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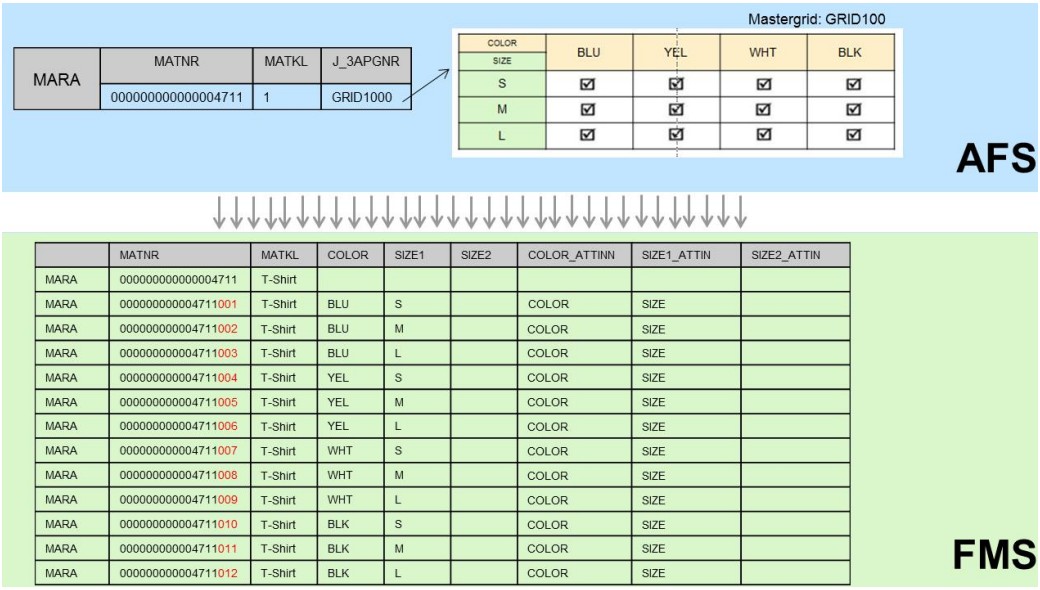
AFS2FMS Migration Guide
Data Transport and Migration Tool for Fashion

This guide leads you through the activities of an AFS to FMS Migration, and provides you with background information to understand more complex interrelations that are important to fulfill the prerequisites for migration. In addition to this content guide, there is a user manual available that describes the most important features and functions of DTMT that people who carry out migration activities need to know.

1 Starting Point

The architectural differences between AFS and FMS are significant, particularly in the area of the logistical applications. The main reason for this is the different architecture of AFS articles and its usage in the logistical processes. The variant diversity of AFS materials is based on the connection between the material master and its master grid (a matrix that holds the different characteristics of a product like colors, sizes, or flavors). Nearly all logistical processes in AFS where this kind of product is involved work exclusively on grid value level, which is also reflected in the underlying data structures. FMS however, is based on the architecture of SAP Retail where articles that differ only in certain characteristics are separate articles (variants) that are grouped together as a generic article. The figure below illustrates (just on **MARA** level) what an AFS material and an FMS generic article look like.



All logistical processes in FMS where generic articles are involved work on variant level, which is quite similar to SAP ERP since variants are autonomous articles.
The different concepts of AFS materials and generic articles also impact all other logistical business objects like purchase orders and sales orders, conditions or purchasing info records, and many more.

Due to the significant architectural differences between both sides, FMS cannot be reached via an upgrade of AFS. This means that AFS customers have to implement FMS (only possible on a HANA platform) from scratch, and migrate the application data from AFS to FMS.
To support customers' data migration projects, SAP provides the AFS2FMS migration solution, which will help customers to transfer/migrate their data. This solution covers the complex transformation of the logistical business objects, as well as the data transition of the non-logistical ones, for example the financial data that does not differ greatly on both sides. What this really involves is the data migration of an SAP ERP system. However, the AFS2FMS solution is not an out-of-the box migration. It serves as a foundation for customer-specific migrations, where the most complex migration challenges caused by the major architectural differences have been solved by SAP.

1.1 Migration Approach

1.1.1 Migration Technology

Due to the very specific requirements of the AFS2FMS migration with regards to complexity and data volume, SAP decided to develop a new ETL tool (Extract,Transform, and Load) named DTMT (Data Transport & Migration Tool), which was especially designed to transfer/migrate business object data between ABAP-based SAP systems. The tool reuses the principles and methods of the extremely successful R/2 – R/3 migration. Simply put, data migrated in this way is read directly from the relevant source tables and written to a CSV file. From here, it is read by the corresponding migration and upload program on the target side, and transferred to the migration rule set. Once the conversion is complete, the data is written directly to the relevant tables in the target system, or if required, handed over to BAPIs that finally populate the data. DTMT comes with a design time where the migration content, consisting of metadata definitions, table relations, structure- and field mapping, and other elements, is defined. Based on this content, the final export and import programs are generated within the customer environment. Refer to the DTMT user manual to learn more about the concepts and principles of DTMT, as well as its features and functions, before you proceed with this document. You should be familiar with at least the content of section 1.

Note: SAP highly recommends that you involve experienced experts/consultants in your AFS2FMS migration project.

1.1.2 Financial Data Migration

As already mentioned, DTMT is able to directly insert data into the target tables and to call existing interfaces (for example BAPIs or IDocs) to populate the data in the target system. To ensure the consistency of the audit-relevant data, the migration of the financial data is not done on table level but via BAPIs. Today, tax auditors require that this kind of data is imported via the testified SAP interfaces.

1.2 Scope of AFS2FMS Migration

1.2.1 In Scope

SAP delivers standard migration content for the most relevant business objects of AFS, allowing customers to migrate master data, as well as open transactional data. The scope is comparable to a common legacy data migration even though the migration takes place between two SAP products. This means that customers will have to accept some data loss in the new operational FMS system, which might cause some inconvenience, and require workarounds for a certain period of time. Section 3 of this guide covers all migration objects in scope, and will lead you through all required activities.

1.2.2 Out of Scope

1.2.2.1 Historical Transactional Data

As already mentioned, the migration scope of application data is limited to master data and open transactional documents. Beside the huge development effort that a more comprehensive scope would require, there are several other good reasons behind this limitation, such as:

- *Data volume for migration would dramatically increase if for example, historical purchase- or sales orders were in scope. Not only due to a higher number of additional orders, but also the number of AFS materials that would have to be migrated in addition (note that each grid value will cause the creation of a variant article in FMS) because they are included in historical orders.*
- *FMS orders would differ significantly from those in AFS, and therefore the existence of historical/finished orders in FMS would not really help in daily business. Note that for example, an AFS sales order with two line items and 50 scheduling lines each would be transformed into an order with 100 line items, which would make back references for any purposes very difficult.*
- *Customers will therefore have to keep their AFS system as a retrieval system anyway, to fulfill their legal obligation towards the tax authorities for non-migrated data to still be accessible in this system. Customers should use this system for back references, even though users will have to switch between the two systems for a certain period of time.*

Note: As DTMT is an open tool, customers always have the option to extend the standard scope by developing additional migration objects within their migration project.

1.2.2.2 Customizing

SAP does not provide standard content to migrate customizing data from AFS to FMS. Customers have to customize FMS from scratch within their implementation project. However, DTMT can technically also handle the migration of customizing tables, and customers can use this functionality to migrate selected customizing tables (SAP or custom), to speed up their implementation. Refer to the DTMT user manual to learn how this works.

1.3 Planning and Preparation

1.3.1 Define Customer-Specific Migration Approach

It is very important that you plan your transition from AFS to FMS thoroughly. Defining the best possible customer-specific migration strategy is important for it to be a success. SAP strongly recommends involving both business and IT professionals in the planning phase, especially if a phased migration is planned (very likely in most cases).

1.3.2 Data Cleansing in AFS

Before you start with the actual data migration activities, you should analyze and cleanse your AFS data.

