allocation item the system does not create any follow-on documents.
  - If the planned allocation quantity is greater or equal than the minimum picking quantity then no message is inserted into the incompleteness log and the quantity is allocated.

## 4.3.1.2 Maintain Minimum Picking Quantities

You need to define the time-dependent minimum picking quantities as master data.

1. Choose *SAP menu* → *Master Data* → *Minimum Picking Quantities* (transaction code /RAERP/CO\_MIN).
2. Select the DC for which you want to enter picking quantities.
3. Choose *Edit Mode* under *Additional Settings* to add, delete, or change entries.
4. Mark the option *Empty Session* if you do not want to select existing minimum picking quantity entries for your selection criteria. In this case an empty table is displayed.
5. Choose  (*Append Row*) to enter a new master data record at the end of the table. Select a row in the data table and choose  (*Insert Row*) to enter a new master data record above the selected row.
6. For the combination of DC, hierarchy and hierarchy node enter a minimum picking quantity and a base unit for the picking quantity. The article hierarchy node has to belong to the active article hierarchy.
7. Specify the time interval for which the allocation constraint is valid.
8. Choose  (*Check Entries*) to make sure the new master data record is consistent. It is checked if the data is valid, if there are duplicate entries and if the time intervals are overlapping.
9. Save your entries.

## 4.3.2 Time-dependent Blocking of Allocation Recipients

With this function, you can automatically exclude allocation recipients from the allocation run within automated store allocation and other manual or (semi-)automated allocation scenarios.

It is possible to block the allocation recipients from the allocation process by defining blocking indicators at various data retention levels:

- Store or customer in total (by entering the topmost node of the article hierarchy)
- All stores or customers regarding a specific article hierarchy node
- Article for a specific store or customer or for all stores or customers
- Certain colors and/or sizes within an article hierarchy node
- Or the combination of any of the above levels.

### 4.3.2.1 Logic of the Recipient Blocking Check

The verification of recipient blocking is triggered by different events depending on which allocation scenario is currently processed:

- **Automated Store Allocation:** Recipient blocking indicators are checked at an early point of time when the set of article and recipient combinations are identified and even before the generation of the allocation table starts. Such article and recipient combinations are filtered out from the allocation generation process for which a matching blocking entry could be found. A message is inserted into the application log of automated store allocation that announces each discarded article and recipient combination.
- **Manual creation of allocation tables** with transactions `WA01` or `WA02`: As with the minimum picking quantities (see chapter 4.3.1), the verification of recipient blocking is integrated into the incompleteness log of the allocation table (see chapter 4.3.3). At the time when you save the allocation table or directly call up the incompleteness log, the system searches for matching recipient blocking indicators for the allocation line items. If there is an active blocking indicator for an allocation line item then a warning message is inserted into the incompleteness log. As a consequence, the corresponding article and recipient combination is not participating in the follow-on document generation of the allocation table.

The recipient blocking check is processed as follows:

- Check whether the recipient blocking constraint is activated for the allocation table type.
- Bottom-up search (starting with finest level) through the various data levels of the recipient blocking entries in order to find a matching entry for the current article and recipient combination.
- If the blocking indicator is activated for the matching article and recipient combination, then the article and recipient combination is blocked from allocation.

### 4.3.2.2 Maintain Recipient Blocking Master Data

Select the articles and enter the stores or customers for which you want to enter a time-dependent allocation block.

The following functions are provided:

Add the new data (store or customer, article hierarchy node, article, color, size, valid from and valid to, blocking flag) in the table. The article hierarchy node has to belong to the active article hierarchy.

It is possible to block the stores or customers from the allocation process at the following levels:

- Recipient in total: One store or customer does not receive any articles
- All stores or customers regarding an article hierarchy node, an article, or a combination of hierarchy node and color or size

- One article for all stores or customers
- One article for a specific store or customer

It is also possible to combine the blocking criteria.

You need to define the time-dependent blocking of stores as master data.

