



PUBLIC

Conversion of MDG Hub: From SAP Master Data Governance on ERP to SAP Master Data Governance on SAP S/4HANA

Basic considerations

Applicable Releases:

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Introduction

As early as with the SAP S/4HANA 1809 release, the capabilities in master data governance were far beyond those delivered with the corresponding ERP-based SAP Master Data Governance 9.2 release. For example, in master data quality management, where collaborative rule definition and data quality analytics are only available in SAP S/4HANA.

Accordingly, we strongly recommend converting ERP-based MDG hub systems to SAP S/4HANA. This document outlines basic considerations when performing such conversions.

Prerequisites and Key Assumptions

As an SAP Business Suite customer, you can move from different SAP ERP start releases to SAP S/4HANA. For certain start releases, a one-step procedure is available, which includes the installation of the SAP S/4HANA Core and, if necessary, the migration of the database to SAP HANA.

As part of the move to SAP S/4HANA, you must adapt your implemented solution to comply with the scope and data structures of SAP S/4HANA. For example, you must adapt your custom code and your MDG custom objects and extensions, or you must migrate data to comply with new data models as outlined in the Simplification List for SAP S/4HANA. For conversion to S/4HANA, the generic S/4HANA conversion routines and checks must be completed, see the [SAP S/4HANA documentation](#) (*Conversion & Upgrade Assets* section), and more specifically, also the [SAP S/4HANA Cookbook Customer/Vendor Integration](#).

Note: See also the following SAP Notes in the context of conversion to S/4HANA:

- General: SAP Note [3372801](#) Upgrade or Conversion for Master Data Governance, Central Governance
- Upgrade or Conversion for Master Data Governance, Central Governance
- Related to Material data: SAP Note [2781530](#)
- Related to Business Partner data: SAP Notes [2606776](#), [2606779](#), [2610898](#), [2611637](#), [2611638](#)

This paper concentrates on MDG-specific aspects and implications of converting an SAP ERP-based MDG hub system to SAP S/4HANA. As such, it complements the S/4HANA conversion guide.

Material Master Data

For more information, see also SAP Note [3372801](#) Upgrade or Conversion for Master Data Governance, Central Governance.

In the following, relevant data adjustments in SAP S/4HANA are listed including information about possible implications in MDG.

Data Model Implications: Material Number

Material Field Length Extension (MFLE) from 18 to 40 characters. A detailed description is available in the simplification documentation for S/4HANA. Here, we concentrate on integration aspects with S/4HANA (also see SAP Note [2267140](#)).

- The appropriate related SAP development entities (domain, structures, table types, and transparent tables, external and internal interfaces, user interfaces, BW extractors, and so on) have been adapted accordingly. Where required, automated logic is in place and executed automatically in case a customer converts his current SAP ERP 6.0 system to SAP S/4HANA.
- Usually, companies run on multi-system landscapes: The ERP system is connected to miscellaneous internal and external (SAP or non-SAP) systems. Accordingly, an SAP S/4HANA system with a material number field length of 40 characters needs to consider the possibility that not all related systems are able to deal with a 40-character material number.
- It cannot be assumed that all ERP systems in a customer landscape will be converted to SAP S/4HANA at the same time. This means that the external interfaces used for integration must be compatible with old versions of the interface. This is especially relevant for the commonly used integration techniques BAPI, RFC, and IDoc, as these techniques rely on a fixed length and order of fields in the transmitted data. Simply extending the material number field (or other extended fields) in these interfaces would technically break the version compatibility.
- We provide technical-version compatibility for released external interfaces in the way that is commonly used and proposed for BAPI interfaces: The already existing field keeps its original length, and a new field has been added at the end of the structure (or as a new parameter) that allows transmitting material numbers with 40 characters.
- Besides this, it must be ensured that no material number (or other extended field) can be maintained in the system with a content length greater than the old length of the field. To enforce this and to make the field-length extension as least disruptive as possible for SAP S/4HANA customers, the extended material number functionality must be switched on explicitly. Only after this decision is it possible to allow more than 18 characters for the material number.
- The changes described have been done for BAPIs, IDocs, and released remote-enabled function modules. This has additionally been implemented where necessary for remote function calls issued by the SAP S/4HANA system and for unreleased remote-enabled function modules that are used to communicate with SAP Business Suite products like SAP SCM or SAP CRM.
- A complete list of relevant function modules, IDocs, and structures that have been extended in this way can be found in the item lists in the simplification database.
- For released Web Services, adding a new field, or extending the material number field was not necessary as these services usually already allow material numbers with up to 60 characters in their interfaces.
- After an SAP Business Suite system has been converted to SAP S/4HANA or an SAP S/4HANA has been newly installed, the extended material number functionality will be switched off by default.

System Behavior Depending on the Extended Material Number Switch

If the extended material number functionality is **NOT** switched on, the system behaves as follows:

- After an SAP Business Suite System has been converted to SAP S/4HANA, on-premise edition 1511, the B2B and A2A communication via BAPIs, IDocs, Web Services, released RFCs (inbound), and remotely called RFCs (outbound) still work without further changes.
- The shorter versions of the extended fields
 - are still part of the interfaces.
 - are still filled when sending data.
 - are still understood when retrieving data.
 - If the extended field is used as part of a communicated concatenated field, this concatenated field is still sent in the original field in the old short format and is interpreted in the inbound case in the old short format.
 - The system prevents data being created that cannot be sent via the old interface, that is the usage of the extended fields is restricted to the old length.
 - Communication partners can still rely on the old known behavior of the interfaces.
 - The long version of the extended field in the interfaces is also filled and interpreted. This means that the communication partners can already adapt their interfaces for using the long field even though only short material numbers are allowed.