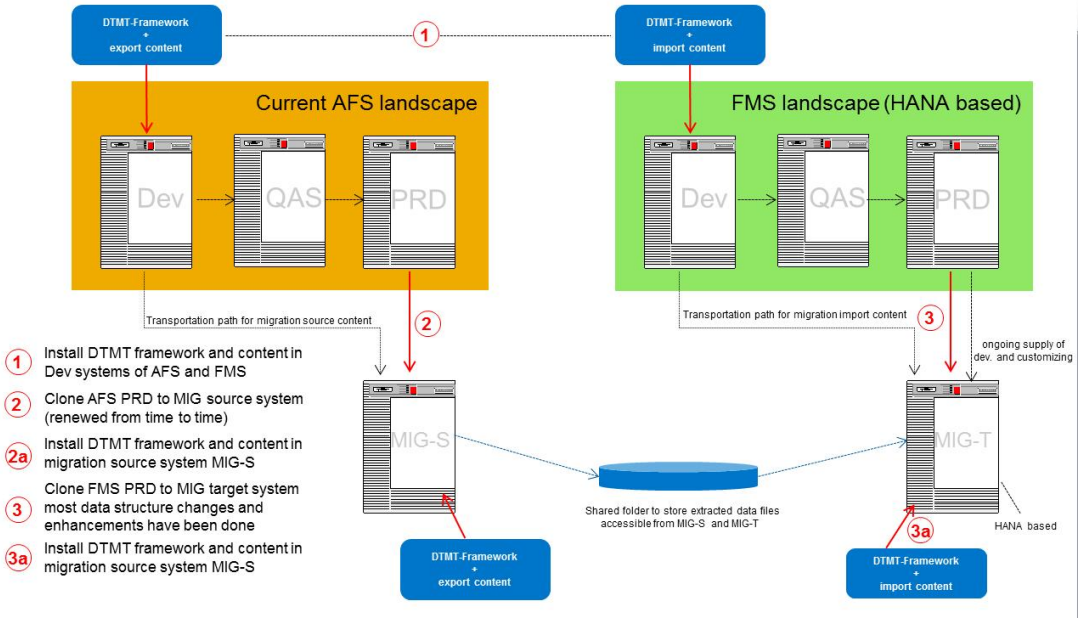
- *Identify data to be migrated (reduce it to a minimum)*
- *Cleanse data (for example close orders, do an inventory, cleanse inconsistent data, and so on)*

1.3.3 Fulfill Migration Prerequisites in FMS

- *Implement all relevant data dictionary enhancements*
- *Customize FMS (to an extent that allows you to run your main processes across all organizational units in scope of migration)*
- *Create master data that is new for AFS customers (for example merchandising categories, merchandising category hierarchy, characteristic profiles, and so on)*

1.3.4 Prepare Migration System Environment

Since the success of test migrations can be verified only from a business point of view, it is essential to create an appropriate system environment where this verification can take place. The only way to do so is to set up a **separate** system landscape only for migration purposes, in parallel with your productive environments of AFS and FMS. The figure below illustrates the system landscape that SAP recommends. Besides your current AFS and FMS systems, you need a full copy of your AFS production that serves as a migration source system (MIG-S). You also need an FMS migration target system (MIG-T) that is large enough to store the migrated data, and that is included in your FMS transportation landscape, to ensure that all development and customizing transports are transferred to MIG-T. Note that at least all data dictionary changes to tables relevant for migration have to be defined in the target system, before data migration tests can start. Last but not least, a folder is required, where the migration extraction files can be stored. This folder has to be accessible from the source and the target system and large enough to temporarily store the extracted data files. To install migration tool and migration content in the source and target system, refer to the installation guide provided on SAP Marketplace. The figure below illustrates the steps to be carried out.



1.3.5 Set Up DTMT After Installation

After you have installed DTMT and the AFS2FMS migration content in your migration source- and target systems, you need to perform the following preparation activities in the order in which they are listed below. To perform these tasks, you need to be familiar with the DTMT framework.

1.3.5.1 Within the Source System

1. Copy the installed SAP standard scope V600 to a customer scope Zxxx (select only those MOs that you plan to migrate)
2. Maintain the path name in your customer scope properties screen
3. Generate all migration objects of your custom scope
    a. Using the mass generation function of DTMT (available from DTMT 1.5 onwards)
    b. Generate each of the migration objects of your scope manually (only DTMT 1.0)

Note: If you have enhanced SAP tables with custom fields that are part of an MO, you do not need to do anything. The tool will recognize this and also extract the custom data.

If you receive an error message during the generation of the migration objects, you might have installed DTMT in an AFS release lower than AFS 6.0, which is the minimum release for the AFS2FMS migration. In that case, open an incident.

1.3.5.2 Within the Target System

1. Copy the installed SAP standard scope V600 to a customer scope Zxxx (select only those MOs that you selected when copying the source scope; it is recommended to use the same name as for your source scope)
2. Copy all name tabs from your source system to the target system (RFC connection required)
3. Generate all migration objects of your custom target scope
    a. Using the mass generation function of DTMT (available from DTMT 1.5 onwards)
    b. Generate each of the migration objects of your custom target scope manually (only DTMT 1.0)

Note: If you have enhanced target tables of migration objects in scope, you will not be able to generate the respective migration objects, since DTMT asks you to first define migration instructions (mapping) for your custom fields.

2 Customize Migration

The technical installation and the first functional test are now finished, and you have installed DTMT successfully.

The migration content delivered by SAP can be customized to a certain degree. This allows customers to influence the way that data is migrated if SAP foresees multiple options.

Customizing is performed in the target system on scope level, and is therefore valid across all migration objects within a scope. It has to be done before the first data import is performed, and it is split into the following sections:

- *Domain Rules (DR)*

  Domain rules are central conversion rules that can be used in all MOs of a scope. They are always connected to a domain, and are used to convert fields assigned to the same domain, to ensure a consistent conversion across MOs within a scope. Some of the domain rules consist of two or more variants, reflecting different types of conversion rules (for example **Move**;**Translate**). In this case, you will see them in the *Migration Customizing*/*Domain Rules* section, and you can activate the variant you want. If you do not activate a variant, the standard variant will be used.

  Note: Domain rules are provided for most of the domains, referring to organizational entities like company codes, plants, and so on. They are also provided for other central fields like customer, vendor, or material numbers, because the values of those fields are often subject to value changes. If you need to consistently change the values of fields where a domain rule exists, you can do this easily. However, it is your responsibility to make sure that the changes make sense. Renumbering of plants or company codes, for example, becomes very simple. If the variants of a domain rule designated in the system are not sufficient for your environment, new variants can be created, or existing variants can be changed using the DTMT design time. However, domain rule changes should be undertaken only by experienced migration experts with sufficient knowledge of the respective application area.

  Note: If you activate a translation variant via migration customizing, you must also maintain the translation object for this.
- *Central Routines (CR)*

  These are similar to domain rules, but are not connected to a specific domain. They are used to implement coding that can be reused in several MOs. Migration customizing is also available for central routines.
- *Control Parameters (CP)*

  Sometimes a customer decision is required to control the standard migration content. This is done by using control parameters via migration customizing.

  Note: Within the AFS2FMS migration, for example, customers need to decide how long the variant counter (the counter that is appended to the old material number to build the new variant article number) should be. You have the choice between 3 and 4 bytes, which you can determine via the respective control parameter in migration customizing.
- *Fixed Values (FV)*

  Fixed values are centrally-defined variables whose values can be maintained from outside, via migration customizing.
- *Translation Objects (TO)*

  Converting data via translation tables is state of the art migration technology. Whenever there is a translation variant activated via migration customizing, it is necessary to maintain this translation table via Customizing. There is functionality embedded into DTMT that makes the customizing of translation objects more convenient. Refer to the DTMT user manual for more details.

Note: A translation object can be active by default.

Note: If you activate a translation variant in the migration customizing of domain rules or central rules, **all** potential field values are to be maintained in the respective translation object. That means that all potential values need to have an entry in the translation table even though the values do not have to be changed (in=out).

Note: There is online documentation available, providing the necessary instructions that have to be followed.

3 Execute Migration

In highly simplified terms, the actual data migration consists of the migration of the MOs in scope in a given sequence, taking the cross-MO dependencies into account.

The AFS2FMS can be split into the following blocks:

- MOs that have no predecessor object
- MOs that have predecessor objects
- MOs where the data import is performed via BAPI

There is online documentation for each MO integrated in DTMT, which is always structured equally and always includes the nine sections listed below (not all sections are applicable for all MOs).

- **Scope of data migration**

  Describes the scope that is covered within an MO

- **Take note**

  Whenever there is something specific that users need to be aware of, it will be in this section.

