Cookbbook for REA MM Integration for Retail Systems

Applies to:

SAP Recycling Administration (SAP REA) on EhP6 or higher.

Summary

The following document is a cookbook on how to make the REA MM integration available to users in a retail system. It will explain what options the REA MM integration offers and what steps are required to realize them. It will also explain how the REA MM integration can be enhanced by using a BAdI and what limitations with for the use of REA MM integration.

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Created on: 28 December 2011

Author Bio

Christian Lökes joined COPA in 1997, COPA was then taken over by SAPSI, which in turn was taken over by SAP AG. He works as a developer in the ACI department.

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Introduction to the REA master data model

The REA master data consists of two main objects: REA **article** and REA (**packaging) component**.

A REA (packaging) component is based on REA **internal fractions**. Figure 1 depicts the master data model schematically. The colors in Figure 1 will be used consistently throughout this document.

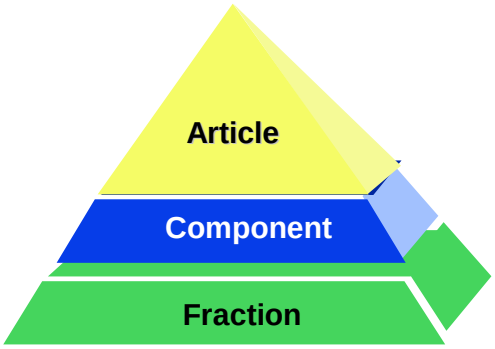

Figure 1: REA Master data scheme

REA article and REA components refer to the material number in the ERP Material master (MARA-MATNR). Hence REA article cannot exist without a corresponding MM entry. REA packaging components may exist without a material master entry, if configured appropriately. In addition it also is possible that a REA article and a REA component refer to the identical MM entry (Figure 2).

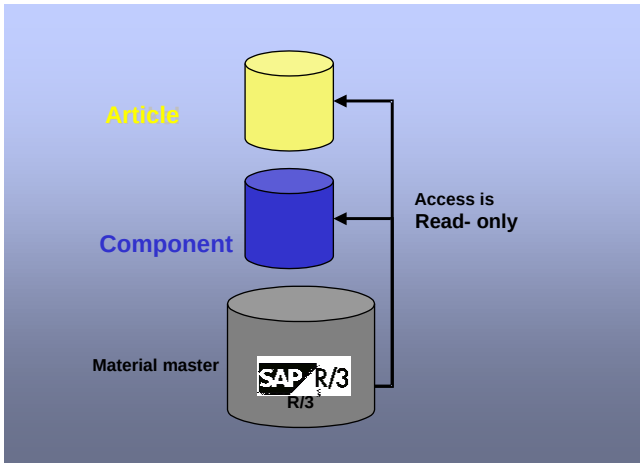

Figure 2: Relationship to ERP Material master

REA internal fractions are maintained in the REA customizing and assigned to one or many recycling partner fractions (Figure 3). It is also possible to assign an internal fraction to a recycling partner fraction without specifying a partner fraction. In this case there is no settlement with this particular recycling partner for that internal fraction. This mechanism is called **cancellation of partner fraction requirement**. This fraction assignment is out of scope for this document.

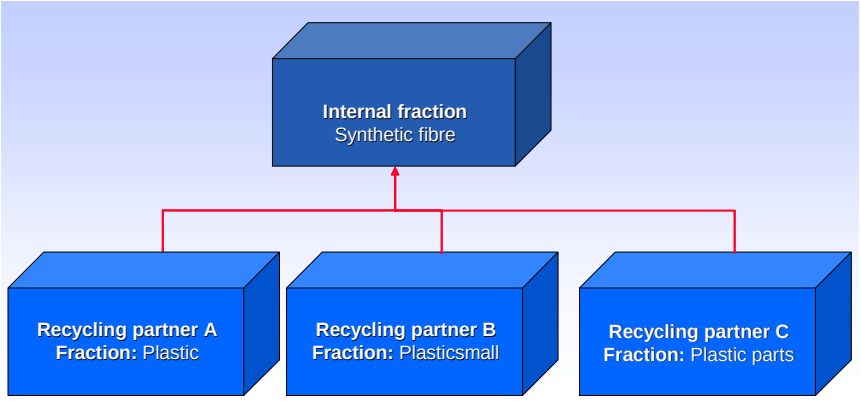

Figure 3: Assignment internal fraction to recycling partner fraction by Customizing

An internal fraction in REA is a packaging material that can be assigned 1 to n times to a REA packaging with a defined weight / weight unit.

A REA component consists of one or many internal fractions and that can be settled with one or many recycling partners. Both assignments are time dependent, so that several packaging versions with a non-overlapping timeframes can be created. A REA component can be of type **consumed packaging**, which can be directly identified in material movements by the declaration system, or of type **sales packaging**, which can be assigned to one or many REA articles as a component.

A REA article represents finished product that must be reported to a recycling partner due to the legal obligations of the REA user. In addition to the material number, a REA article is identified by the key values company code, country and sales unit. REA components and recycling partners are assigned to REA articles in a time dependent manner. A REA article is directly identified in billing documents and/or material movements by the declaration system.

Figure 4 depicts the REA master data structuring. The REA article and the REA components are the two main components that form the REA master data. In addition to the keys and relationships explained so far, REA articles and REA components can hold various attribute values that are generally dependent on the assigned recycling partner.

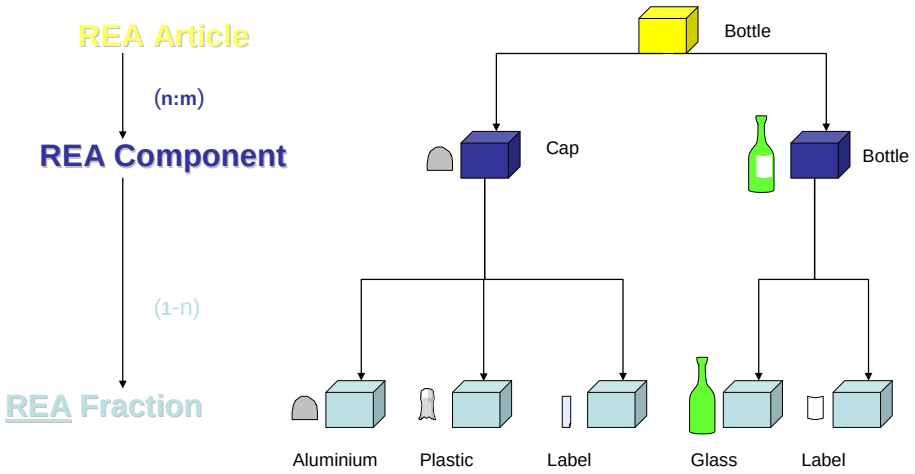

Figure 4: REA Master data

REA components are maintained by the transactions J7L5/J7L6/J7L7. The tab **fraction** is used to maintain the internal fraction assignment. The tab **partner** is used to maintain the recycling partner assignment. A REA component can only be settled with partners that are assigned to the packaging in a particular timeframe.

REA articles are maintained by transactions J7L1/J7L2/J7L3. The tab **packaging** is used to maintain the REA component assignment. The tab partner is used to maintain the recycling partner assignment. A REA article can only be settled with partners that are assigned to the article in a particular timeframe. In case there are multiple recycling partners assigned in the same timeframe, **license fee splitting** rules enable the user to split the license fee of the packaging between the assigned recycling partners dependent on the business process.

REA articles can alternatively be maintained as **reference articles** by transaction J7L0. Reference articles are settled exactly as their referenced article. Reference articles are not discussed in detail in this document.

Figure 5 summarizes the REA master data maintenance process.

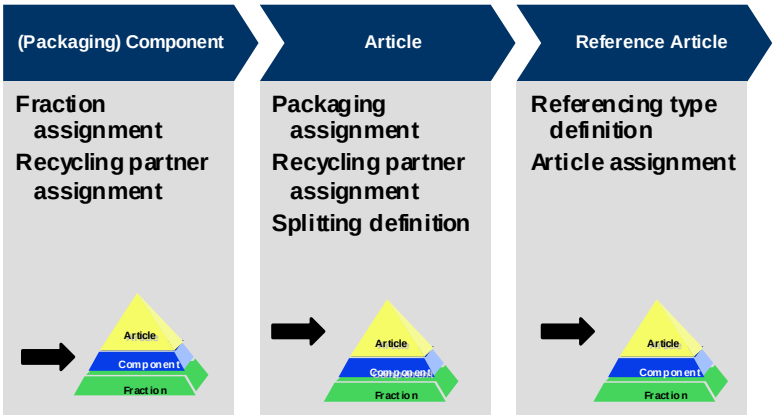

Figure 5: Process view

REA Article and Packaging Maintenance in MM

With REA MM integration it is now possible to include a slimmed down version of the REA maintenance tools for articles and packagings into the retail MM transactions, i.e. it is possible to create, change and display articles and packagings in transactions MM41, MM42 and MM43.

For articles there is one screen for partner assignment and one screen for packaging assignment. For packaging there is one screen for partner assignment and one screen for fraction assignment.

For both article and packaging maintenance there is the option to use either main screens, i.e. additional tabs in MM transactions, or secondary screens, i.e. buttons on existing screens that call the new screens for partner and packagings/fractions assignment.

The technique available for MM integration does not allow for the enhancement of the popup screen for organizational levels. Therefore the organizational data for articles (company codes, country and sales unit) has to be determined in another way. For main screens this is done via a dropdown list that includes all possible combinations of company codes and countries while the sales unit is always taken as the base unit of the material. For secondary screens the organizational data for articles is determined via an own popup where data for the new material and, if applicable, for the ‘copy from’ material can be entered.

The advantage of using main screens is that it increases the ease of use since entries for article/packaging are included in the view selection screen and additional tabs for article/packaging are available in the MM transactions.

The advantage of secondary screens is that they are more flexible in the selection of organizational data and that the offer wider screens that are better suited for the drag and drop operations in partner/packagings/fractions assignment controls.

REA Article in MM Main Screens

The pictures below show what article main screens in MM look like.