For example, the 18-character material number is also communicated via the 40-character field. This is also true if the extended field is used as part of a communicated concatenated field: the new extended field will contain and expect the long new format.

When extended material number functionality is **switched on**, the system no longer guarantees that all fields are filled in a way that they can be transmitted via the old fields. Therefore, the following applies:

- Material numbers and other extended fields can be used with the full length (40 characters).
- That means:
 - It cannot longer be guaranteed that the old short fields can be filled or accepted: if the material number or other extended fields are used with more than the original length, the shorter version of an extended field can no longer be filled in the interface and is therefore left empty.
 - This is also true for concatenated keys containing extended fields. If the value that is part of the concatenate is longer than the original field length, the concatenate can only be sent and evaluated in the new format.
 - Before SAP S/4HANA, on-premise edition 1511 FPS2, the old short fields were not filled or accepted when the extended material number functionality was switched on. This has been changed with SAP S/4HANA, on-premise edition 1511 FPS2:
 - If the current value of the material number or the current value of another extended field still fits into the short old field in the interface, the short field is filled in outbound and accepted in inbound as well.
 - This is also true for concatenated values: if the old format can still be used because the current value of the extended field contained in the concatenate is short enough, the old format is still sent in outbound and accepted in inbound in the short old field.
 - Communication partners must adjust to the new fields and data formats.
Be aware that all SAP Business Suite systems are communication partners!

Material Number Settings Across the System Landscape: Harmonized or Using Key Mapping

In a harmonized setting (material numbers are the same across the system landscape) the following integration scenarios are supported out of the box:

ERP \ MDG on	ECC	SAP ECC-DIMP (LAMA)	SAP ECC S/4 Compatibility	SAP ECC-DIMP S/4 Compatibility (LAMA)	S/4 Target
SAP ECC S/4 Compatibility	Harmonized		Harmonized		
SAP ECC-DIMP S/4 Compatibility		Harmonized		Harmonized	
S/4 Target					Harmonized

In a non-harmonized setting, MDG-M provides key-mapping capabilities inbound and outbound for IDocs and inbound and outbound for SOA services. The basic challenge is that there are a couple of variants where the material number can be stored in IDocs (MATNR(18), MATNR_EXT(40) ← DIMP, MATNR_LONG(40) ← S/4). Note that the matrix is symmetrical, as MDG must support key mapping in both inbound and outbound.

ERP \ MDG on	ECC	SAP ECC-DIMP (LAMA)	SAP ECC S/4 Compatibility	SAP ECC-DIMP S/4 Compatibility (LAMA)	S/4 Target
SAP ECC S/4 Compatibility	KM1	KM2	KM1	KM2	KM3
SAP ECC-DIMP S/4 Compatibility (LAMA)	KM2	KM5	KM2	KM5	KM4
S/4 Target	KM3	KM4	KM3	KM4	KM6

Explanation for reading the matrixes: The vertical axis shows the different flavors of an MDG system on S/4HANA. Here, LAMA stands for the long material number variant which was supported in the ERP DIMP solution. Horizontally we have the same flavors standing for client ERPs, this is the so-called Hub scenario. The co-deployment of MDG on any combination is not of interest here because the field lengths of the material number only have an influence within the integration scenarios.

A green cell indicates a feasible option without coding activities. These coding activities would become necessary whenever a key mapping is needed – indicated by KM1 to KM6 here. KM1 is pre-delivered content, all other variants must be implemented.

- Harmonized: No key mapping needed because same fields are used (note: harmonization is not possible if different fields are used – not even between MATNR_EXT and MATNR_LONG)

- KM1: E1MARAM-MATNR ↔ E1MARAM-MATNR (E1MARAM is the name of the IDoc-Section having material number in the key)
- KM2: E1MARAM-MATNR ↔ E1MARAM-MATNR_EXT
- KM3: E1MARAM-MATNR ↔ E1MARAM-MATNR_LONG
- KM4: E1MARAM-MATNR_EXT ↔ E1MARAM-MATNR_LONG
- KM5: E1MARAM-MATNR_EXT ↔ E1MARAM-MATNR_EXT
- KM6: E1MARAM-MATNR_LONG ↔ E1MARAM-MATNR_LONG

Key take-aways:

- Cells with KM1 are working and implemented in standard delivery.
- Cells with KM2, KM3, KM4 change fields together with the mapping. This would only work in exceptional cases. This looks like a strong restriction at first, but it is not, because most of the cases (white cells) link systems with different material number field lengths, which doesn't make sense. Only variant KM4 could be an option, but an investigation is needed to clarify the necessary enhancements.
- Cells with KM5, KM6 could be implemented based on MDG key mapping (BADI IDOC_DATA_MAPPER), as they key map within the same field.