1. Choose *SAP menu* → *Master Data* → *Blocking of Allocation Recipients* (transaction code /RAERP/CO\_BLOCK).
2. Select the level of detail for which you want to enter recipient blocking entries under *Data Maintenance Level*. Depending on your selection different selection options are available to you. Select *Article* to maintain store blocking entries at article (material) level. Select *Article Hierarchy* to maintain store blocking entries at article hierarchy and article hierarchy node level. The additional attributes color and size are available for selection.
3. You can enter an allocation recipient or a validity period under *Selection Criteria* to restrict the selection result.
4. Choose *Color* or *Size* under *Additional Settings* to add color or size to the selection criteria.
5. Choose *Edit Mode* under *Additional Settings* to add, delete, or change entries.
6. Mark the option *Empty Session* if you do not want to select existing store blocking entries for your selection criteria. In this case an empty table is displayed.
7. Choose  (*Append Row*) to enter a new master data record at the end of the table. Select a row in the data table and choose  (*Insert Row*) to enter a new master data record above the selected row.
8. For the combination of allocation recipient (store or customer) and hierarchy, hierarchy node, color, and size or for the combination of allocation recipient (store or customer) and article specify the time interval for which the allocation constraint is valid.
9. Mark if the allocation recipient is blocked from the allocation process.
10. Choose  (*Check Entries*) to make sure the new master data record is consistent. It is checked if the data is valid, if there are duplicate entries and if the time intervals are overlapping.
11. Save your entries.

### 4.3.3 Incompleteness Check

All warning and error messages regarding allocation constraint checks are collected in the incompleteness log, which is prompted and stored within the allocation table creation. There is one exception: the automated store allocation checks the recipient blocking constraint before calling the generation of allocation tables. Therefore, messages regarding the blocking of stores or customers are not inserted into the incompleteness log but into the application log (see Figure 5: Example Application Log for Automated Store Allocation Displaying Blocking Messages).

## Verification of Allocation Constraints



The screenshot shows the SAP 'Display logs' window. The log contains several messages. Two messages are highlighted with red boxes:

- Blocking of allocation recipients:** "The recipient M002 is blocked for the article 00000000001016001" and "The recipient M008 is blocked for the article 00000000001016001".
- Minimum picking quantities:** "Allocation qty for article 00000000001016002 less than minimum picking qty of 600.0".

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Figure 5: Example Application Log for Automated Store Allocation Displaying Blocking Messages

The incompleteness log contains a list of all warning messages and error messages. The following checks are carried out in SAP standard for this log:

- Is there at least one item containing one or more sites?
- Does the planned quantity fall short of the minimum quantity or exceed the maximum quantity for any site?
- Do sites appear more than once?
- Is the notification data complete?
- Is there at least one delivery phase for every site?
- Is the sum of the individual delivery phase quantities the same as the site quotas in each case?
- Has a latest possible date been entered for generating follow-on documents?
- Are the articles listed in accordance with the listing indicator?
- Does the current stock added to the planned quantity for the site exceed the maximum quantity defined in the site master for the article? (This check is made if the relevant check schema has been set in the Customizing system for the allocation table type)

In addition to the above-mentioned SAP standard checks, the following messages are added for automated store allocation

- Is the allocation recipient blocked?
- Is the minimum picking quantity reached?

You can save the allocation table without first processing the log. However, in this case the status for the allocation table is set to *incomplete* and not to *released*. Only after all required data has been maintained and all error messages have been dealt with, you can release the allocation table. As soon as no further error messages exist for an item in the incompleteness log, the item is released for follow-on document generation.

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## 5 Customizing

Call up the Customizing structure *Retail Store Clustering and Allocation* by choosing *Customizing → Retail Store Clustering & Allocation* in the area menu (transaction `/RAERP/ALLOC` or by calling up transaction `/RAERP/SPRO` directly).

To activate allocation constraints for an allocation table type, choose *Retail Store Clustering & Allocation → Allocation Constraints → Activate Allocation Constraints*.

To configure which assortment types are relevant for the new allocation recipient determination, choose *Retail Store Clustering & Allocation → Recipient Determination → Define Assortment Types for Recipient Determination*.

Additionally, to set up assortments as allocation recipients you have to maintain a new recipient determination ID in the SAP standard Customizing. In the Customizing (transaction code `SPRO`), choose *Logistics → General → Merchandise Distribution → Allocation → Allocation Table → Rcpt. determin.* Enter an identification for the recipient determination and choose function module `/RAERP/AR_RECIPIENT_DETERM`. Enter a description and save your entries.

You can add further customer-specific allocation strategies in Customizing for *Material Management* under *Purchasing → Allocation → Allocation Strategies*.

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