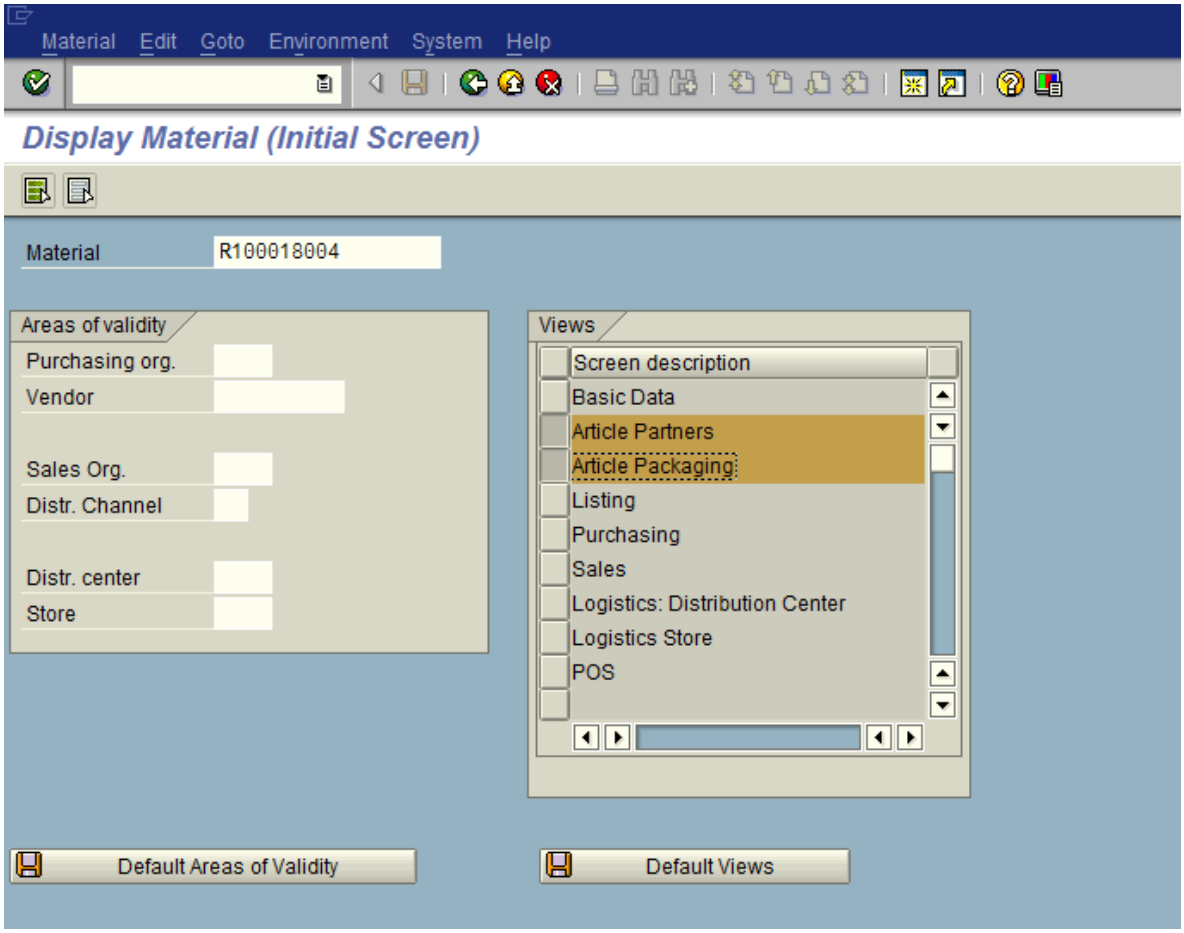

Figure 6: View Selection

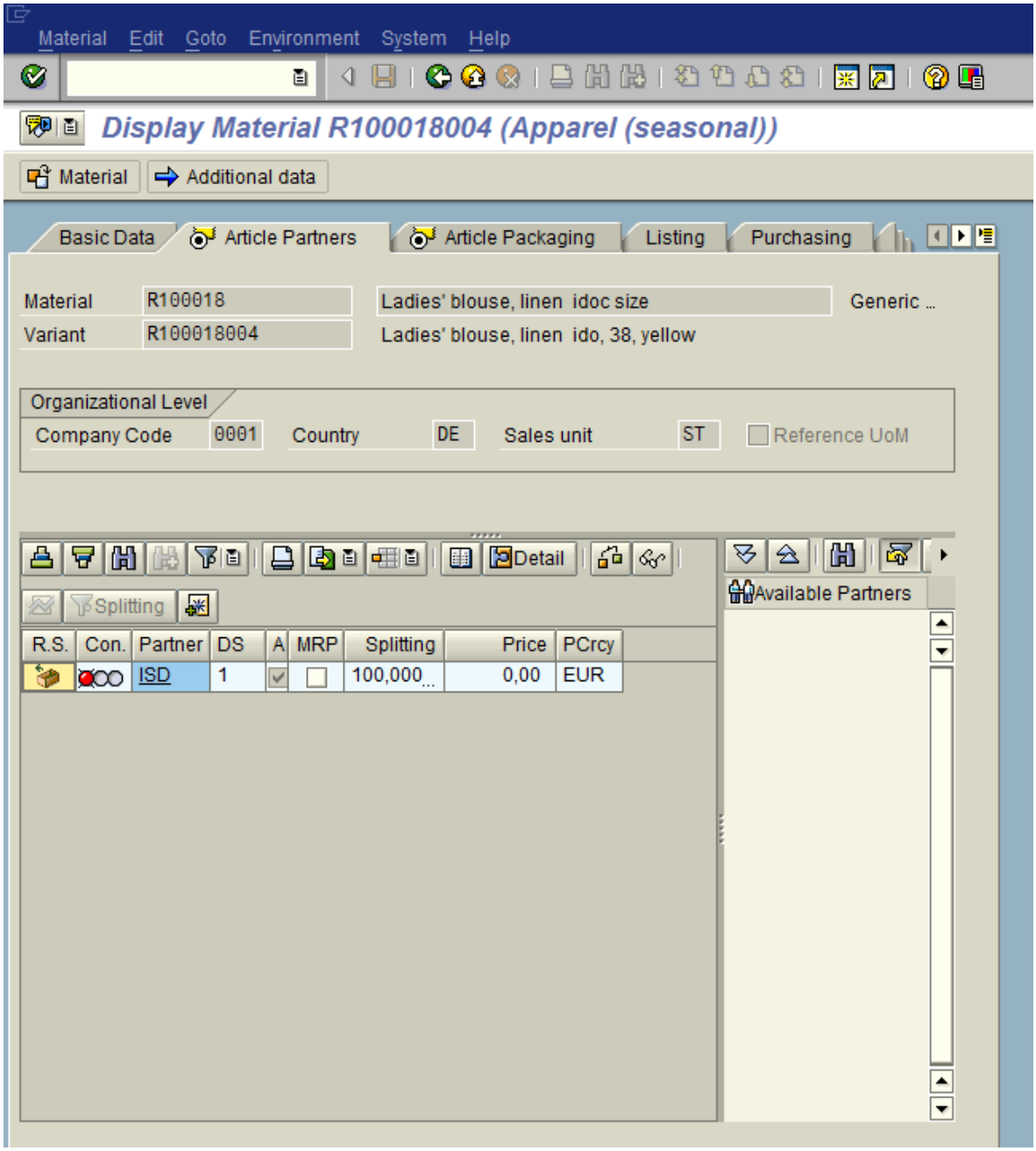

Figure 7: Partner Assignment Screen

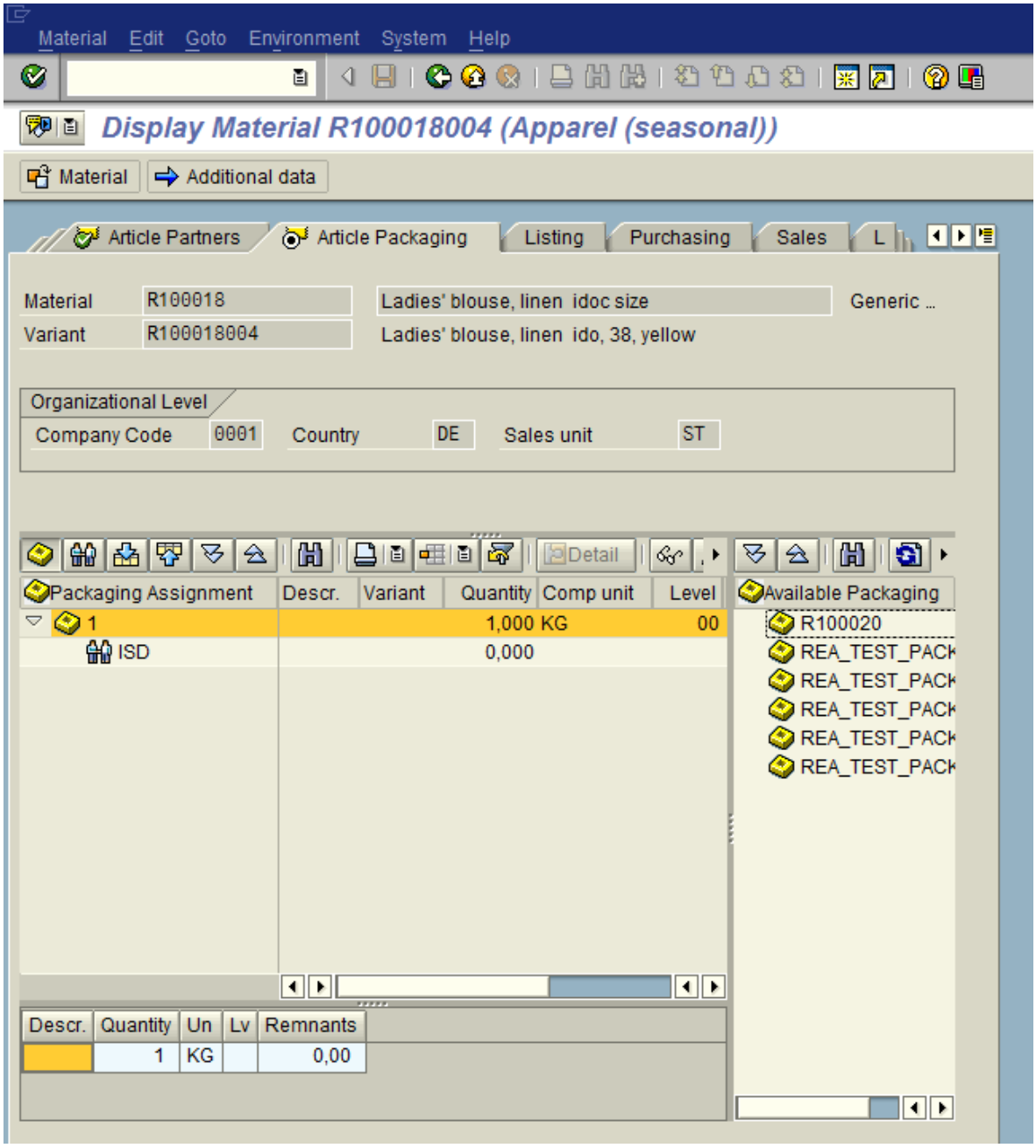

Figure 8: Packaging Assignment Screen

REA Article in MM Secondary Screens

The pictures below show what article secondary screens in MM look like.