Data Model Implications: Table of Field Attributes (T130F)

In table T130F there is a change of delivery class from G (G= Customizing table, protected against SAP Update, only INS allowed) to E (E = Control table, SAP and customer have separate key areas). With this delivery class change the customer is not able to change the SAP entries in this table, but the customer can still adapt the field control in the own customer namespace via Customizing in the IMG. (See SAP Note [2330063 - S4TWL - Simplification of copy/reference handling](#))

As a consequence, it might happen that:

- Customer-maintained field selections are reset to standard settings. This can be solved in general by creating own field references before the upgrade to S/4HANA.
- Customer changes made to copy settings get lost. For this, a new Customizing table T130F_C has been introduced (See [SAP Note 2323185 - S/4: migration report for T130F](#)).

Data Model Implications: View Foreign Trade

With SAP S/4HANA on-premise edition 1511, the SAP ECC Foreign Trade functionality will be deprecated from Material Master. The related functionality for Letter of Credit/ Legal control/ Export control/ Preference management is revoked from Material Master - Foreign Trade Tab from On Premise 1511 release onwards.

In SAP S/4HANA, the functions of Letter of Credit/ Legal control/ Export control/ are available as part of SAP S/4HANA International Trade. Furthermore, SAP S/4HANA is natively integrated with SAP Global Trade Services (GTS) for more foreign trade functions.

More information can be found here:

- Simplification Item: [2267310 - S4TWL - Foreign Trade](#)
- Consulting Note: [2223144 - S/4 HANA - Foreign Trade in SD/MM](#)
- SAP Note [2204534 - Material Master: Impact on Foreign Trade Functional Fields in Transactions-MM01/MM02/MM03](#)
- SAP Note [2458666 - Pre transformation Check for Obsolete Fields in Foreign Trade in Material Master](#)

As a consequence, it might happen that:

- The migration of the data present in the mentioned fields (SAP Note [2204534](#)) to GTS is not supported.
- Fields like the Commodity Code are no longer available even though they are displayed in the product master.
Note: In GTS, these fields are time dependent, so the product master including all Read-APIs have been adopted to give out the field value which is valid on today's date. Self-programmed accesses to database tables themselves will furthermore deliver wrong results because the fields will no longer be stored on the database. So, these accesses must be changed. More details are described in SAP Notes [2376556](#), [2432527](#), [2458080](#).
- For a possible workaround, see also SAP Note <https://launchpad.support.sap.com/#/notes/2648654>

Data Model Implications: View MRP

S/4HANA introduces the MRP-area as a simplification and generalization of the previous MRP storage location. Therefore, several fields (listed in SAP Note [2224371 - Material Master: Impact on MRP functional fields in Tr. MM01/MM02/MM03](#)) will no longer be supported in the standard maintenance.

More details are available in SAP Note [2638465 - MRP differences between S/4HANA and ERP systems](#).

As a consequence, any field that was removed in S/4HANA is also not available in MDG Material when deployed on S/4HANA.

Data Model Implications: Material Ledger

Material ledger is mandatory for the valuation area in S/4HANA. (SAP Note [2396864 - Material Ledger Obligatory for Material Valuation in S/4HANA systems](#)).

This also has consequences for the material distribution. These are summarized below (see also SAP Note [2245651](#) which also contains a mandatory correction).

- If Material Ledger is not activated for the valuation area in the receiving system, the data from the sending system is ignored.
- If Material Ledger is active, the system transfers the data of the MATMAS-IDoc, whenever valuation data is present.
- If the fields in the IDoc are initial, the settings of the material for this valuation area are retained if they are already existing. If the corresponding valuation area must be created for that material however, the system obtains the data from the default Customizing.
- Note that the currency in the system without the Material Ledger must correspond to the local currency in the system with the Material Ledger.

Data Model Implications: Enhancement of Product Master to Support SCM-EWM and SCM-PP/DS

To eliminate redundancy and overlaps with /SAPAPO/MAT1 and /SCWM/MAT1 transactions and to make the creation of master data simple, the following features are now in place:

- Addition of SCM fields in MARA and MARC - The fields that were required to make the creation of master data possible from one single point of entry have been added to MARA, MARC, and MDMA tables.
- New tabs in S/4HANA Product Master transactions - The **Advanced Planning** tab has been introduced in the S/4HANA Product Master transactions along with the sub-screen **Shelf life data - Advanced Planning** to capture the data pertaining to SCM.
- MATMAS IDoc enhancement - E1MARA1 and E1MARC1 segments of MATMAS IDoc have been enhanced to support the replication of the newly added SCM fields.
- For more details, see SAP Note [2342043](#).

MDG-M does support these additional fields from S/4HANA 1809. For more details, see https://www.sap.com/dmc/tools/MDG_SDN_model_fields_MM.zip

Data Model Implications Related to MDG Deployment Scenarios

After having introduced the most prominent features in the Product master of S/4HANA and basic implications, the following section is dedicated to different deployment scenarios of MDG with S/4HANA.

As most of the challenges related to material number field length extension have been discussed in the previous section, we will focus here on the impacts of new or deprecated fields resulting from simplification and unification. Material Ledger will not be addressed here because the impacts for that have already been touched upon.