- **Data export specifics**

  If for example, the selection screen of an MO is not self-explanatory, details will be given here.

- **Required customizing settings in FMS**

  Even though a fully customized target system is a prerequisite for data migration, the most important settings are listed here.

- **Other migration object dependencies**

  Within this section, the dependencies between MOs will be specified. If a migration object depends on others or is itself a prerequisite for other MOs, it will be stated here.

- **Migration object customizing**

  In this section, you will be made aware of specific migration customizing settings used in this MO.

- **Data import specifics**

  This section includes the step-by-step instructions on how to perform the data import.

- **Postprocessing**

  If there are additional tasks to be performed after the actual DTMT data import, they are described in this section (for example, postprocessing programs).

- **Check**

  Includes recommendations for verifying the migration's success

In addition to the online documentation, this guide will provide you with more detailed information on the most important side dependencies from a business point of view, especially in the area of the article master migration and its prerequisites. This manual should be the leading guide for your migration, while the online documentation serves as more of a quick reference.

3.1 Migration Objects Without Dependencies on Other MOs

3.1.1 CUSTOMER→Customer Master

- **Scope of data migration**

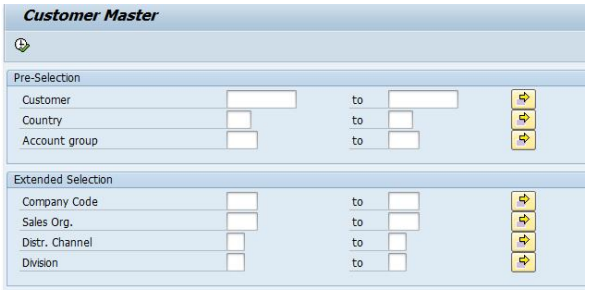
With MO **CUSTOMER**, the customer master data can be migrated from AFS to FMS. Besides the customer core data, the object also covers data that is directly assigned to it, like long texts, addresses, communication, and bank data, as well as partner data.

- **Take note**

Not applicable

- **Data export specifics**

See the standard selection screen below.



Refer to the DTMT user manual if you need to define additional selection options.

- **Required customizing settings in FMS**

Same customizing required as for the creation of a new customer via the respective transaction.

- **Other migration object dependencies**

Migration object **CUSTOMER** belongs to the group of objects that have no predecessor objects, but might be a prerequisite for other migration objects.

- **Migration object customizing**

o You need to maintain the following migration customizing prior to the first data import:
  - *Migration Customizing→Fixed Values→PADRNR*
  - *Migration Customizing→Fixed Values→PPARNR*

- **Data import specifics**

o Execute a simulation run first, check the log for error messages and translation object inserts, and react accordingly
o Repeat simulation runs until all errors are solved
o Execute import run (with deletion flags)

- **Postprocessing**

Not applicable

- **Check**

Verify migration results via the respective display/change transactions.

3.1.2 VENDOR→Vendor Master

- **Scope of data migration**

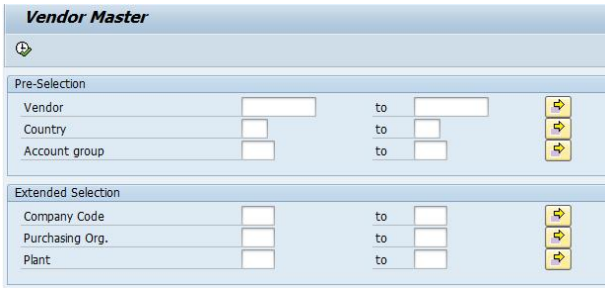
With MO **VENDOR**, the vendor master data can be migrated from AFS to FMS. Besides the vendor's core data, the object also covers data that is directly assigned to it, like long texts, addresses, communication and bank data, as well as partner data.

- **Take note**

Not applicable

- **Data export specifics**

See the standard selection screen below.



Refer to the DTMT user manual if you need to define additional selection options.

- **Required customizing settings in FMS**

Same customizing required as for the creation of a new vendor via the respective transaction.

- **Other migration object dependencies**

Migration object **VENDOR** belongs to the group of objects that have no predecessor objects but might be a prerequisite for other migration objects.

- **Migration object customizing**

- You need to maintain the following migration customizing prior to the first data import:
  - *Migration Customizing→Fixed Values→PADRNR*
  - *Migration Customizing→Fixed Values→PPARNR*

- **Data import specifics**

- Execute a simulation run first, check the log for error messages and translation object inserts, and react accordingly
- Repeat simulation runs until all errors are solved
- Execute import run (with deletion flags)

- **Postprocessing**

Not applicable

- **Check**

Verify migration results via the respective display/change transactions

3.2 Prepare for AFS Material Migration

Since FMS follows the architectural concepts of SAP Retail, the AFS2FMS data migration has to solve the transition of AFS grid materials to generic articles of FMS. This large architectural change impacts nearly all other migration objects that deal with materials/articles, such as sales orders, purchase orders, conditions, purchasing info records, and others. Everything that was grid-value-related in AFS will be variant-related in FMS.

In addition, the AFS material migration (MO **MAT_GRID**) itself depends on prerequisites that have to be fulfilled prior to, or during, the migration. To better understand the context, some important terms need to be explained first.

3.2.1 Merchandising Categories (MC)

This plays a central role in the retail business, and is a mandatory field in FMS articles. The AFS material group, which is the AFS counterpart to the FMS MCs, was not really used, especially not in the sense it is used in FMS. In FMS, each generic article has to be assigned to an MC.

- Prerequisite for migration of MO **MAT_GRID***:*
  - *All MCs have to be created in FMS*
  - *All AFS materials have to be assigned to their MC*

3.2.2 Characteristics and Characteristic Values

o Characteristics for dimensions

In AFS and FMS, these are used to hold the dimension-building values required to generate the grid values in AFS and the article variants in FMS. The only architectural difference is the place where these characteristic values are stored. To optimize the performance of FMS, they are stored in the new value storage. The AFS2FMS migration will take care of this (MO **CHAR_DIM**).

o Characteristics for categories

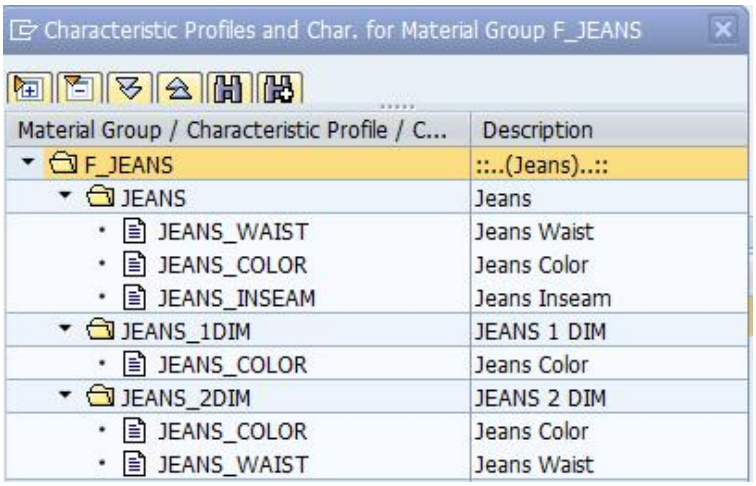
Values will still be stored in the tables of the classification system and handled in MO **CHAR_NODIM**.

- Prerequisite for migration of MO **MAT_GRID**
  - Migration of MO **CHAR_DIM** and **CHAR_NODIM** has to be finished.

3.2.3 Characteristics Profiles (CP)

These are created below a merchandise category. They are used for the specialization/segmentation of the MC. Every article must be assigned to exactly one merchandise category, and can also be assigned to a characteristics profile. The characteristics profile is only used as a bracket around certain characteristic values during the creation of articles or variants. Otherwise, it has no operational effect in the Fashion system as a whole. However, it is strongly recommended to use CPs in FMS.

Example: A customer creates MC *JEANS*, which should be used for all kinds of jeans, and assigns those CPs to the MC that hold the required dimension-building characteristic. When creating a new material for the MC *JEANS*, the user can choose from all characteristic profiles assigned to it.



- Prerequisite for migration of MO **MAT_GRID**:
  - All CPs have to be created in FMS.
  - CPs have to be assigned to their MC (multiple assignments are possible).
  - All AFS materials have to be assigned to their CP.