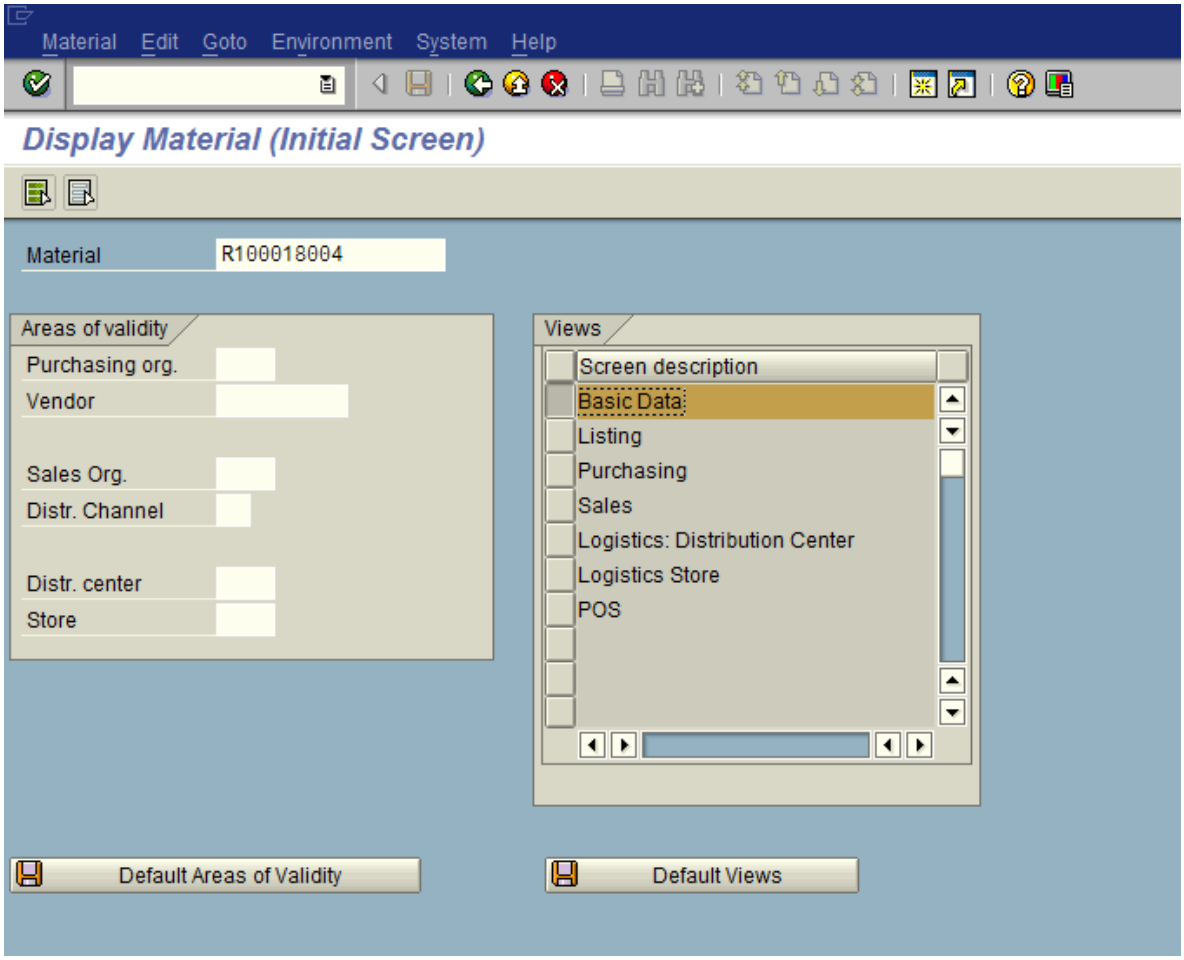

Figure 9: View Selection

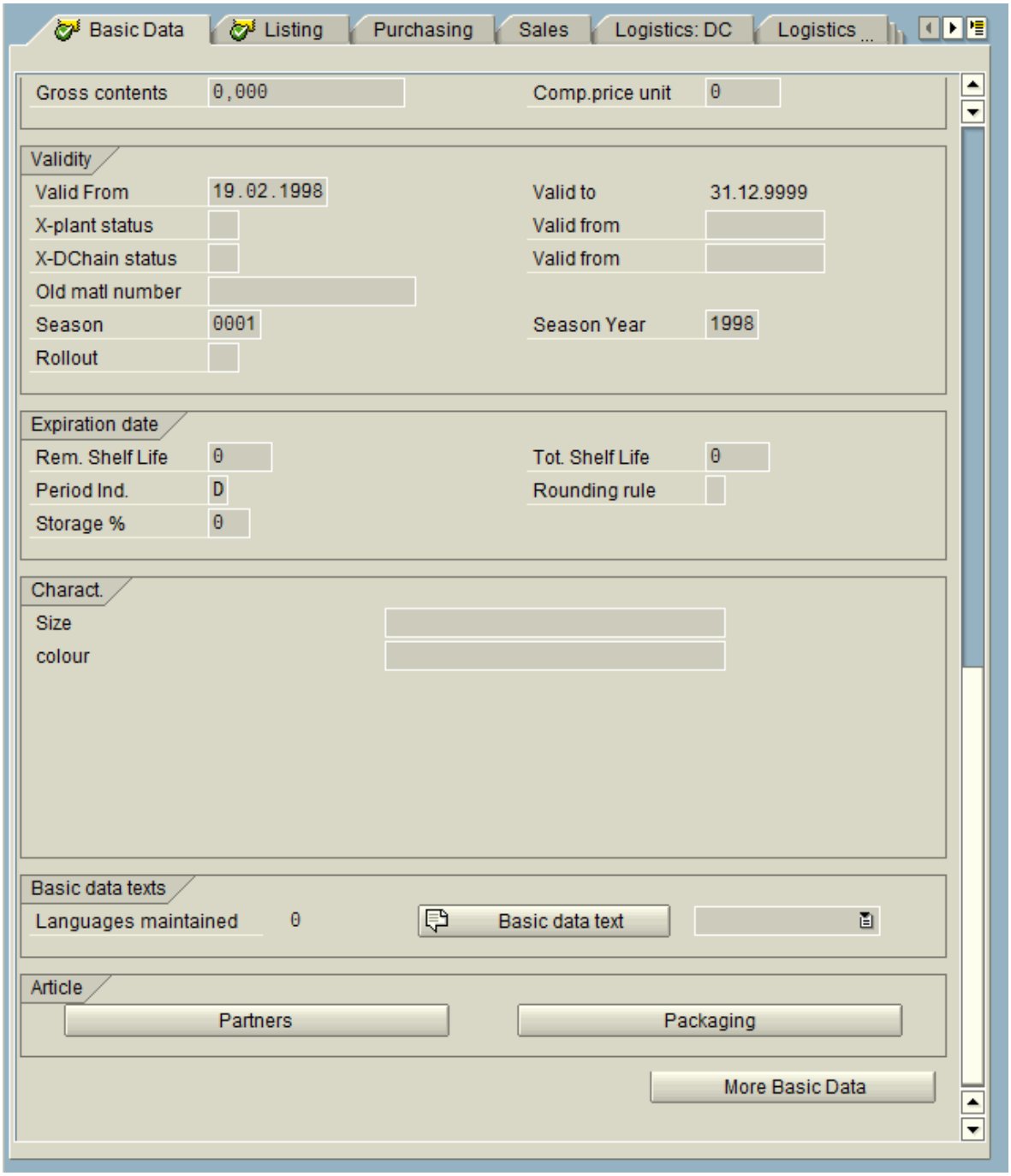

Figure 10: Basic Data Screen

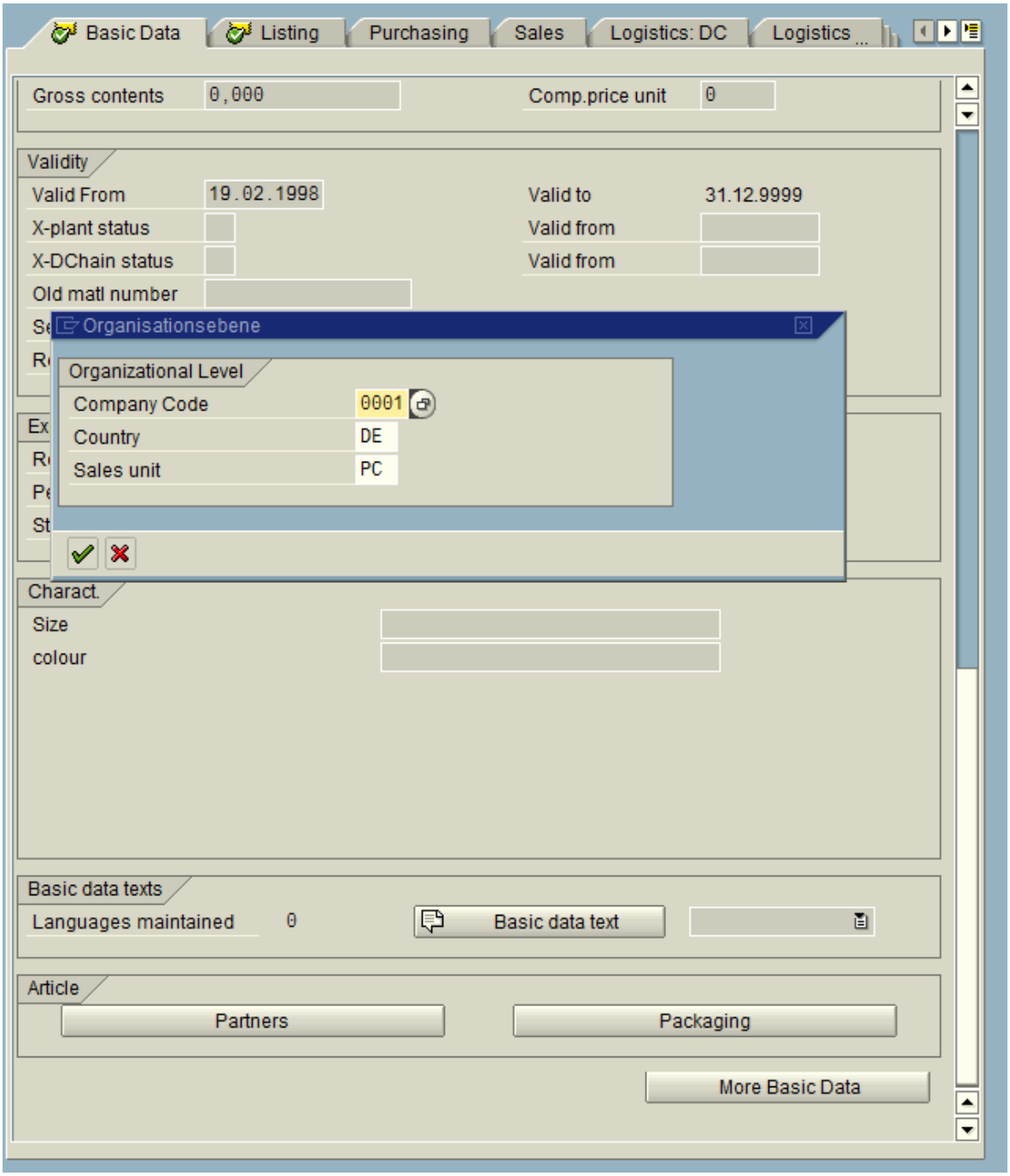

Figure 11: Popup for Organizational Data

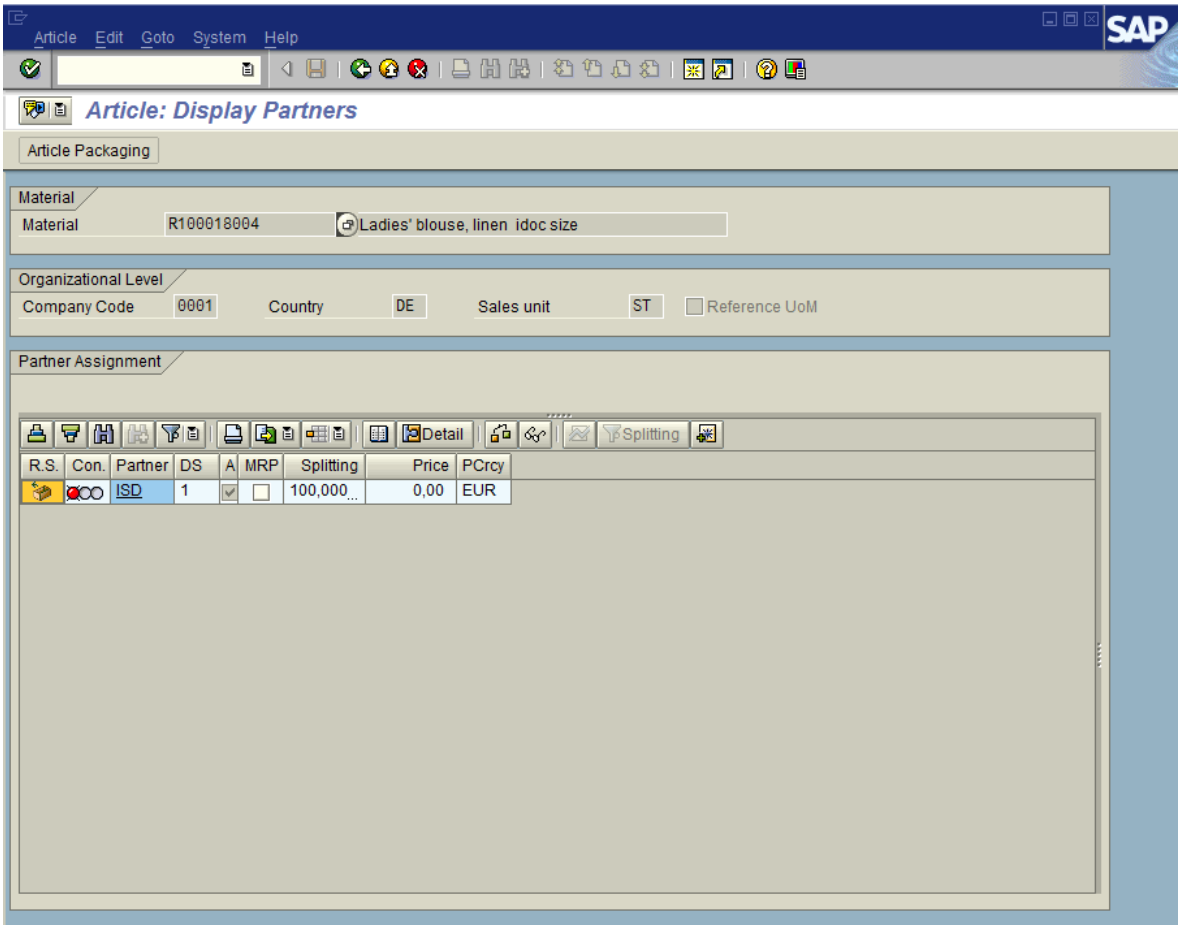

Figure 12: Partner Assignment Screen

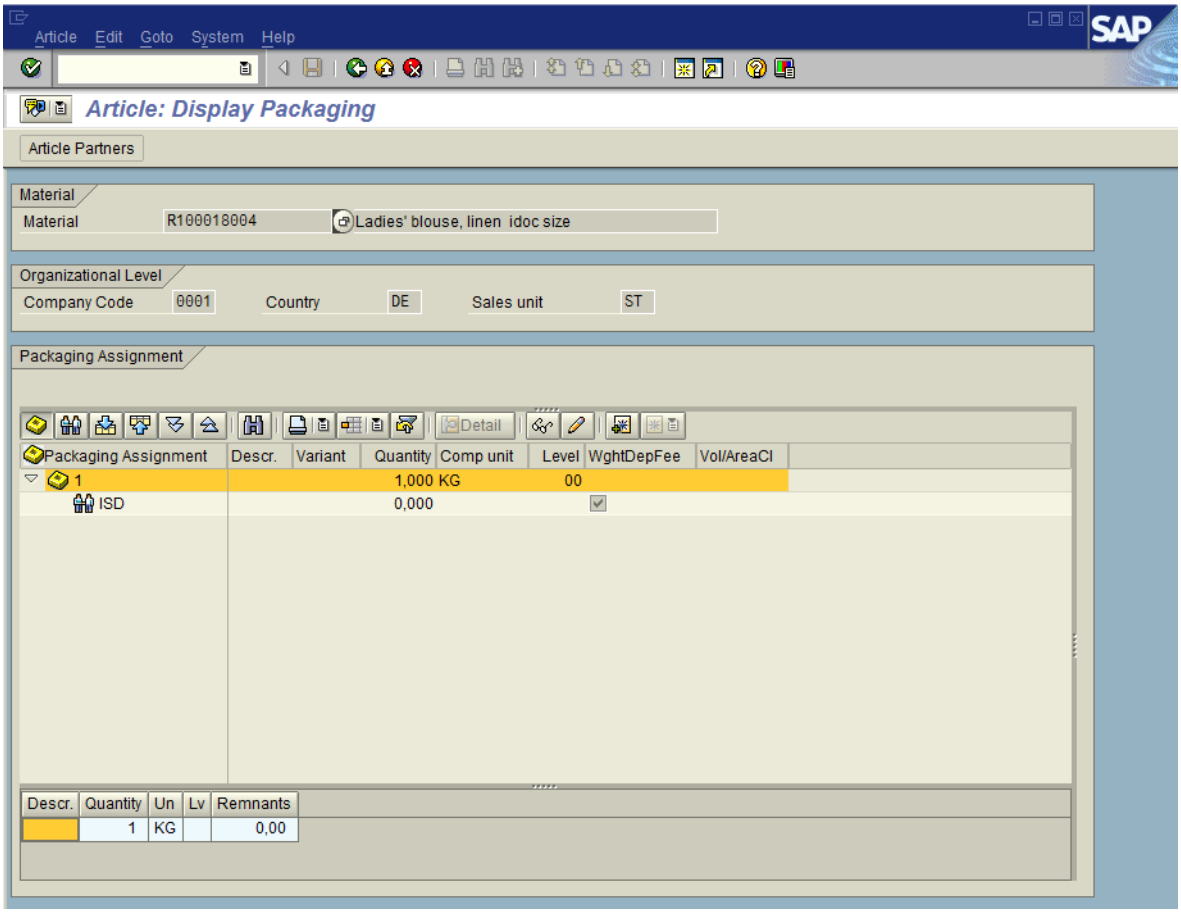

Figure 13: Packaging Assignment Screen

REA Packaging in MM Main Screens

The pictures below show what packaging main screens in MM look like.