SAP MDG on SAP S/4HANA as a Hub

Data Model

- Deprecated fields of the backend can no longer be put under governance. Even though they are still in the MM model, they are not visible in the UI because they are also hidden in MDG. From S/4HANA 1809 on, the fields are also removed from the UI configurations.
 - Foreign-Trade-related fields can be maintained by functions provided by GTS.
 - Field commodity code cannot be maintained. See SAP Note [2648654](#).
 - MRP-related fields in the plant view may no longer be maintained at all if they are no longer supported in S/4HANA.
 - Fields relevant for MRP at storage location level have to be maintained in the corresponding MRP area, which can also be put under governance.
- Additional fields and tables which belong to extensions of the Product Master are not supported within MDG-M.
 - **Note:** MDG-RFM can be used in conjunction with the Retail extensions within the communicated restrictions.

Replication

- Deprecated fields will no longer be distributed.

- For Foreign Trade, the features provided by GTS can be used.
- MRP area cannot be replicated since there is no appropriate IDoc available. Instead, the available reports for MRP area generation should be used in the target system as well (SAP Note 2268203 - Not possible to Update / Transfer MRP Area when using Message Type MATMAS).
- Retail Data can be handled with the ARTMAS-IDoc.

SAP S/4HANA as a Client to SAP MDG

Basically, the same restrictions exist as mentioned above:

- Deprecated fields will not be imported.
- Foreign Trade data cannot be imported into the Product.
- MRP area data needs to be generated by using the existing reports (or maintained manually).
- Retail-Article may be received or sent via the ARTMAS-IDoc.
- For connecting an S/4HANA cloud edition system to an MDG hub for Product Data, see the [SAP API Business Hub](#) to see the whitelisted master data objects providing the corresponding inbound services in S/4HANA cloud edition.

Scope Differences between SAP MDG on SAP S/4HANA and on SAP ERP

As of SAP MDG on SAP S/4HANA 1809, the following scope differences exist:

Feature	SAP MDG on SAP ERP	SAP MDG on SAP S/4HANA 1809
SAP HANA-based search as the default search engine		X
Global search variants (usable for all users) in Material Search UI		X
Enhancements for Data Model and UI for: <ul style="list-style-type: none"> • Shelf Life Advance Planning • Extended Warehouse Management (EWM) • Advanced Planning (SCM) • Unique Item Identifier • Added Simplifications for S/4 (removed fields from MRP data see SAP note 2267246, and from Foreign Trade data, see note 2267225) 		X
Product SOA Service Outbound ()		X

For more information about scope differences with later SAP S/4HANA releases, see the SAP Help Portal documentation about [Business Function for MDG-M](#):

Business Partner, Customer, supplier Master Data

SAP MDG and SAP S/4HANA use the same data model with only a few differences to be considered.

Note: As pointed out before, for conversion to S/4HANA, the generic S/4HANA conversion routines and checks must be completed (see the [SAP S/4HANA documentation](#), *Conversion & Upgrade Assets* section), and more specifically, see the [SAP S/4HANA Cookbook Customer/Vendor Integration](#).

For more information, see also SAP Note [3372801](#) Upgrade or Conversion for Master Data Governance, Central Governance.

Employee master data

SAP Master Data Governance (MDG) is a solution for enterprise-wide master data management that provides capabilities for selected standard domains (like customers, suppliers, products, cost centers, general ledger accounts, and others) as well as for custom-defined domains. SAP MDG does not provide a standard solution for employee master data and was not designed to support the management of employee data. SAP recommends managing employee master data in the responsible HR solution and distributing employee data as workforce person data, in line with SAP's definition of the SAP One Domain Model.

Accordingly, SAP MDG does not support the management of business partners that represent employees in SAP S/4HANA. This is also reflected in the Simplification Item Business User Management (refer to [SAP note 2570961](#) and [SAP note 2751389](#)). This simplification prevents the maintenance and distribution of such business partners.

The synchronization of employee data to a business partner within S/4HANA systems is a mandatory step. To carry out this synchronization effectively and to generate the corresponding business partner, it's necessary to have a "mini master" of the employee's data in that system. This "mini master" contains a small subset of infotypes stored in the HCM module, where primary data is maintained (for reference, see SAP Note [2646823](#)).

Due to the fact that the main attributes of such business partners are not editable in S/4HANA and no replication of such business partners is possible, a governance process in SAP S/4HANA is neither feasible nor meaningful. Because of this, we have entirely excluded workforce business partners from MDG. Instead, the maintenance process needs to be executed through other applications, as already outlined above.

Furthermore, in ensuring compliance with Data Protection and Privacy regulations, the business partner roles for employees have been removed completely from the MDG user interface in S/4HANA. As a result, workforce business partners won't be displayed in the search results of SAP MDG. That implies that business partners cannot be found, displayed, or maintained using SAP MDG for business partners, customers, or suppliers in case that they are assigned to one of the relevant role categories that are mentioned in SAP Note [2570961](#). This also indicates that during the maintenance of partner functions, only the personnel number is visible and therefore no navigation to the business partner is possible. Additionally, within business partner relationships, relationships involving workforce business partners are neither visible nor maintainable.

SAP MDG on SAP S/4HANA as a Hub

MDG features may differ depending on whether MDG is deployed as a separate new hub in the system landscape, or co-deployed with an operational SAP S/4HANA system.

Data Model

- Multiple Assignments cannot be used when SAP MDG is co-deployed with an operational SAP S/4HANA system because Credit Management (FS-CM-CM) does not yet support this functionality

in SAP S/4HANA. (Mitigation: Either wait until Multiple Assignments becomes available in SAP S/4HANA or use SAP MDG in a hub deployment.)