In summary, the following activities have to be carried out before AFS materials can be migrated to FMS generic articles:

- Create characteristics
- Create merchandising categories
- Create characteristic profiles
- Assign characteristic profiles to merchandising categories
- Assign AFS material to its characteristic profile and to its merchandizing category
- Create season master data

All these activities could theoretically be done manually via the respective FMS transactions. However, this would be very time-consuming and error-prone. Therefore, SAP offers options to automate the process of fulfilling the prerequisites for the **MAT_GRID** migration, which are described below.

3.2.4 Create Characteristics

All characteristics that are used in a master grid, that in turn was used to create an AFS material, have to be migrated to FMS. As mentioned before, this will be done via the two MOs **CHAR_DIM** and **CHAR_NODIM**. SAP recommends migrating all existing characteristics.

3.2.5 Create Merchandising Categories

Those customers who are not familiar with SAP Retail should involve experienced retail consultants when defining their MCs and their MC hierarchy, since later corrections would be very difficult. Since Retail and FMS do not have features for the mass creation of MCs and MC hierarchies, the AFS2FMS migration provides a specific MO that allows this. Whether it can be automated completely or only partly depends on whether or not it is possible to derive the required information from your AFS data.

As part of the DTMT shipment (source content), SAP delivers the two tables **DTMT_MC_HIER** and **DTMT_MC_HIERT**.

DTMT_MC_HIER		
H-NODE	P-Node	MC-Indicator
6		
645	6	
64570	645	
6457032	64570	
645703240	6457032	X
645703242	6457032	X

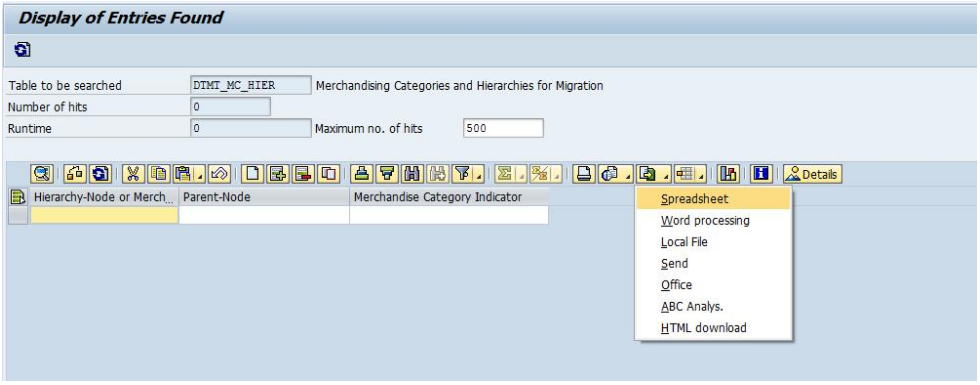
H-Node= Hierarchy node ; P-Node=Parent node
MC-Indicator=Mark node as MC

DTMT_MC_HIERT		
H-NODE	SPRAS	Description
6	E	Bodywear
645	E	Women
64570	E	Brand
6457032	E	Underwear
645703240	E	Slips
645703242	E	Bras

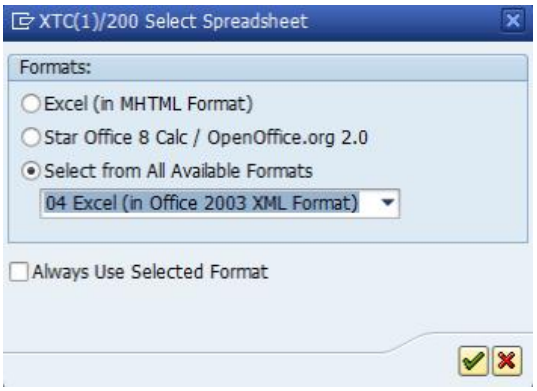
To be maintained per language

The figures above show the two tables maintained for one MC hierarchy structure. Those 2 tables have to be filled by the customer either via a program or via an Excel upload. If you decide on the Excel option, you need to use the following process:

- Display table with **SE16N**
- Create a new entry
- Press the *Export* icon and choose *Spreadsheet*



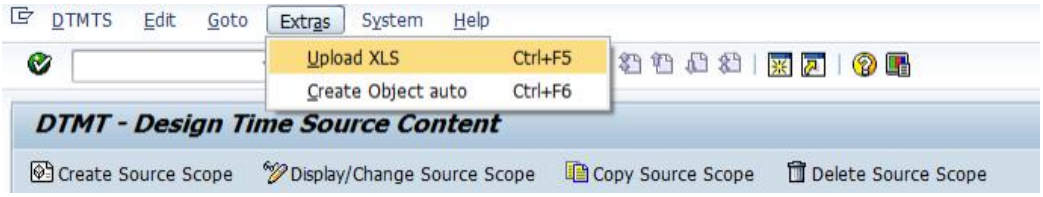
- Choose a format



- Finish export

After you have done this for both tables, you then have two Excels in the required formats. These Excels now have to be maintained according to your needs (see examples above).

After the Excels are maintained, you need to upload them to your AFS system via a special function embedded into transaction **DTMT_DTS** (*Extras→Upload XLS*).



If you are able to derive the MCs and the MC hierarchies from your AFS data (for example, from your product hierarchy), you also have the option to fill the two tables directly in the SAP system via your own program.

The two tables now serve as input tables for the MO **MAT_HIER**, which will create the MCs and the MC hierarchy in your FMS system.

3.2.6 Create Characteristic Profiles

The AFS master grid is actually the counterpart of the characteristics profile in FMS. Both hold the characteristics, which in turn hold the variant-building characteristic values. The AFS2FMS migration provides the MO **MASTERGRID**, which allows you to migrate master grids to CPs.

It is very likely that there are many master grids in AFS that include the same characteristics in the same order. This means that they are actually similar, and may differ only in the number of characteristic values that are used, which in turn is not important for the creation of CPs.

There is therefore a need to evaluate which similar girds are used in AFS, to migrate them to FMS CPs. The AFS2FMS migration uses the migration technology to determine this. The very specific MO **MAT_GRID_0** is the only MO that will not extract data, but instead insert data into table **DTMT_AFS_TRANS1**, which will be used later on for further migration activities.

The data extraction of **MAT_GRID_0** should run for all AFS materials. It will **not** extract any data (the extraction file will only include the header and the end record), but it will fill table **DTMT_AFS_TRANS1**.

DTMT_AFS_TRANS1			
ATNAM-KORD1	ATNAM-KORD2	ATNAM-KORD3	MATGRID
AFS_COLOR	AFS_INS	SI	650801432
AFS_COLOR	AFS_INS	W	195092440
AFS_COLOR	AFS_INS	W3	2780920768
AFS_COLOR	AFS_INS	WS4	1M50819382
AFS_COLOR	AFS_INS	WW	0650901J17
AFS_COLOR	AFS_SIZE		E550414949
AFS_COLOR	AFS_SIZEUK		1100053830
AFS_COLOR	AFS_WAIST		08I0004011
AFS_COLOR	AW		1H50319032A
AFS_COLOR	BRA		U000060011
AFS_COLOR	BRA	AFS_BRA_CUP	U000100068
AFS_COLOR	BRA	BRA_CUP	1363912024
AFS_COLOR	BRA2	AFS_BRA_CUP	1H51114411A
AFS_COLOR	BRA2	BRA3	1H51114411
AFS_COLOR	BS		1651413387

The figure above shows part of table **DTMT_AFS_TRANS1** after the **MAT_GRID_0** extraction is finished. It shows all existing characteristic combinations in the AFS system, and a master grid number, which represents the respective combination. You just need to copy the grid numbers of the *MATGRID* column and use them for the data selection of MO **MASTERGRID** extraction.

Note: You have the option to rename the old grid number to a meaningful name during the migration of **MASTERGRID**. This is done via translation object **MASTERGRID** (refer to the object documentation in this manual).

Note: It is **not allowed** to change the order of the characteristics included in a master grid during the migration.

3.2.7 Assign Characteristic Profiles to Merchandising Categories

After the creation of the characteristics (via **CHAR_DIM** and **CHAR_NODIM**), the merchandizing categories, and the characteristics profiles, you now have to assign the CPs to your MCs. This can also be done via DTMT (MO **MAT_CHAR**).