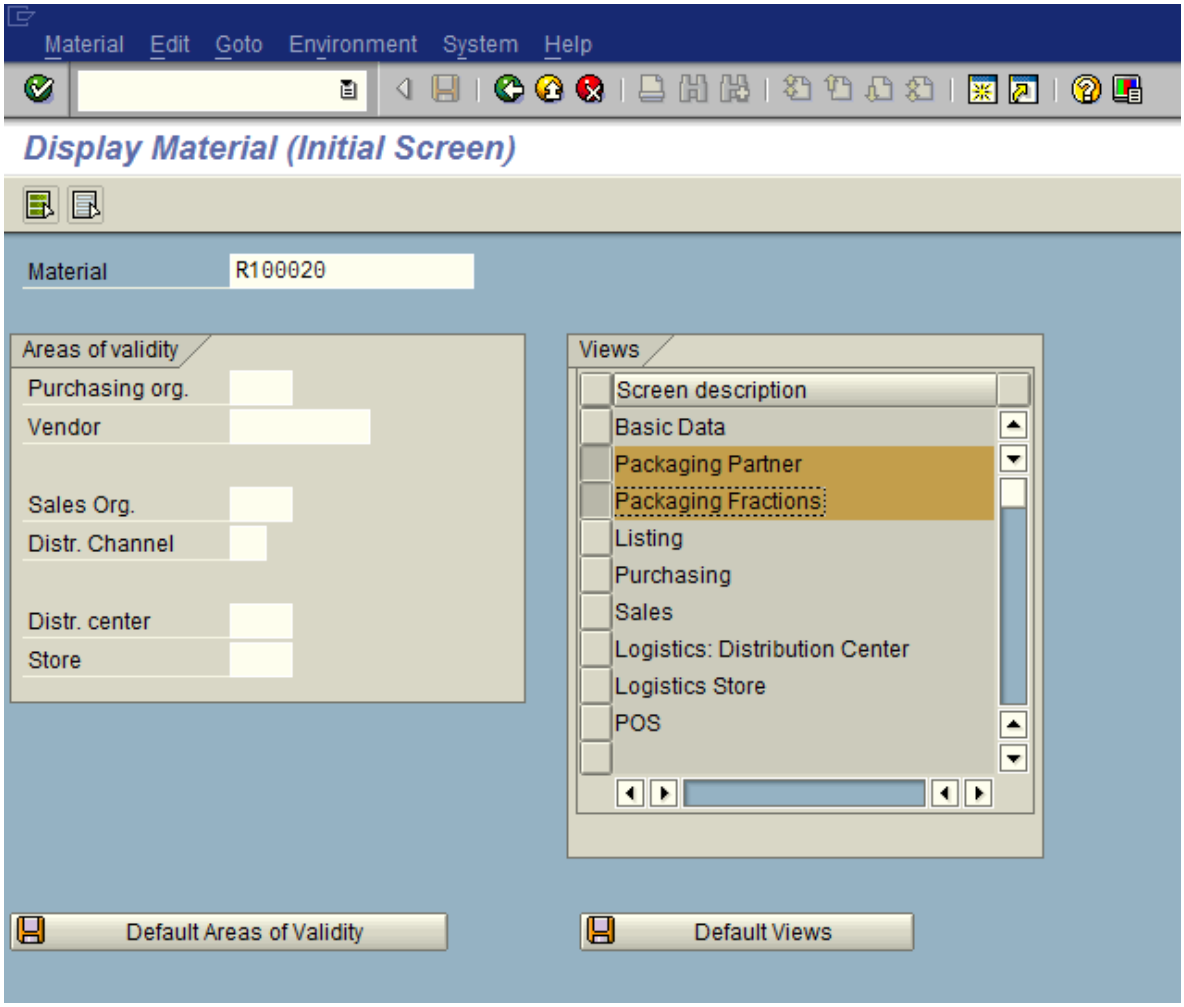

Figure 14: View Selection

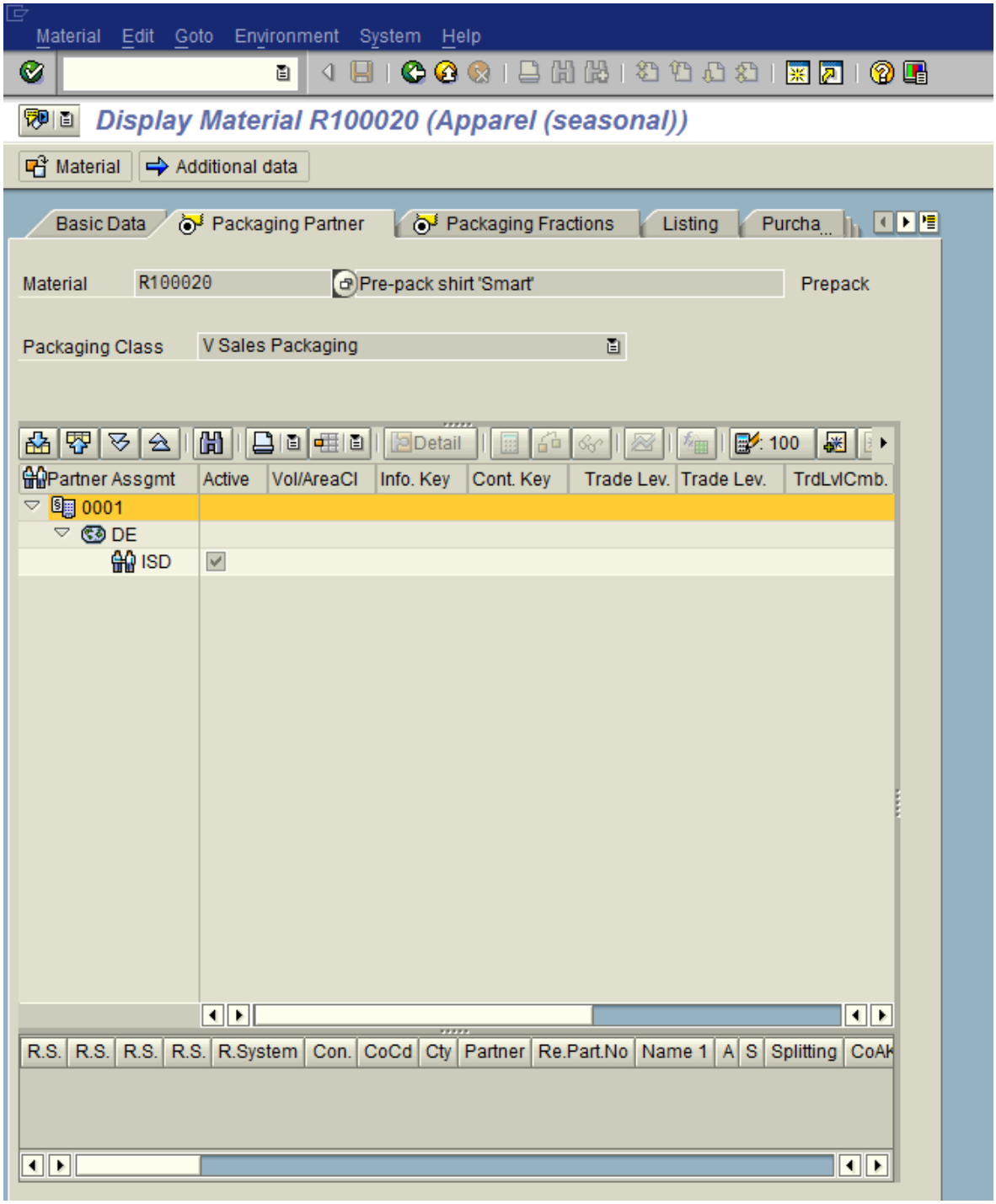

Figure 15: Partner Assignment Screen

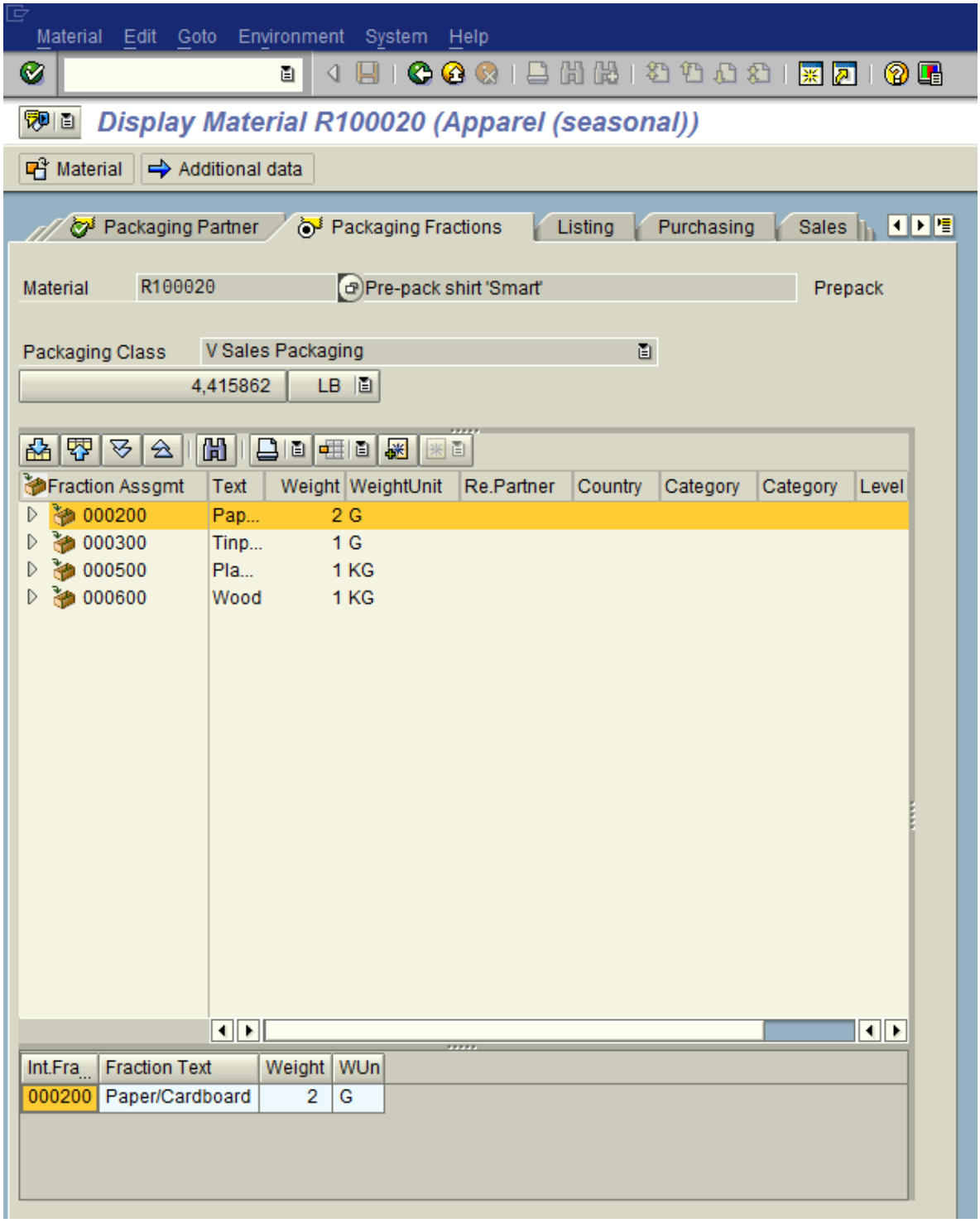

Figure 16: Packaging Assignment Screen

REA Packaging in MM Secondary Screens

The pictures below show what packaging secondary screens in MM look like.