Inbound Replication

- Replication via SOA-Service is supported and recommended.
- Replication from SAP MDG to SAP S/4HANA via IDOC (DEBMAS, CREMAS) is supported as well. For more details, see SAP Note [2312529](#) with regards to adaptation in S/4HANA 1511.

Benefits related to the Utilities industry solution:

In SAP ERP 6.0, the industry solution for Utilities (IS-U) does not use the customer-vendor-integration (CVI) to synchronize Business Partner records and ERP-Customer/Vendor records. This adds to the complexity when using MDG for Customer or Supplier data in combination with IS-U. In SAP S/4HANA, IS-U uses the CVI, reducing the complexity if used together with SAP MDG.

SAP S/4HANA as a Client to SAP MDG

The following points need to be considered:

- SAP CRM customers transforming their SAP ERP system to SAP S/4HANA need to consider SAP Note [2285062](#) - Business Partner Data Exchange between CRM and S/4 HANA.
- MDG offers remote client maintenance for customer master data on an SAP ERP system via ERP Customer Master (transaction XD01 / XD02). New customer masters and changes to existing customer masters are replicated to the MDG hub. A Change Request is generated, and after activation, changes will be replicated back to ERP (and to other client systems connected to MDG). This feature can be activated via business function MDG_CUST_ERPCCLIENT_1 on an ERP system. This scenario is not supported after moving that client SAP ERP system to SAP S/4HANA, because thereafter, customers are maintained via Business Partner (transaction BP, or corresponding Fiori applications) in S/4HANA.
- Replication via SOA-Service is supported and recommended.
- Replication from SAP MDG to SAP S/4HANA via IDOC (DEBMAS, CREMAS) is supported as well. For more details see SAP Note [2312529](#) with regards to adaptation in S/4HANA 1511.
- For connecting an S/4HANA cloud edition system to an MDG hub for Business Partner Data, see the [SAP API Business Hub](#) to see the whitelisted master data objects providing the corresponding inbound services in S/4HANA cloud edition.

Scope Differences between SAP MDG on SAP S/4HANA and on SAP ERP

As of SAP MDG on SAP S/4HANA 1809, the following scope differences exist:

Feature	Available in SAP MDG on SAP ERP	Available in SAP MDG on SAP S/4HANA 1809
Support of multiple assignments for vendors and customers in consolidation and mass processing		X
Use of newly added customers and vendors for a business partner as references for partner functions within the same change request in Central Governance		X

Global search variants (usable for all users) in Central Governance		X
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For more information about scope differences with later SAP S/4HANA releases, see the Portal documentation about [Business Function for MDG-BP/C/S](#).

Financial Data

SAP MDG for Financial Data (MDG-F) offers a pre-delivered single data model “OG” combining several entity types of financial master data. The data model uses only flexible entity types. Both the actual (active) data as well as the staging (inactive) data, which only exists within a governance process, is stored in generated MDG tables. Although some entity types refer to existing objects in SAP systems, the active master data is not stored directly in the related backend tables. To send the MDG active data to the related SAP system tables, data replication is necessary. The entity types are structured into three areas: accounting, controlling and financial consolidation. Nevertheless, most of the entities relate to each other, e.g., in groups or hierarchies.

The Excel file [“MDG Financials Segments & Fields”](#) that is available for download in the SAP Community offers a detailed overview of all object fields covered by MDG-F, how they map to back-end tables and how they are used in the different replication technologies.

This information is complemented by the information on business validations – SAP Note [2337685](#) contains a spreadsheet with an overview of SAP pre-defined validations that are executed by the system when validating data.

SAP MDG on S/4HANA as a Hub

MDG-F can be deployed as a hub, and as a co-deployment in an S/4HANA environment. Since MDG-F uses the independent “OG” data model, there are no general differences in installation and use concerning the deployment options.

SAP S/4HANA as a Client to SAP MDG

- You need at least release SAP MDG 7.0 or higher to use MDG-F in combination with S/4HANA Finance OP.
- For connecting an S/4HANA cloud edition system to an MDG hub for Financial Data, see the [SAP API Business Hub](#) to see the whitelisted master data objects providing the corresponding inbound services in S/4HANA cloud edition.

Scope Differences between SAP MDG on SAP S/4HANA and on SAP ERP

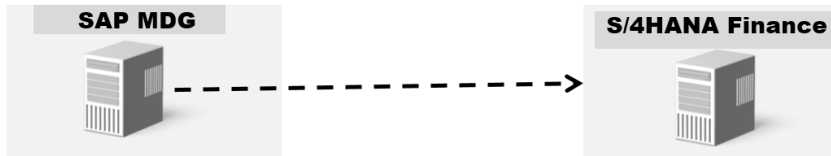
As of SAP MDG on SAP S/4HANA 1809, the following scope differences exist:

Feature	Available in SAP MDG on SAP ERP	Available in SAP MDG on SAP S/4HANA 1809
Central maintenance of controlling data (cost element) integrated into the G/L Account user interface		X
Replicating internal orders via SOA from MDG system		X

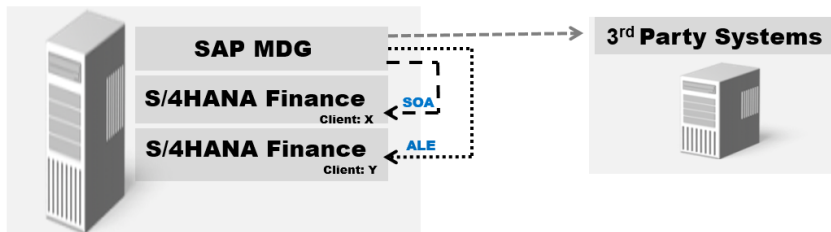
For more information about scope differences with later SAP S/4HANA releases, see the SAP Help Portal documentation about [Business Function for MDG-F](#).