In a similar way to the MC migration, it is necessary to first populate the required assignments in a database table of your AFS system (table **DTMT_MC_CHARPROF**), which will in turn serve as the input table for the data extraction of MO **MAT_CHAR**.

Again, you have to use **SE16N** to create the Excel sheet for table **DTMT_MC_CHARPROF**, which then has to be maintained according to your needs.

Note: You have to use the new names of the characteristics profiles that you determined in translation object **MASTERGRID**.

DTMT_MC_CHARPROF	
Material Group	Char-Prof Name
JEANS	JEANS_WOMEN_SIZES
JEANS	JEANS_MEN_SIZES
JEANS	JEANS_KIDS_SIZES
SHIRT	SHIRT_LONG_ARMED
SHIRT	SHIRT_SHORT_ARMED

Note: As shown in the table above, multiple assignments are possible.

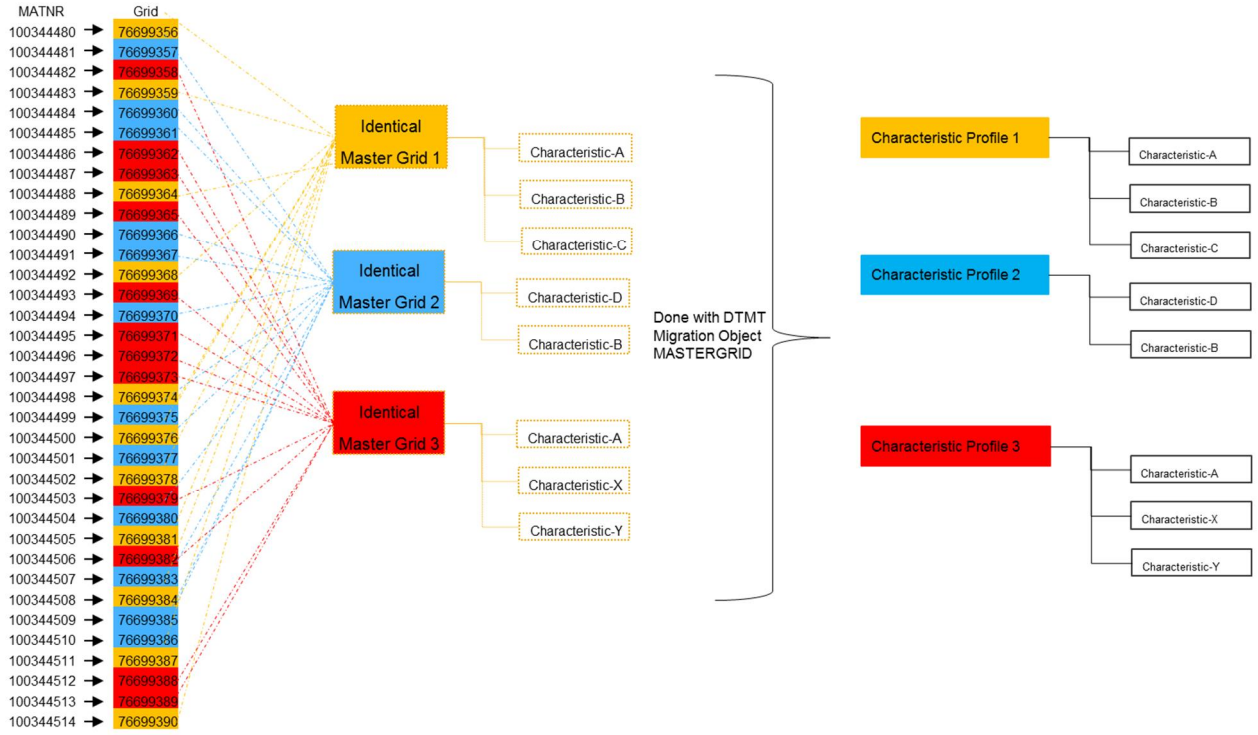
After all assignments are included in the table, you need to upload it into your AFS system via **DTMT_DTS** (*Extras →Upload XLS*, as described above).

If you know export and import MO **MAT_CHAR,** the assignments are done in FMS.

3.2.8 Assign AFS Materials to Their Characteristic Profiles

Only relevant if there are n:1 assignments between CPs and MCs.

As already mentioned, all AFS materials that you migrate to FMS need to be assigned to a CP. Doing this manually would be a very time-consuming task, since many AFS customers will very likely migrate tens of thousands of materials.
Therefore, as a part of the DTMT source content shipment, SAP provides a report (available with DTMT1.5) that allows analysis of the AFS system in terms of "identical grid" usage, which corresponds to the assignment of a material to its CP. This information can be used to make the assignment that is required within the AFS material migration. The figure below illustrates the relationships between the different entities.



Note: If there are no multiple assignments of CPs to MCs, the assignment of a material to its CP via a translation object becomes obsolete, since a 1:1 relationship can automatically be determined during the migration of **MAT_GRID**. The control parameter **CHARPROF** has to be set in the migration customizing according to your needs, prior to the material migration.

3.2.9 Assign AFS Materials to Their Merchandising Categories

The assignment of a material to its CP is the easier part, since it simply reflects the relationship of AFS materials to a "similar grid", which can be derived from your AFS data. If there is always a 1:1 relationship between CP and MC, you could use the same algorithm as described for the material→characteristics profile assignment.
If there is an n:1 relationship between CPs and MCs, this is more complex and it may be that the assignment of material to MC has to be made manually if it cannot be derived from the AFS data or from other sources. It may be possible to derive the required information from other sources, such as a PLM system. However, the assignment of a material to the MC is mandatory, and has to be customized in the translation object **MATKL_MAT_GRID**.

3.2.10 Create Season Master Data

In AFS, seasons are defined in a mix of customizing and master data. With FMS, season definition will completely consist of master data. New tables were introduced, which makes it necessary to map the AFS season to the new FMS season. One major difference between AFS and FMS seasons is the fixed assignment of an FMS season to a season year. Therefore, customers will have to assign a season year to each AFS season in the scope of migration.
The migration of seasons is done with MO ***SEASON***. Refer to the object documentation within this guide, where all specifics are described.

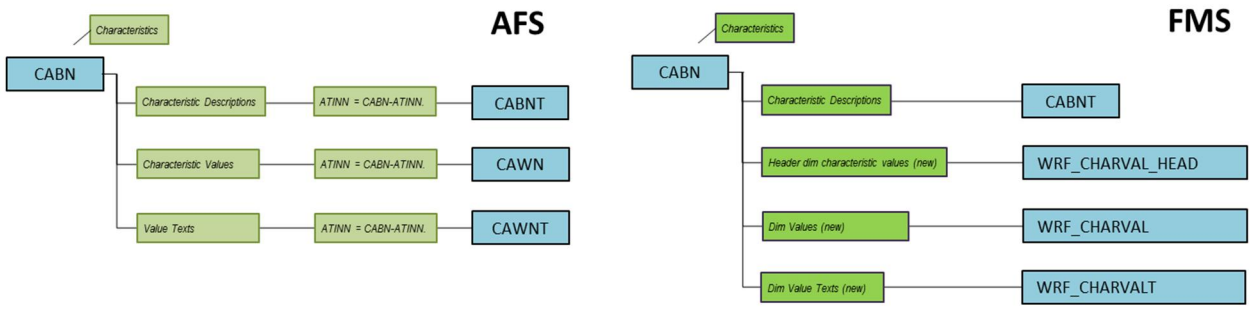
Two important differences between AFS and FMS seasons require customer interaction when migrating the data.

- FMS requires a unique assignment of a season to a season year, which was not the case in AFS. Therefore, the assignment has to be made during the migration of MO **SEASONS** (refer to object documentation).
- The collection field in FMS is only 2 bytes long, while it was 4 bytes long in AFS. Therefore, customers have to define a mapping to also ensure the uniqueness of the collection field in FMS. This mapping can also be defined during the migration of MO **SEASONS** (refer to object documentation).

3.3 Migration Objects Supporting the Preparation of the AFS Material Migration

3.3.1 CHAR_DIM→Characteristics for Dimensions

- **Scope of data migration**
  With MO **CHAR_DIM**, all migration-relevant characteristics and their characteristic values can be migrated from AFS to FMS.
- **Take note**
  While the characteristics themselves will be stored in the same table as in AFS, the values are stored in new tables that build the new value storage in FMS. The figure below shows the different data models.