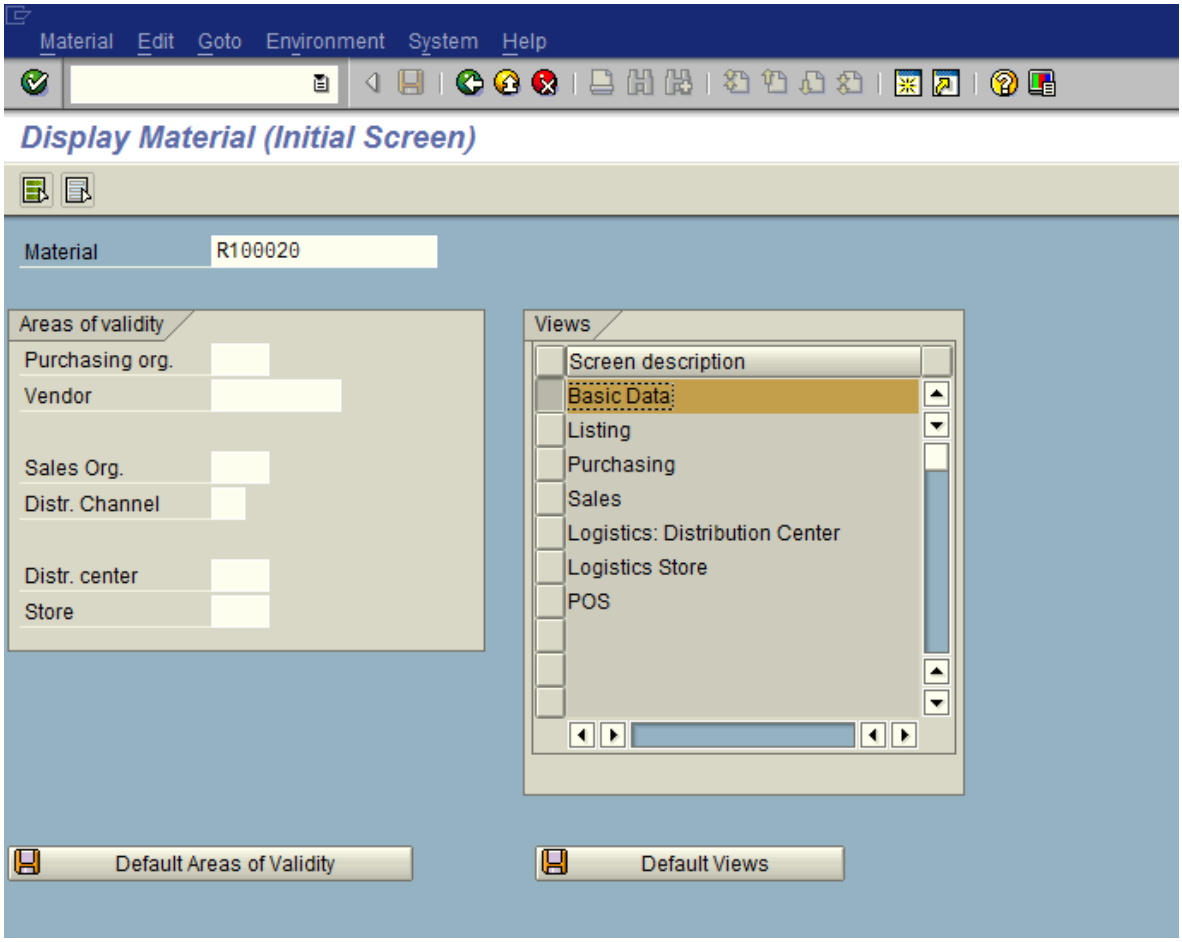

Figure 17: View Selection

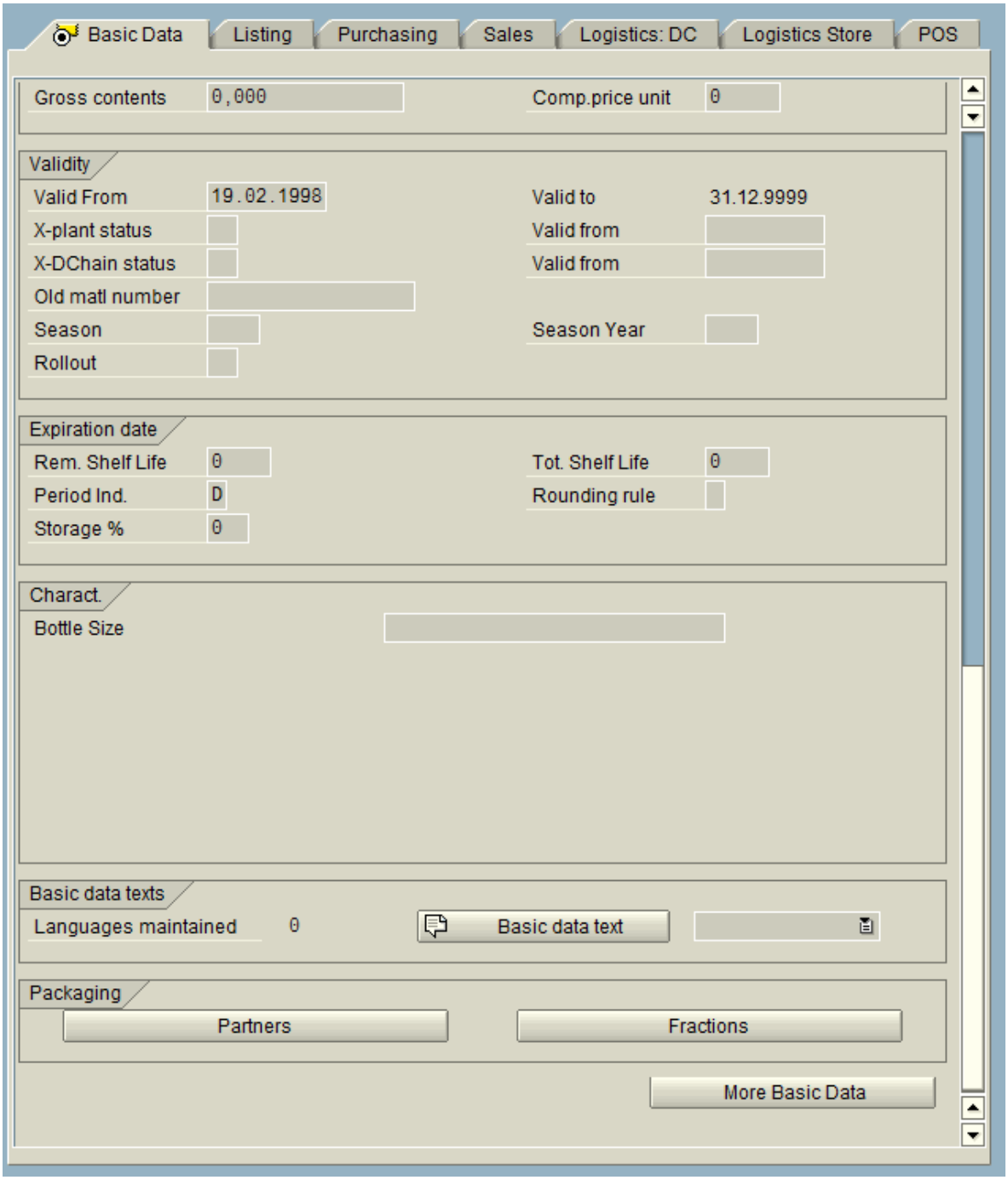

Figure 18: Basic Data Screen

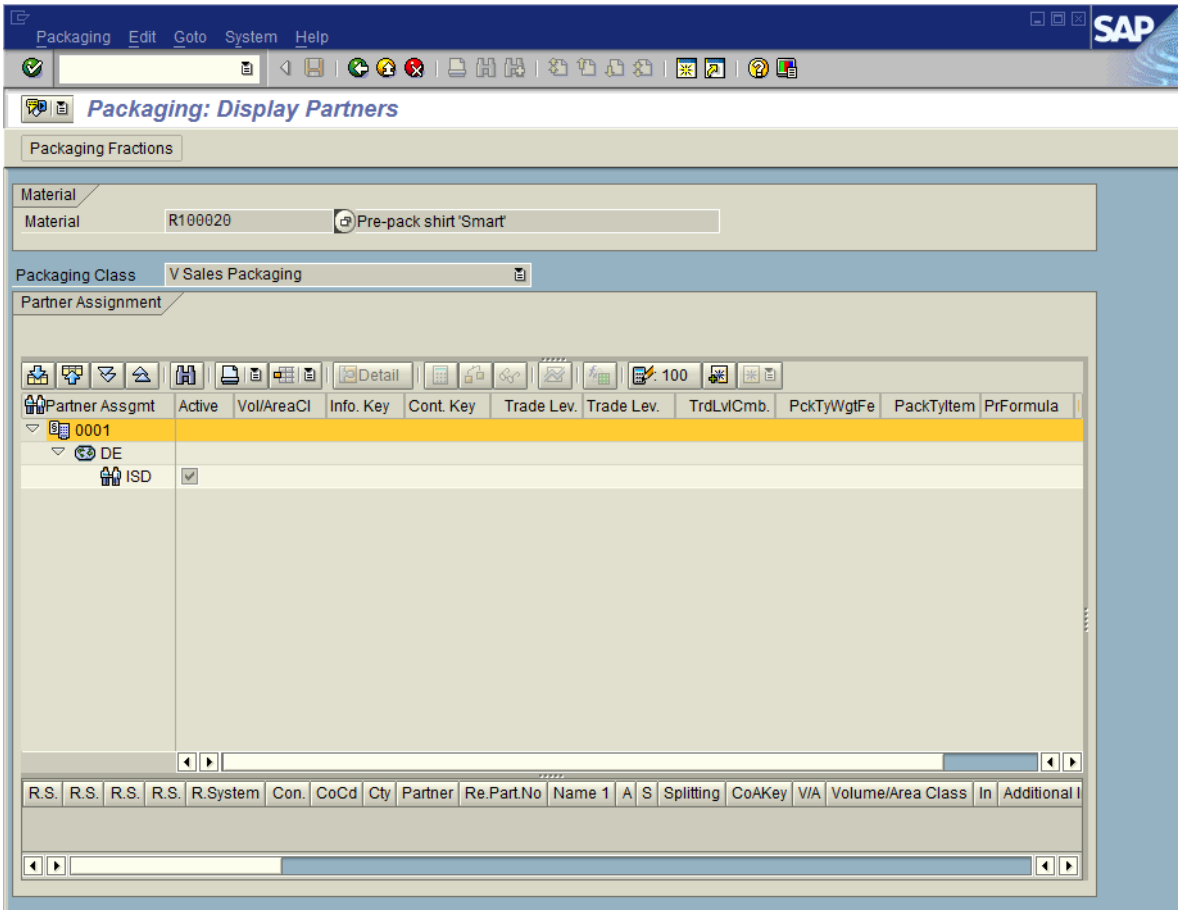

Figure 19: Partner Assignment Screen

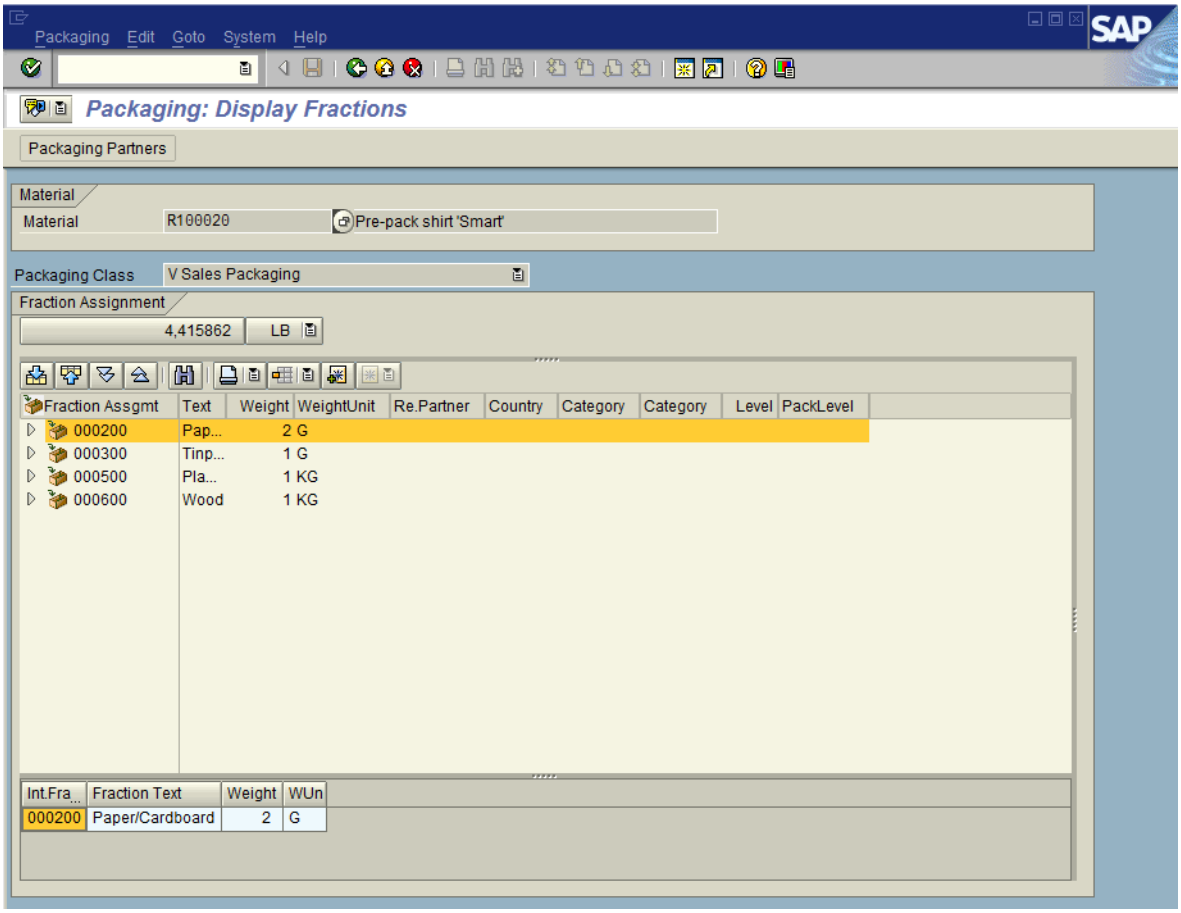

Figure 20: Fraction Assignment Screen

Limitations to REA Master Data Maintenance in MM

In MM REA only offers the views on partner and packaging for articles and on partner and fractions for packagings. All other views included in the REA specific master data transactions are not available.

REA master data in MM does not offer the use of (REA-) variants or versions for articles or packagings. Variants and versions can neither be maintained nor displayed in MM.

When using the main screens for REA MM integration, the sales unit used to define an article is always the base unit of measure. Only with the secondary screen can other sales units be used for the article. When an article is created with a 'copy from' material as template using main screens the data of the template material is taken from the same organizational level (i.e. company code, country and sales unit) the new material is defined for.

The archiving for materials has not been enhanced to include article or packaging data. Archiving and deleting a material still requires prior deletion of the article or packaging using the REA functions.

BAPIS and Idocs for the material master have also not been enhanced to include article or packaging data. No article or packaging data can be imported or exported using standard BAPIs or Idocs for materials.

REA MM integration does not allow the copying of article or packaging data from generic materials to the variants of this material. This data has to be maintained individually for each variant of a generic material. When article or packaging data of a generic material is changed, the user is informed by message that the variants are not changed.