Master Data Governance – S/4HANA Finance OP Integration

Deployment Option 1: SAP MDG hub replicates financial master data to SAP S/4HANA Finance



Deployment Option 2: SAP S/4HANA Finance and SAP MDG hub installed on the same server



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Internal

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With SAP S/4HANA Finance there are changes to the definition and usage of two financial master data objects. Due to the introduction of the S/4HANA Universal Journal, the G/L Account object and the Cost Element object have been merged. As of release 1809, this has also been accommodated in SAP MDG on SAP S/4HANA. This doesn't have any direct effects on the general standard master data governance processes in MDG-F and the MDG-F data transfer, as the S/4HANA Inbound service reacts and transforms the incoming data to the data constellation and persistence required for SAP S/4HANA Finance. At the time of data maintenance, it does not matter which systems are the target systems (SAP ERP 6.0, SAP S/4HANA OP, etc.) for the MDG-F replication.

With release 1809, SAP MDG on SAP S/4HANA also covers central governance of internal order master data including replication via IDoc or SOA from the MDG system. In this context, it must be pointed out that SOA replication is only available with the MDG on SAP S/4HANA version.

The business function MDG_S4_FINANCIALS_8 controls the SAP S/4HANA G/L Account-specific navigation. Before switching it on, all open change requests for G/L Accounts and Cost Elements must be closed. Note that prior to activating the Business Function MDG_S4_FINANCIALS_8, the Business Function Master Data Governance for Financials 9.2 (MDG_FINANCIALS_8) must be activated. The migration report USMD_FIN_S4MIGRATION is executed during switching. The migration report must be executed successfully.

For more information about the requirements, see the Business Function description under Master Data Governance for Financials 9.2 - S/4HANA (MDG_S4_FINANCIALS_8).

Benefits of using MDG in the context of S/4HANA Finance - Central Finance

One of the deployment scenarios of SAP S/4HANA Finance is called "Central Finance". Central Finance is a central reporting capability which repeats local financial postings from several local SAP and non-SAP systems into one central financial application, to provide one joint reporting (one "central journal"). Local postings on non-harmonized local applications are transferred in real time to the Central Finance application.

- To be able to post correctly against a central account, a complete n:1 mapping needs to be in place for relevant master data objects, typically G/L account, Cost Center, Profit Center, Customer or Supplier. Central Finance (CF) will look up these mappings in the so-called business mapping, which is technically stored in UKMS (Unified Key Mapping Service), part of the software component MDG_FND. This component is already contained in S/4HANA, so it can also be used in a landscape without an active MDG implementation for central governance or consolidation.
- Provide mapping content: The mapping information consists of the source system identifiers and source keys of the specific records and the corresponding central key. For financial master data these mappings must either be filled manually or by using a custom upload mechanism.
- For Customer or Supplier data there are two MDG mechanisms which support automated creation and/or ongoing update of the tables:
 - Use MDG, consolidation for customer and supplier data: By matching the customer or supplier (business partner) data from various data sources, MDG consolidation will automatically create the n:1 key mapping information for identified records and approves duplicate records. This information is stored in UKMS, so directly consumable by Central Finance. With each new consolidation run, newly identified duplicate records (matches) will automatically be added to UKMS.
 - Use MDG, central governance with local key: MDG central governance allows to locally assign a key for newly created customers or suppliers (business partners) and writes the created key mappings into UKMS. So, for every new creation of a customer or supplier record, the UKMS mapping tables will be updated automatically.
- For financial master data, there are no automatic ways of creating or updating the UKMS mapping information. For every new creation of a financial master data record, it will be required to manually add the mapping information from local to central. This can be done by simple table view maintenance.
- Although maintenance of financial master data records can continue to be done locally (with the respective maintenance of the key mapping), it is recommended to implement a central governance process for the new creations. On one hand the central representation of accounts, cost or profit centers are in a multiplied way crucial for the central postings (used by every incoming locally triggered posting), so should be under thorough control regarding how they are maintained and identified. On the other hand, the cost center and profit center objects carry a valid-from date in the key, so by maintaining one central representation and continuing local maintenance with local versions, the risk of running out of sync by validity date is very high. This means that for these two objects, a centrally governed maintenance supported by MDG-F will help to prevent mismatching validities of the same record.
- Licensing: UKMS is already part of the S/4HANA application. This means that pure usage of the mapping tables does not make it a necessity to use an MDG license. However, the described scenarios for adding governance on financial objects or automating the process of creating/updating the customer and supplier mappings will require the respective MDG license(s).
- Summary: MDG-C and MDG-S can significantly help to automate creation and background update of the business mappings, which are a crucial component of the Central Finance scenario. MDG-F can add governance on the financial master data and help keep local and central representation of financial structures in sync. The plain usage of UKMS by Central Finance doesn't require an MDG license or implementation, but SAP recommends adding MDG central governance and/or consolidation capabilities on top.