- **Data export specifics**
  See the standard selection screen below.

  You do not have to make any entries if you want to export all relevant characteristics. The non-dimension-relevant characteristics are filtered out within the program.
- **Required customizing settings in FMS**

Not applicable

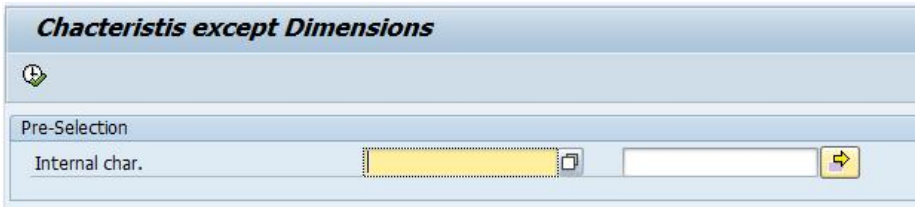
- **Other migration object dependencies**
  Migration object **CHAR_DIM** belongs to the group of objects that have no predecessor objects but are a prerequisite for other migration objects.

  Note: During migration of **CHAR_DIM**, new internal numbers are assigned to the migrated characteristics. This means that if you re-migrate **CHAR_DIM**, you need to re-migrate all other MOs that require **CHAR_DIM** as a direct or indirect predecessor.

- **Migration object customizing**
  Migration Customizing→Fixed Values →MIGUSER
- **Data import specifics**
  - Execute a simulation run first, check the log for error messages and translation object (**ATNAM**) inserts, and react accordingly.
  - Repeat simulation runs until all errors are solved.
  - Execute import run (with deletion flags).
- **Postprocessing**
  Not applicable
- **Check**
  Verify migration results via transaction **WRFCHVAL**.

3.3.2 CHAR_NODIM→Characteristics for Categories

- **Scope of data migration**
  With MO **CHAR_NODIM**, all other characteristics (non-dimension relevant) and their characteristic values can be migrated from AFS to FMS.
- **Take note**
  Not applicable
- **Data export specifics**
  See the standard selection screen below.



  You do not have to make any entries if you want to export all characteristics. The dimension-relevant characteristics are filtered out within the program.
- **Required customizing settings in FMS**
  Not applicable
- **Other migration object dependencies**
  Migration object **CHAR_NODIM** belongs to the group of objects that have no predecessor objects. However, it is a prerequisite for other migration objects.

  Note: During migration of **CHAR_NODIM**, new internal numbers are assigned to the migrated characteristics. This means that if you re-migrate **CHAR_NODIM**, you need to re-migrate all other MOs that require **CHAR_NODIM** as a direct or indirect predecessor.

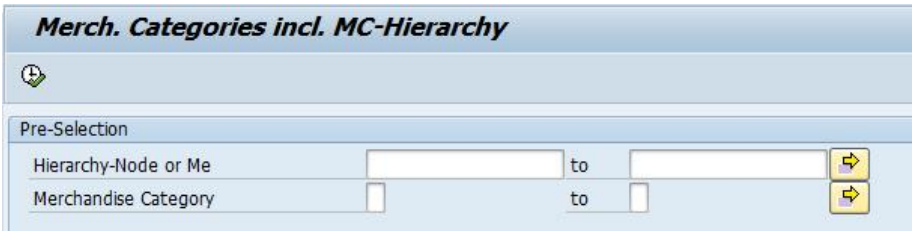
- **Migration object customizing**
  Migration Customizing→Fixed Values→MIGUSER
- **Data import specifics**
  - Execute a simulation run first, check the log for error messages and translation object **(ATNAM**) inserts, and react accordingly.
  - Repeat simulation runs until all errors are solved.
  - Execute import run (with deletion flags).
- **Postprocessing**

Not applicable

- **Check**
  Verify migration results via transaction **CT04**.

3.3.3 MAT_HIER→Create Merchandizing Categories and Merchandizing Category Hierarchies

- **Scope of data migration**
  MO **MAT_HIER** is an optional MO. You always have the option to manually create MCs and MC hierarchies in your target system. However, this object allows a repeatable mass creation of both, which will speed up the process to fulfill the prerequisites for MO **MAT_GRID** as early as possible.
  Input tables for **MO MAT_HIER**: The two tables **DTMT_MC_HIER** and **DTMT_MC_HIERT** have to be filled by the customer, as described in section 3.2.5.
- **Take note**
  The creation of MCs and the MC hierarchy is an activity that will normally not be repeated during the productive migration. It can be seen as a kind of customizing. This means that when you are satisfied with the result, it is complete.
- **Data export specifics**
  See the standard selection screen below, which is self-explanatory.



- **Required customizing settings in FMS**
  Not applicable
- **Other migration object dependencies**
  Migration object **MAT_HIER** belongs to the group of objects that have no predecessor objects. However, it is a prerequisite for other migration objects.

  Note: New internal numbers are assigned to the created MCs. This means that if you re-migrate **MAT_HIER**, you need to re-migrate MO **MAT_CHAR** too.

- **Migration object customizing**
  Not applicable
- **Data import specifics**

o Execute a simulation run first, check the log for error messages and translation object inserts, and react accordingly.
o Repeat simulation runs until all errors are solved.
o Execute import run (with deletion flags).

- **Postprocessing**
  Not applicable
- **Check**
  Verify migration results via transaction **WG23** (for the MCs) and **WGUS** (for the MC hierarchies).

3.3.4 MASTERGRI→ Migrate AFS Master Grids to Characteristics Profiles

- **Scope of data migration**
  MO **MASTERGRID** allows the migration of AFS master grids to characteristics profiles.
  Read section **Error! Reference source not found.** and the following text to understand the background, and to determine the selection criteria for the data export.
- **Take note**
  Not applicable

- **Data export specifics**

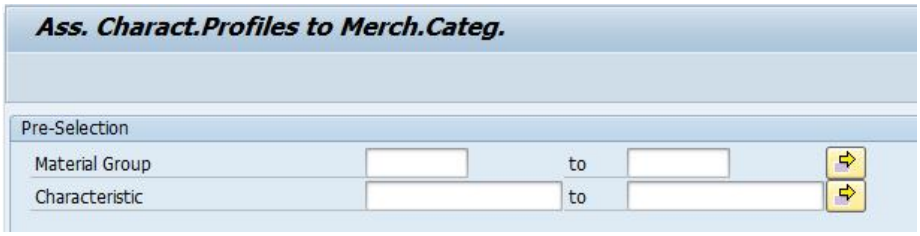
See the standard selection screen below, which is self-explanatory.

Paste the list of grid numbers you have for ***MAT_GRID_0***.

- **Required customizing settings in FMS**
  Not applicable
- **Other migration object dependencies**
  - Characteristics for dimensions (MO **CHAR_DIM**) are a prerequisite.
  - Before you can start the data export of MO **MASTERGRID**, you need to determine the relevant grid numbers with **MO MAT_GRID_0**, as described in section **Error! Reference source not found.**.
- **Migration object customizing**
  Not applicable
- **Data import specifics**
  - Execute a simulation run first, check the log for error messages and translation object inserts, and react accordingly (you will very likely need to maintain translation object **MASTERGRID,** to assign meaningful names to the characteristics profiles).
  - Repeat simulation runs until all errors are solved.
  - Execute import run (with deletion flags).
- **Postprocessing**
  Not applicable
- **Check**
  Verify migration results via transaction **CLWG**.

3.3.5 MAT_CHAR→Assign Characteristics Profile to Merchandising Categories

- **Scope of data migration**
  MO **MAT_CHAR is** used to assign the CPs to their MCs. Refer to section **Error! Reference source not found.** for more details.
- **Take note**
  You have to customize the control parameter **CHARPROF** if you assign multiple CPs to an MC. This control parameter will be used later on when migrating the grid materials (MO **MAT_GRID**).
- **Data export specifics**
  See the standard selection screen below, which is self-explanatory.