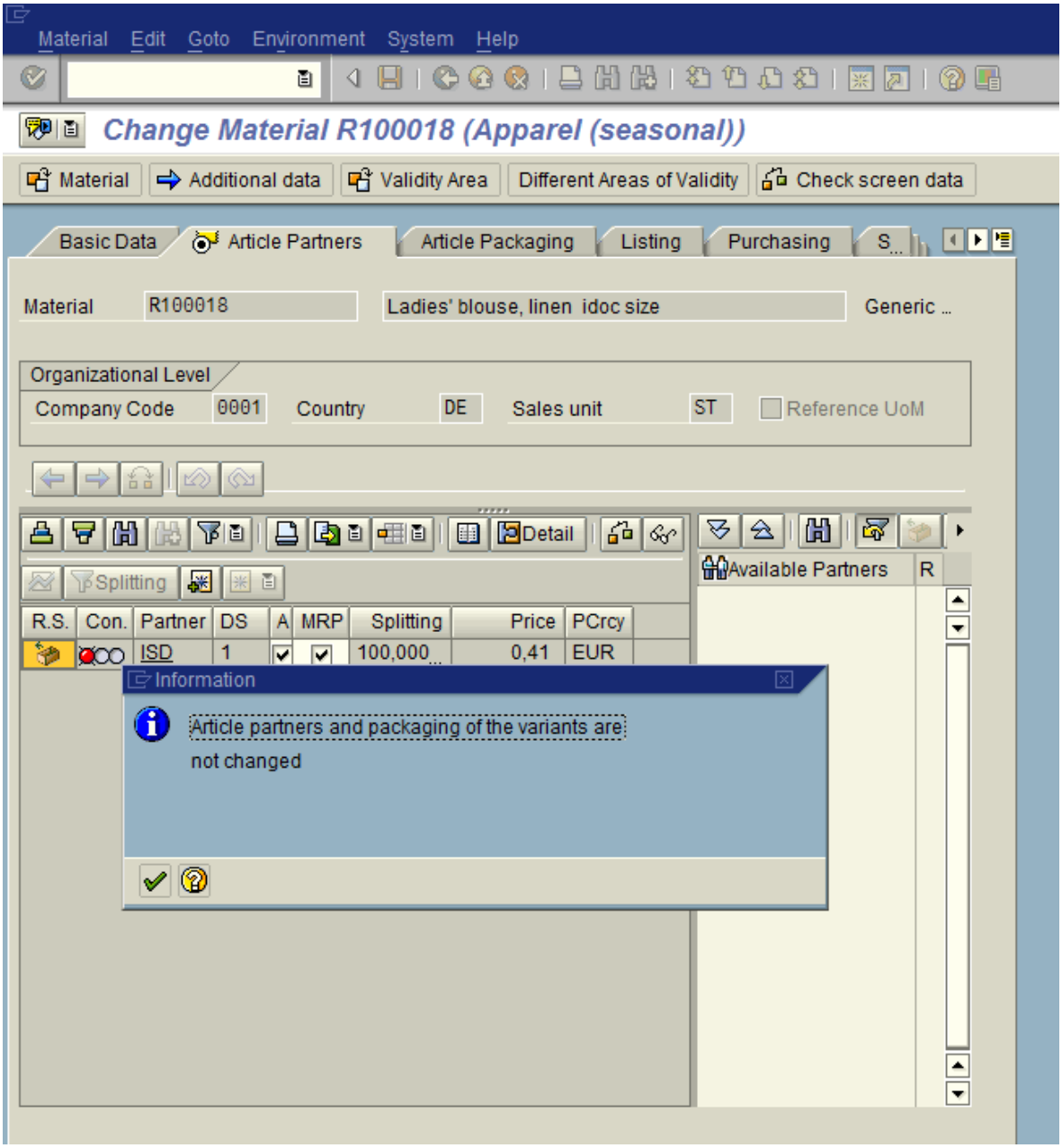

Figure 21: Update Message for Generic Materials

Steps to make REA MM Integration Available

To make the REA MM integration functions available to users the following steps have to be taken:

Business Function J_7L_REA_AUTO_CONFIG

REA MM integration will be delivered with enhancement package 6. In order to make it available business function J_7L_REA_AUTO_CONFIG has to be switched on via transaction SFW5.

BADI Implementation J7L_BADI_MATERIAL_OD

To utilize the functions of REA MM integration, implementation J7L_BADI_MATERIAL_OD of BADI_MATERIAL_OD has to be activated in customizing under: SAP customizing implementation guide → logistics – general → material master → enhancements → integration of new objects (industry and retail).

Assignment of Screen Sequences

Four new screen sequences have been created for the REA MM integration in retail systems. The screen sequences are for article maintenance in main ('RE') and secondary ('RF') screens and for packaging maintenance in main ('RG') and secondary ('RH') screens.

This screen sequences can be assigned to users under: SAP customizing implementation guide → logistics – general → material master → configuring the material master → assign screen sequences to user/material type/transaction/Industry sector (or transaction OMT3E).

Use of REA MM Screens in other Screen Sequences

If the delivered new screen sequences do not match the customer's needs the new REA screens can also be used in customer specific screen sequences. Under: SAP customizing implementation guide → logistics – general → material master → configuring the material master → define structure of data screens for each screen sequence own screen sequences can be defined (preferably as copy of existing ones).