Custom objects

With SAP MDG for Custom Objects customers have the capability to model master data objects according to their needs in addition to the standard master data models shipped by SAP.

If any Custom Objects relate to SAP ERP data models, they must adhere to the S/4HANA business semantics when converting to SAP S/4HANA.

MDG on S/4HANA

The following points need to be considered:

- For a new implementation of MDG on S/4HANA, everything works fine, no constraints. The replication of data to non-S/4HANA systems needs to be considered.
- As an SAP Business Suite customer, you can move from different start releases to SAP S/4HANA. For certain start releases, a one-step procedure is available, which includes the installation of the SAP S/4HANA Core and, if necessary, the migration of the database to SAP HANA. As part of the move to SAP S/4HANA, you must adapt your implemented custom development and in addition the MDG custom objects solution to comply with the scope and data structures of SAP S/4HANA. For example, you must adapt your custom code or data models, or you must migrate data to comply with new data models. The checks must be applied based on the S/4HANA simplification list.
- The compatibility of the business semantic on the hub and the related client systems must be guaranteed.

Enterprise Asset Management Data (Solution Extensions by Prometheus Group)

SAP Master Data Governance, enterprise asset management extension by Prometheus Group is a solution that allows customers with SAP Plant Maintenance installed to put key enterprise asset management (EAM) master data objects like equipment, functional location and related objects under a central governance.

SAP Asset Information Workbench (AIW) extension by Prometheus Group provides a project-oriented approach to the current SAP Master Data Governance, enterprise asset management extension by Utopia, adding significant value by allowing overall management versus a strict focus on individual objects. AIW is an add-on to be installed on MDG-EAM.

MDG-EAM and AIW can be deployed on an SAP S/4HANA system starting with release S/4HANA 1610. Recommendation is to upgrade to EAM 9.2 (latest ECC related EAM version) before starting the conversion to S/4HANA.

SAP Master Data Governance, enterprise asset management by Prometheus Group 9.2 and SAP Asset Information Workbench by Prometheus Group 3.0 are available for S/4HANA 1709 and S/4HANA 1809, see SAP Notes [2688390](#) (EAM) and [2688845](#) (AIW).

SAP Master Data Governance, enterprise asset management by Prometheus Group 1909 SP01 and SAP Asset Information Workbench by Prometheus Group 1909 SP01 are available for S/4HANA 1809 FPS02 and S/4HANA 1909, see SAP Notes [2837658](#) (EAM) and [2837697](#) (AIW).

SAP Master Data Governance, enterprise asset management by Prometheus Group 2020 and SAP Asset Information Workbench by Prometheus Group 2020 are available for S/4HANA 1909 FPS03 and S/4HANA 2020, see SAP Notes [2980078](#) (EAM) and [2980054](#) (AIW).

SAP Master Data Governance, enterprise asset management by Prometheus Group 2021 and SAP Asset Information Workbench by Prometheus Group 2021 are available for S/4HANA 2020 SP03, S/4HANA 2021, and S/4HANA 2022, see SAP Notes [3104968](#) (EAM) and [3105093](#) (AIW).

Information on the product maintenance can be found in the Product Availability Matrix on support.sap.com.

S/4HANA as a Client

This is supported starting from S/4HANA 1610 via the MDG-EAM inbound handling component UGI3.

Retail and Fashion Management Data (Solution Extension by Prometheus Group)

SAP Master Data Governance, retail and fashion management extension by Prometheus Group is a solution that allows customers with SAP Retail or SAP Fashion Management installed to put key article and related master data objects under central governance.

This solution extension can be deployed on an SAP S/4HANA system for retail/merchandizing content. Full coverage of fashion management content is available starting with S/4HANA 1709. For further details, refer to the release strategy Note [2360893](#). Recommendation is to upgrade to MDG-RFM 9.0 (latest ECC related RFM version) before starting the conversion to S/4HANA.

SAP Master Data Governance, retail and fashion management extension by Prometheus Group 9.2 is available for S/4HANA 1709 and S/4HANA 1809, see SAP Note [2777577](#).

SAP Master Data Governance, retail and fashion management extension by Prometheus Group 2019 is available for S/4HANA 2019, see SAP Note [2880306](#).

SAP Master Data Governance, retail and fashion management extension by Prometheus Group 2020 is available for S/4HANA 2020, see SAP Note [3020539](#).

SAP Master Data Governance, retail and fashion management extension by Prometheus Group 2021 is available for S/4HANA 2021 and planned to be released for S/4HANA 2022, see SAP Note [3145464](#).

Information on the product maintenance can be found in the Product Availability Matrix on support.sap.com.

S/4HANA as a Client

This is supported starting from S/4HANA 1610 via the MDG-RFM inbound handling component UGI8.

Process Analytics

Within SAP MDG on ERP, customers can generate SAP HANA-based calculation views which provide KPIs around the MDG governance process (time-related regarding processing time, SLAs and process steps and amounts regarding the change request status). These calculation views can be consumed by different BI clients as well as the SAP Smart Business version for Suite on HANA. This version is not available for S/4HANA. SAP Note [2375319](#) describes the simplification.