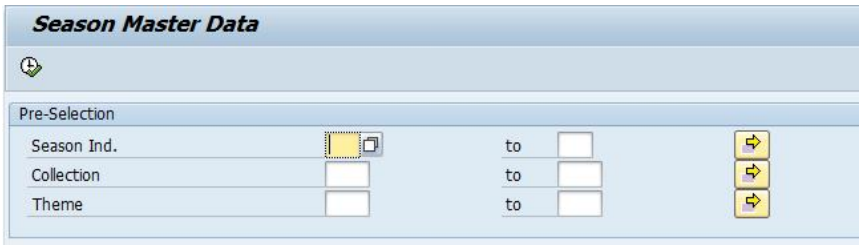


- **Required customizing settings in FMS**
  Not applicable
- **Other migration object dependencies**
  - Merchandising categories have to be created in advance (MO **MAT_HIER**).
  - Characteristics profiles have to be created in advance (MO **MASTERGRID**).
- **Migration object customizing**
  Not applicable

- **Data import specifics**
  - Execute a simulation run first, check the log for error messages and translation object inserts, and react accordingly.
  - Repeat simulation runs until all errors are solved.
  - Execute import run (with deletion flags).
- **Postprocessing**
  Not applicable
- **Check**
  Verify migration results via transaction **WG24** (specify the MC and choose the glasses icon to see the assigned CPs).

3.3.6 SEASONS→Season Master Data

- **Scope of data migration**
  MO **SEASONS** allows you to migrate the season master data from AFS to FMS.
- **Take note**
  Two important differences between AFS and FMS seasons require customer interaction when migrating the data:
  - FMS requires a unique assignment of a season to a season year, which was not the case in AFS.
  - The field *Collection* in FMS is only 2 bytes long, while it was 4 bytes in AFS. Therefore, customers have to define a mapping between the old and the new collection, to also ensure the uniqueness of this field in FMS.
- **Data export specifics**
  See the standard selection screen below, which is self-explanatory.

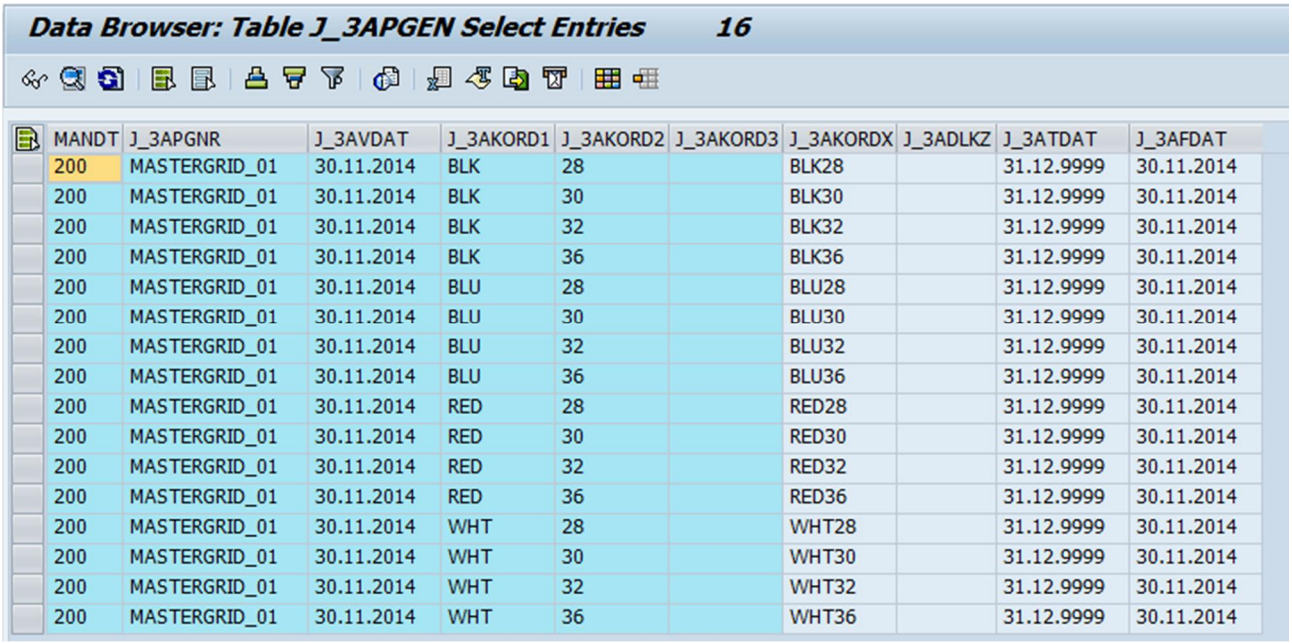


- **Required customizing settings in FMS**
  Not applicable
- **Other migration object dependencies**
  Not applicable
- **Migration object customizing**
  - Translation object **SEAS_YEAR** is used to assign each season to a season year. It is automatically filled with the old season name during the simulation run, to make it easier to maintain the translation table.
  - Translation object **COLLECTION** is used to cover the mapping between the old and new collection fields. It is automatically filled with the old collection name during the simulation run, to make it easier to maintain the translation table.
- **Data import specifics**
  - Execute a simulation run first, check the log for error messages and translation object inserts, and react accordingly.
  - Repeat simulation runs until all errors are solved.
  - Execute import run (with deletion flags).
- **Postprocessing**
  Not applicable
- **Check**
  Verify migration results via transaction **WG24** (specify the MC and choose the glasses icon to see the assigned CPs).

3.4 Migration of AFS Materials

3.4.1 What Controls the Variant Creation?

The central and most complex migration object within the AFS2FMS migration is MO **MAT_GRID**.
This object covers the creation of the generic articles in FMS. Technically, the AFS table **J_3APGEN** triggers the whole migration process. This table holds the possible dimension combinations defined in a master grid, which in turn is assigned to a material. The figure below shows the entries of a 2-dimensional master grid in table **J_3APGEN**. In this case, 16 combinations are possible.



Data Browser: Table J_3APGEN Select Entries 16

MANDT	J_3APGNR	J_3AVDAT	J_3AKORD1	J_3AKORD2	J_3AKORD3	J_3AKORDX	J_3ADLKZ	J_3ATDAT	J_3AFDAT
200	MASTERGRID_01	30.11.2014	BLK	28		BLK28		31.12.9999	30.11.2014
200	MASTERGRID_01	30.11.2014	BLK	30		BLK30		31.12.9999	30.11.2014
200	MASTERGRID_01	30.11.2014	BLK	32		BLK32		31.12.9999	30.11.2014
200	MASTERGRID_01	30.11.2014	BLK	36		BLK36		31.12.9999	30.11.2014
200	MASTERGRID_01	30.11.2014	BLU	28		BLU28		31.12.9999	30.11.2014
200	MASTERGRID_01	30.11.2014	BLU	30		BLU30		31.12.9999	30.11.2014
200	MASTERGRID_01	30.11.2014	BLU	32		BLU32		31.12.9999	30.11.2014
200	MASTERGRID_01	30.11.2014	BLU	36		BLU36		31.12.9999	30.11.2014
200	MASTERGRID_01	30.11.2014	RED	28		RED28		31.12.9999	30.11.2014
200	MASTERGRID_01	30.11.2014	RED	30		RED30		31.12.9999	30.11.2014
200	MASTERGRID_01	30.11.2014	RED	32		RED32		31.12.9999	30.11.2014
200	MASTERGRID_01	30.11.2014	RED	36		RED36		31.12.9999	30.11.2014
200	MASTERGRID_01	30.11.2014	WHT	28		WHT28		31.12.9999	30.11.2014
200	MASTERGRID_01	30.11.2014	WHT	30		WHT30		31.12.9999	30.11.2014
200	MASTERGRID_01	30.11.2014	WHT	32		WHT32		31.12.9999	30.11.2014
200	MASTERGRID_01	30.11.2014	WHT	36		WHT36		31.12.9999	30.11.2014

For an AFS material, for example, that is connected to the above master grid, the data migration will create one generic article and 16 variants in FMS. This means that the number of table entries in **J_3APGEN** determines the number of variants that will be created in FMS. However, it is often the case that many more combinations are defined in a master grid than are really required from a business point of view. That did not matter in AFS, because the only consequence was that there were a few more entries created in table **J_3APGEN**. However, in FMS this really matters, since data migration creates one variant for each **J_3APGEN** record, which means a complete article master. Therefore, one very important preparation activity on the customer side is to define the articles in scope of migration on a grid value level. Migration relevance might be indicated because of an existing assignment to the actual or upcoming season, the existence of stock, or the fact that it is used in an open document (for example, an open sales order or open purchase order). Only customers can decide which articles are relevant for migration, but it is highly recommended to limit the scope of material migration to the absolute minimum. Therefore, SAP provides table **DTMT_AFS_TRANS1**, where all migration-relevant grid value combinations of AFS materials can be listed. It has to be filled by customers, and allows the triggering of the data export of MO **MAT_GRID**.