The following screens for use in MM are available in the new function group /J7L/REA_MM_RT:

- 110 Article partner main screen
- 120 Article packaging main screen
- 210 Article partner secondary screen
- 220 Article packaging secondary screen
- 230 Push button for secondary screens for articles
- 310 Packaging partner main screen
- 320 Packaging fractions main screen
- 410 Packaging partner secondary screen
- 420 Packaging fractions secondary screen
- 430 Pushbutton for secondary screens for packagings

Under: SAP customizing implementation guide → logistics – general → material master → configuring the material master → here's how (quick guide using an example) an explanation is given on how to integrate the new screens into screen sequences (the main program for function group /J7L/REA_MM_RT is /J7L/SAPLREA_MM_RT).

When main screen for partners (screens 110 and 120) are to be used in customer specific screen sequences, new entries (via transaction SM30) for functions codes '/J7L/ORGLEVEL_R1' and '/J7L/ORGLEVEL_R1' are required in views 'V_T133D' and 'V_T133E'.

Use of Packaging and Article Screens in one Screen Sequence

New Screen Sequence

If you want to use a screen sequence that includes both the screens for articles and for packagings, you will have to create a new screen sequence of your own. To do so, you should copy one of the existing screen sequences for articles of packagings, add the data screens for the respective other entity and copy the data for the subscreens of these new data screens from the existing screen sequence for that entity. (SAP customizing implementation guide → logistics – general → material master → configuring the material master → define structure of data screens for each screen sequence or transaction OMT3)

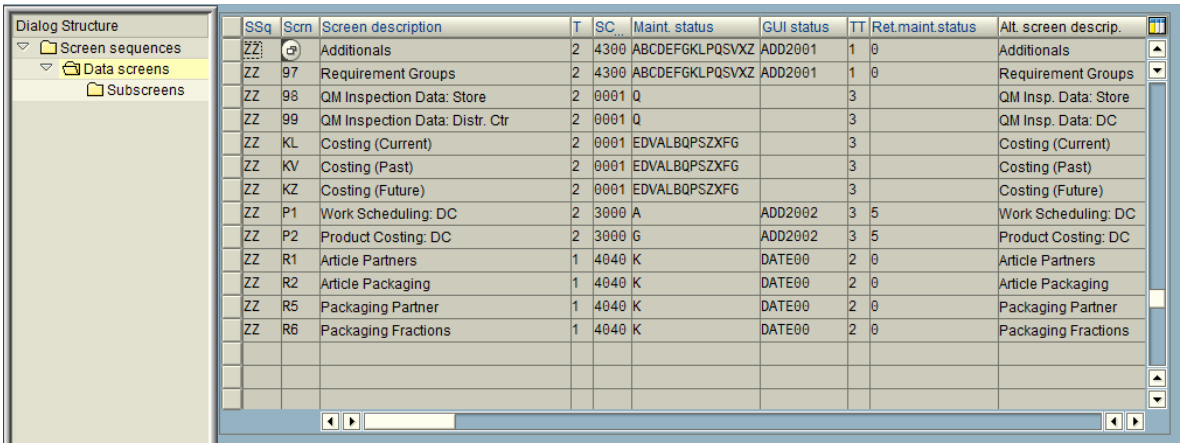

Figure 22: Data Screens for Articles and Packagings

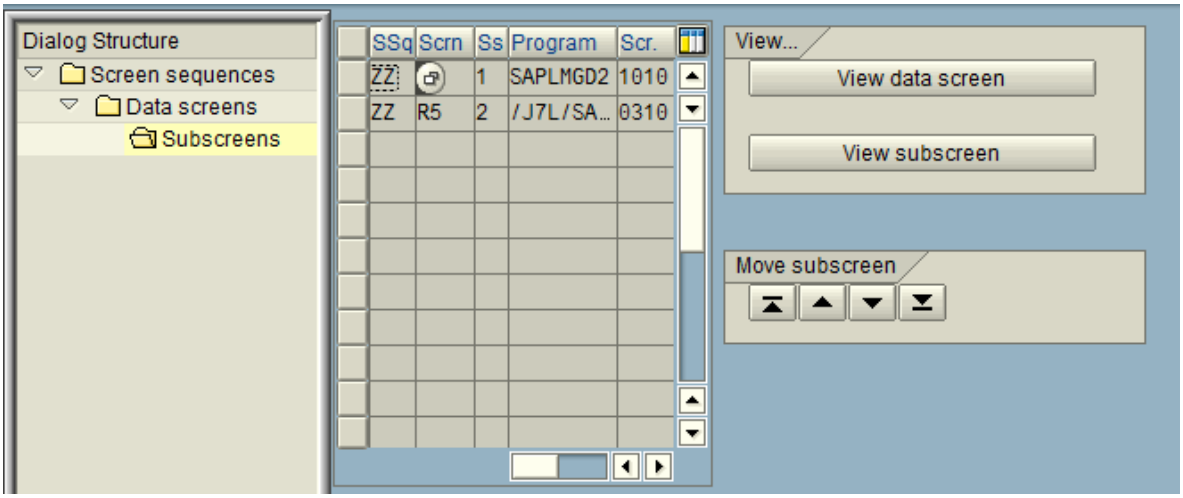

Figure 23: Subscreens for Data Screens

Finally you should set the data screens in the desired order under (SAP customizing implementation guide → logistics – general → material master → configuring the material master → maintain order of main and additional screens).

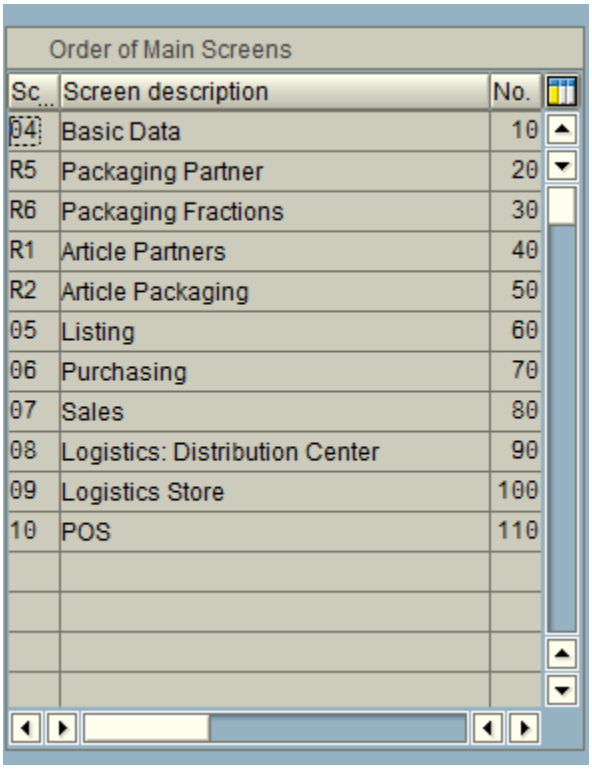

Figure 24: Sequence of New Screens

If the new screen sequence is assigned to a user as described in paragraph **Error! Reference source not ound.**, both article and packaging data can be accessed in the same transaction.