3.4.2 How the Variant Article Number Is Built During the Migration

From a technical point of view, there was only one material number per article in AFS, regardless of how many grid value combinations exist for it. In FMS, however, there is a fully functional variant article for each grid value combination that has to be distinguished from the others. Therefore, the migration will add either a 3- or 4-digit sequence number to the old AFS material number. Which of these is suitable for you depends on the maximum number of variants that you expect per generic article. The default is 3 digits (maximum of 999 variants per generic article), which can be switched to 4 digits (maximum of 9999 variants per generic article) via control parameter **LFD_LENGTH** in migration customizing.

Note: Since there are at most 18 digits available for the article number, the old number must not be longer than 15 digits in the case of the 3-digit variant counter, or 14 digits in the case of the 4-digit variant counter. Please contact an experienced migration consultant if you do not fulfill this prerequisite.

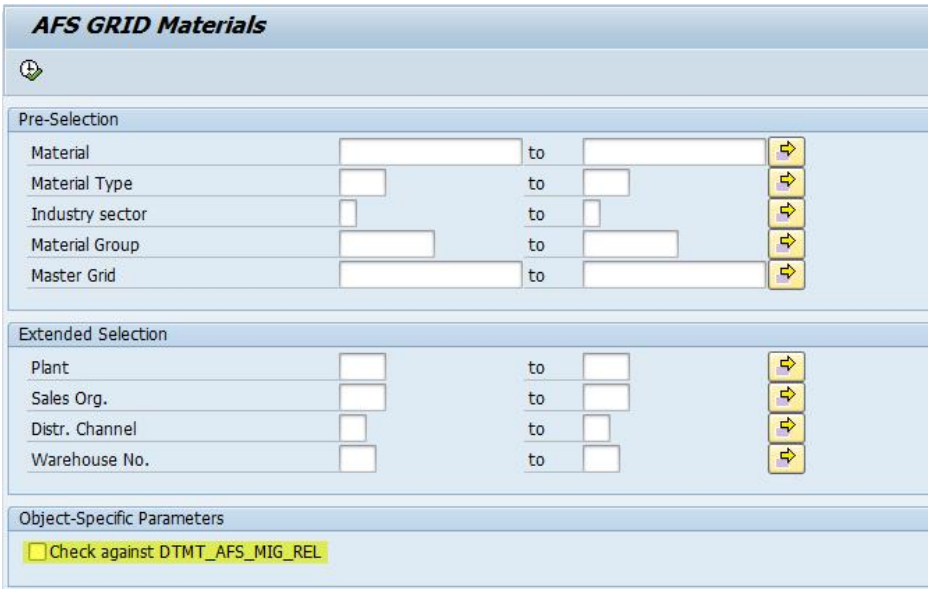
3.4.3 MAT_GRID→AFS Materials (Grid Materials)

- **Scope of data migration**
  MO **MAT_GRID** allows the migration of grid materials from AFS to FMS generic articles.
  All inventory-related fields are cleared during **MAT_GRID** migration, since they will be later populated when migrating the stocks.
- **Take note**

o It will presumably take some time until the migration works without errors and migrated articles can be displayed in FMS via transaction **MM43**. This means that there will be an iterative process of test migrations to reach that goal. To work most effectively, it makes sense to first define a test set of materials that covers the usual spectrum of your AFS articles, while limiting the number of articles to a manageable amount (for example, 100).
  The list below shows some important factors that should be considered when defining the test set:
  - Which materials are assigned to a current season
  - Which materials hold stock
  - Where open POs and/or SOs exist
  - Where 2-dimensional, as well as 3-dimensional, grids are assigned
  - Inclusion of some materials with numeric material numbers, and some with alphanumeric numbers
  - Inclusion of at least one or two articles assigned to grids that hold a large number of grid value combinations
  - Inclusion of some articles that use categories/segmentation (if applicable)
  - Inclusion of some articles with deviations on size level (prices, weights and volumes, sales status, and so on)

o The data volume in FMS will increase by a huge extent, depending on the number of grid value combinations you are using. It would not be an exceptional case for 100 AFS materials to be converted into tens of thousands of articles in FMS. After the first test migration of your test set, you will see in the import log of **MAT_GRID** how many table entries have been created in FMS. You can use this information to roughly calculate what this would mean for the migration of all your AFS materials, and also to understand why it is so important to keep the number of materials in the scope of migration to the absolute minimum.

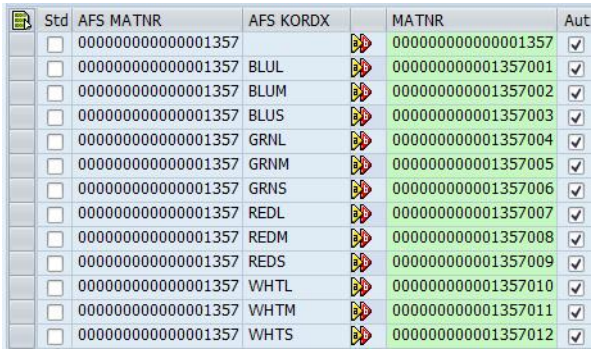
- **Data export specifics**
  See the standard selection screen below, which is self-explanatory.
  However, you should be aware of the fact that selections made in the extended selection area do not have any impact on selections made in the pre-selection area. This means that if you do not limit the export in pre-selection, and then enter selection criteria in the extended selection, all records on client level will still be extracted, even those where the selection criteria in the extended selection do not match. If you, for example, would like to extract only articles relevant for a plant, you would need to define the plant as a pre-selection criteria which is supported by the DTMT framework (for details, refer to the DTMT user manual).



The object-specific parameter marked in the figure above activates the *Check Against DTMT_AFS_TRANS1*, which was explained in section 3.4.1.

- **Required customizing settings in FMS**
  Besides the prerequisites described above, the same customizing is required as for the creation of a new generic article via the respective transaction (**MM41**).
- **Other migration object dependencies**
  - Merchandising categories have to be created in advance (MO **MAT_HIER**).
  - Characteristics profiles have to be created in advance (MO **MASTERGRID**).
  - Characteristic profiles have to be assigned to their merchandising categories (MO **MAT_CHAR**).
  - Season master dates have to be created in advance (MO **SEASONS**).
- **Migration object customizing**
  - Translation object **MATKL_MAT_GRID** is used to assign each AFS article to a merchandising category (see also section **Error! Reference source not found.**). It is automatically filled with the old material number during the simulation run, and has to be maintained before executing the real import.
  - Translation object **CHAR_PROF** is used to assign each AFS article to a characteristics profile (see also section **Error! Reference source not found.**). It is automatically filled with the old material number during the simulation run, and has to be maintained before executing the real import.
- **Data import specifics**
  - Execute a simulation run first, check the log for error messages and translation object inserts, and react accordingly.
  - Repeat simulation runs until all errors are solved.
  - Execute import run (with deletion flags).

Note: During the migration of **MAT_GRID**, the translation object **MATNR_GRID** will be automatically filled with the information about which variant number was given to a specific grid value combination of an AFS article. This central table will be used by many subsequent migration objects to determine the new variant number. The figure below shows an example.



Std	AFS MATNR	AFS KORDX		MATNR	Aut
☐	000000000000001357			000000000000001357	☑
☐	000000000000001357	BLUL		000000000001357001	☑
☐	000000000000001357	BLUM		000000000001357002	☑
☐	000000000000001357	BLUS		000000000001357003	☑
☐	000000000000001357	GRNL		000000000001357004	☑
☐	000000000000001357	GRNM		000000000001357005	☑
☐	000000000000001357	GRNS		000000000001357006	☑
☐	000000000000001357	REDL		000000000001357007	☑
☐	000000000000001357	REDM		000000000001357008	☑
☐	000000000000001357	REDS		000000000001357009	☑
☐	000000000000001357	WHTL		000000000001357010	☑
☐	000000000000001357	WHTM		000000000001357011	☑
☐	000000000000001357	WHTS		000000000001357012	☑

- **Postprocessing**
  Not applicable
- **Check**
  Verify migration results via transactions **MM43** and **MM42**.