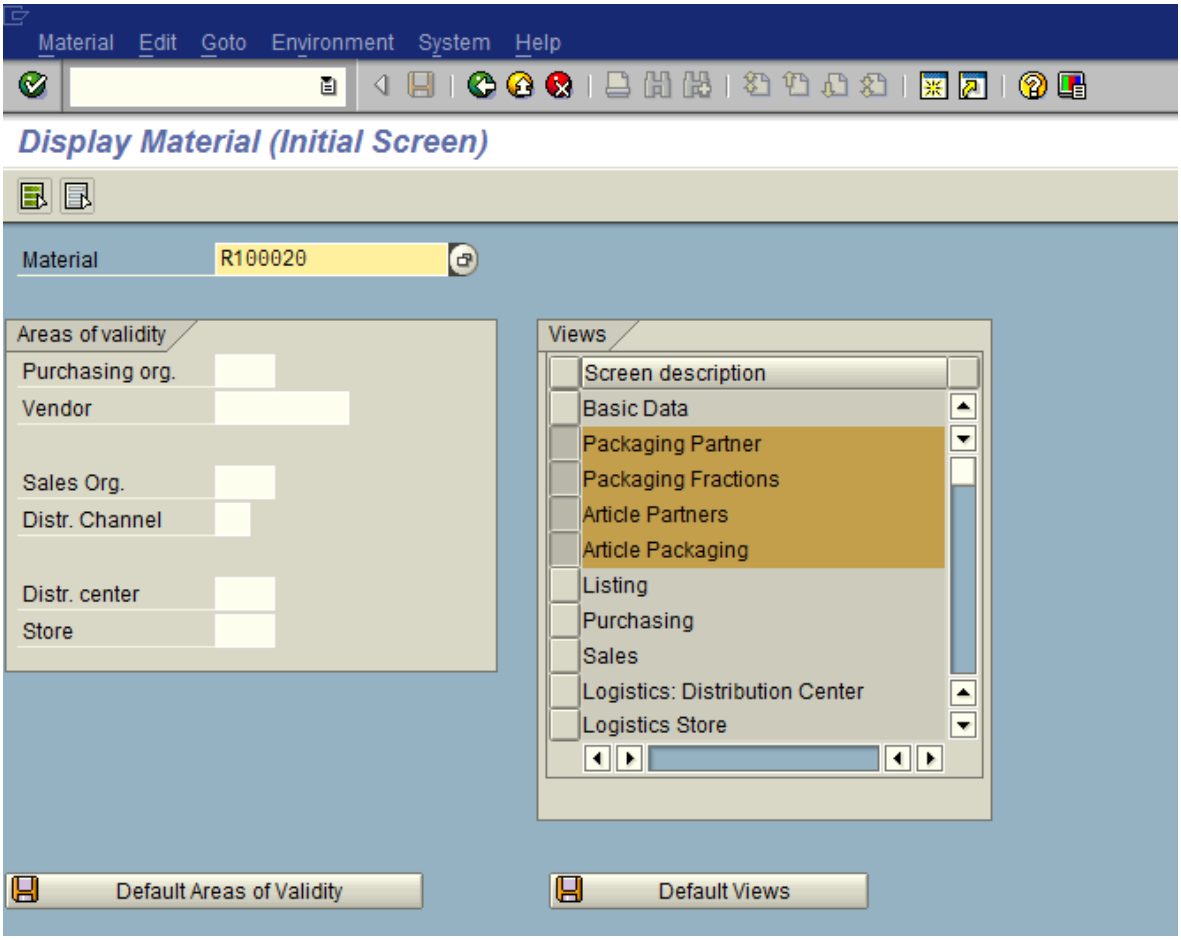

Figure 25: View Selection

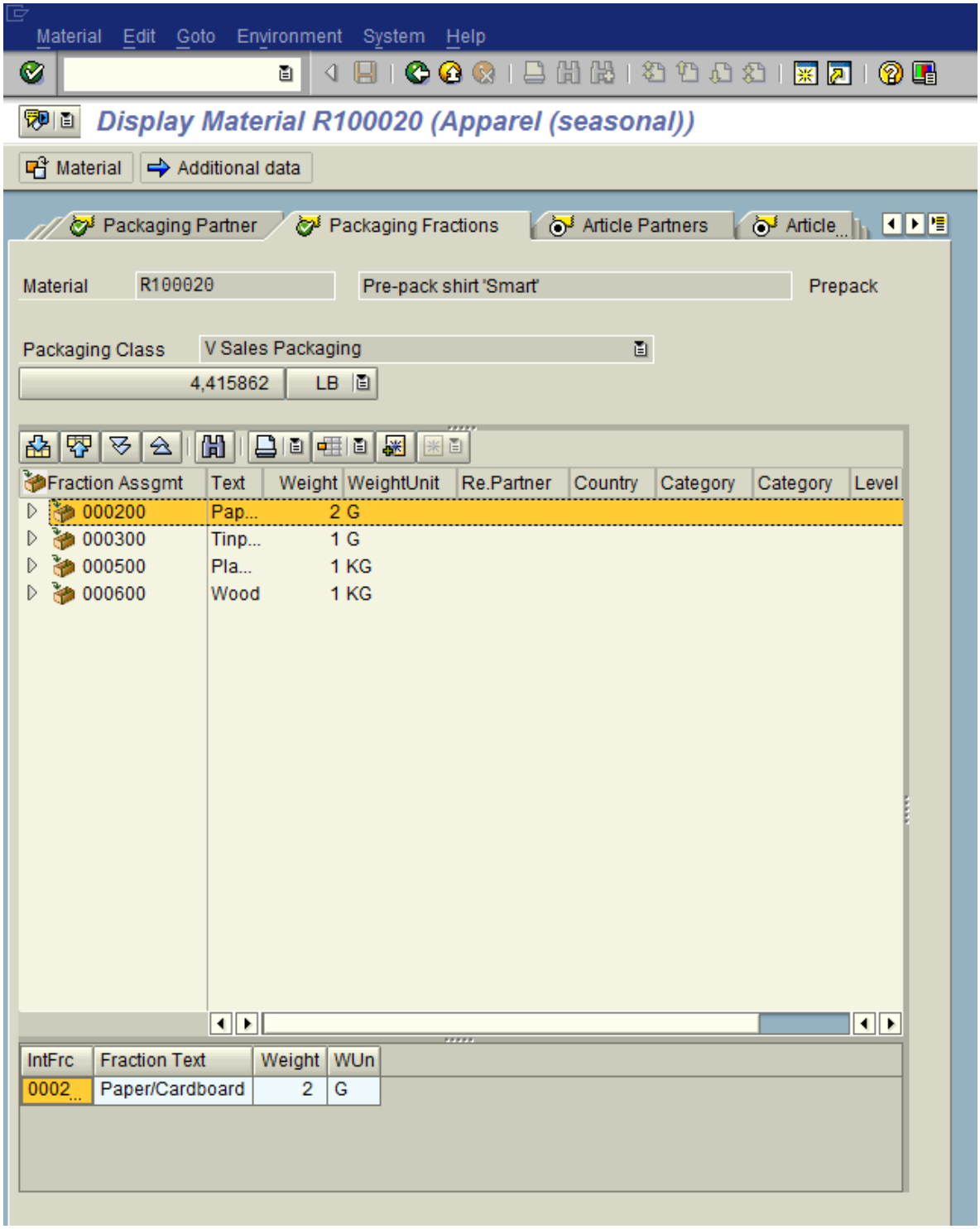

Figure 26: Views for Packaging and Article

Use of Option ‘Quick Entry for Packaging‘

In ‘personalization’ for the creation of an article you can select the option ‘quick entry for packaging’.

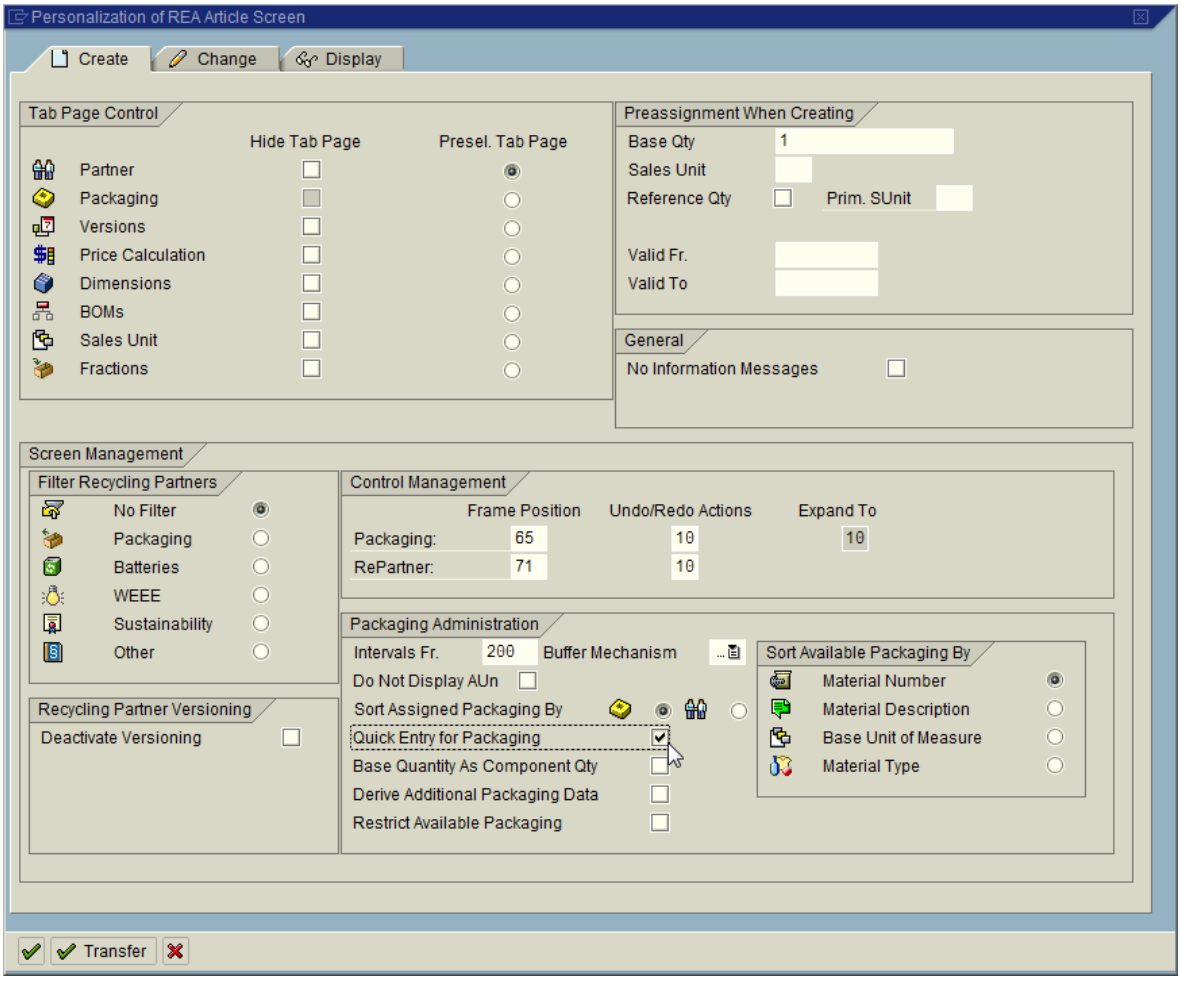

Figure 27: Personalization

If that option is tagged and you create an article (TA: J7L1) for using a material for which a packaging has already been created, you will see a button that allows you to assign the packaging to the article with a single click.

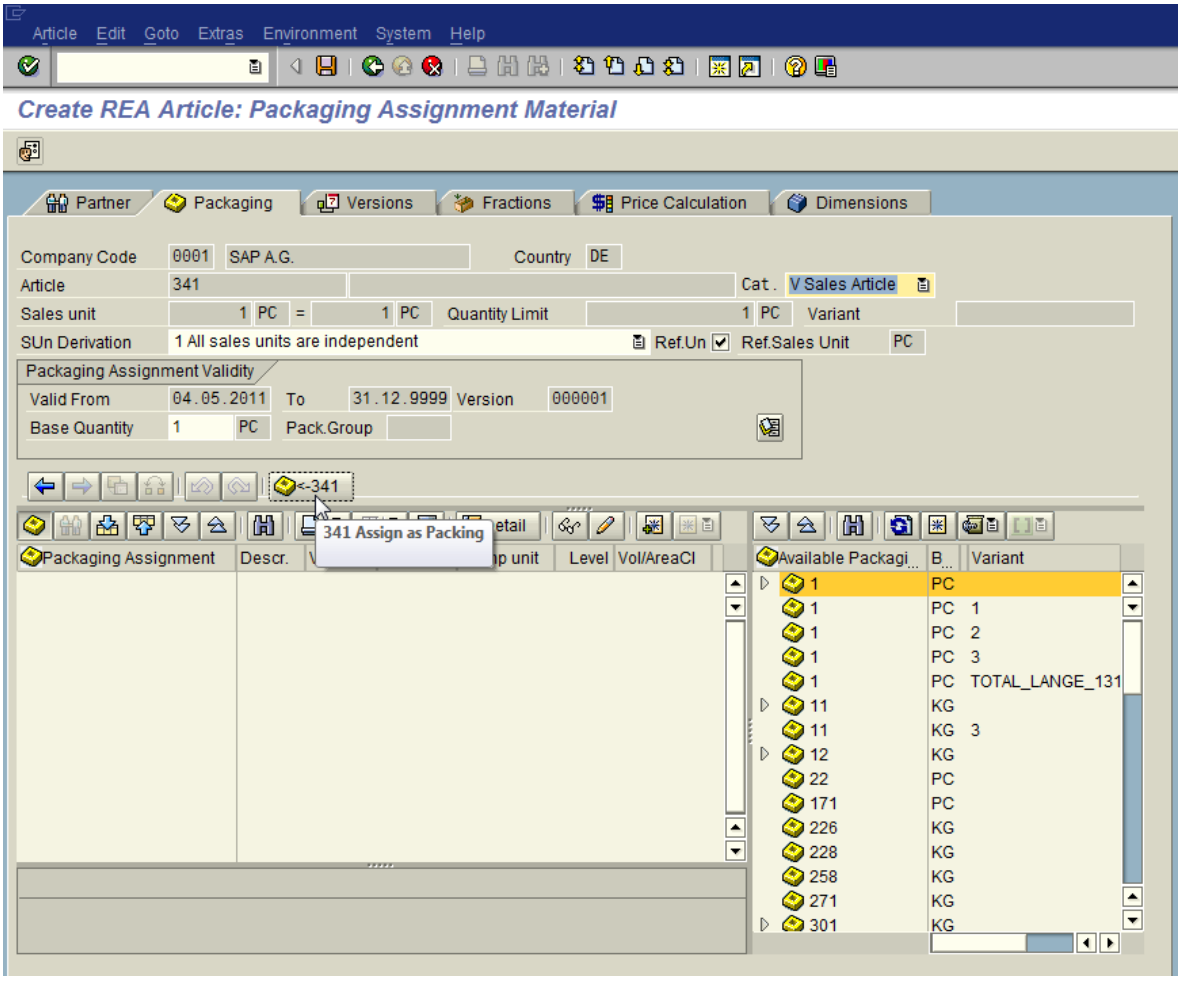

Figure 28: Quick Entry for Packaging

However, this button is not available when you create the article using material master transaction.

Implementing a similar function into the material master transactions is possible, but requires a considerable effort. These are the steps necessary to achieve this goal for a screen sequence using primary screens:

- Do not activate the delivered BAdI Implementation as described in paragraph **Error! Reference ource not found.** or deactivate it if already done
- Copy the function group /J7L/REA_MM to your own function group in the customer name space
- In your copy of function '/J7L/REA_MM_SET_PROGRAM' set the correct program according to your new function group.
- In your copies of the other functions replace the calls to functions of function group /J7L/REA_MM with calls to the corresponding functions of the new function group.
- In your copy of function ' /J7L/REA_MM_PREPARE_POST_DATA' modify tables gt_m04_new and gt_m09_new to include the assignment of the newly created packaging to the likewise newly created article.
- Create your own implementation for BADI BADI_MATERIAL_OD and copy the methods from implementation J7L_BADI_MATERIAL_OD. Replace the function calls with calls for the corresponding functions from your new function group.
- Activate your own BAdI implementation

- Create a new screen sequence for both articles and packagings as described in paragraph 0 and exchange the program stated in the definition of subscreens with the program name of your new function group.
- Assign the new screen sequence to your user(s).

Enhancements to REA MM Integration

The new enhancement spot J_7L_ES_REA_MM has been created with BAdI definition /0SJ7L/ES_REA_MM and interface /J7L/IF_REA_MM_INT.

This new BAdI has two methods, one for setting default values for the article maintenance and one for setting default values for the packaging maintenance. The methods are called when an (REA-) article or packaging are created via MM and allows to default values like valid-from and valid-to dates.

The BAdI can be implemented under: SAP customizing implementation guide → sales and distribution → billing → recycling administration → adjustment → business add-Ins (BAdIs) → BAdI: Default values for master data (material master)

Related Content

[1] Cookbook REA MM integration for industry systems

[2] Cookbook_Rpartner

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