For consumption of these generated queries by the SAP Smart Business version of S/4HANA, an additional step is required if it is a new installation and the consumption is implemented for the first time: as the SAP Smart Business version in S/4HANA is designed for consumption of CDS views, the generated MDG calculation views need to be transformed to CDS views manually.

As of SAP MDG on SAP S/4HANA 1809, SAP introduced FIORI-based process analytics for governing master data based on CDS views, including Overview Pages and Analytical List Pages displaying relevant process information at a glance.

- Overview Pages provide you with one-stop information on work due and the work done for the individual user as well as a set of processes, including direct navigation to Analytical List pages for further analysis and drill down.
- Analytical List Pages offer a one-stop information and highly flexible analysis tool for Change Requests as well as for consolidation and mass processes which are offered as stand-alone apps.

Accordingly, these CDS view-based pages are not available in SAP MDG based on ERP.

As of SAP MDG on SAP S/4HANA 2020, SAP has delivered Change Request Analytics Using Master Data Attributes, which enables master data specialists to get real time insight into change request processes using master data attributes and organizations. For example, you can monitor open and completed change requests for your master data using attributes and organizations and, from this information, identify and fix process gaps, bottlenecks, and errors. You can also gain process transparency for different master data dimensions and analyze and compare process efficiency. This enables you to answer the questions: how fast the different processes are executed and is performance improving or decreasing for the different master data dimensions.

Highlights of this feature include:

- An easy-to-use framework to configure Analytics CDS views for all MDG data models, including custom data models
- One-click generated, ready-to-consume, analytics CDS views which can be used by many analytics tools such as S/4 Smart Business and SAP Analytics Cloud
- Integrated authorization control on master data and segmentation
- Extensibility supported by on-board configuration

As of SAP MDG on SAP S/4HANA 2020, SAP has delivered Monitor Open Work Items from Change Request feature, which enables analytics end-users to analyze the Number of Work Items for open work items from change requests.

Highlights of this feature include:

- You can drill-down by change request information, for example, Change Request Type, Change Request Status, Reason, Reject Reason, and Priority.
- You can drill-down by work item information, for example, Workflow Task, and Administration Data.
- You can display the dimensions by Intervals defined in customizing for Processing Hour, Processing Days, and Processing Workdays.
- Each SAP-delivered domain (Business Partner, Product and Financial Master Data) has its own app in its central governance business catalog.
- You can display the details of a change request and its work items and navigate further to change request applications.

As of SAP MDG on SAP S/4HANA 2020, SAP has delivered Analyze Completed Work Items from Change Requests feature, which enables analytics end-users to analyze the following information for all completed work items from change requests:

- Number of Work Items
- Average Processing Hours
- Average Processing Days
- Average Processing Workdays
- Total Processing Days

Highlights of this feature include:

- You can drill-down by change request information, for example, Change Request Type, Change Request Status, Reason, Reject Reason, and Priority.
- You can drill-down by work item information, for example, Workflow Task, and Administration Data.
- You can display the dimensions by Intervals defined in customizing for Processing Hour, Processing Days, and Processing Workdays.
- Each SAP-delivered domain (Business Partner, Product and Financial Master Data) has its own app in its central governance business catalog.
- You can display the details of a change request and its work items and navigate further to change request applications.

As of SAP MDG on SAP S/4HANA 2021, SAP has delivered Change Analytics for Master Data in Change Request. This feature includes a framework to configure and generate Analytics query CDS views for all MDG data models. You can build analytics applications and dashboards (using SAP S/4HANA Smart Business and SAP Analytics Cloud) based on the generated query CDS views. Master data specialists can use these applications and dashboards to get real-time insight into master data changes in change requests by master data attributes and organizations.

This feature:

- Enables master data specialists and analysts to monitor ongoing change requests based on specified attributes.
- Enables you to analyze attribute changes, identify and fix gaps and bottlenecks in the process by answering questions such as:
 - What has happened in cross organizations? Are there any outstanding organizations to be informed?
 - How often and where were the critical attributes changed in the past? Can we reduce these changes?
 - What is happening in our organizations?
- Grants flexibility to allow key users to configure analytics requirement to analytics reports.
- Offers integrated authorization control on master data and segmentation
- Comes enabled for the SAP delivered model and for custom data models

Master Data Quality Management

As of release 1809, SAP MDG on SAP S/4HANA provides in-built data quality management capabilities for product master data dedicated towards:

- Evaluation of master data using data quality rules
- Analysis of incorrect data and correction of identified issues
- Definition of data quality scores as KPIs for master data management
- Reporting and analysis of scores

These capabilities are exclusively for the S/4HANA version of SAP MDG and will not be available on SAP MDG based on SAP ERP.

Miscellaneous

Industry Solutions

Many industry solutions are now an integral part of SAP S/4HANA. An add-on installation and/or activation of Business Functions is no longer required. This means that the same combination of MDG and industry solutions which are permitted in SAP ERP are permitted in S/4HANA. It needs to be checked whether the implementation of an industry solution is planned or already active in the respective system. The difference now is that, in most cases, there is no longer a technical activation step which might have checked feasibility on a system basis. It might happen that there is a combination of MDG and industry solution which is permitted, but there is an S/4HANA restriction for this industry. Thus, for this scenario, a conversion of the MDG system is not possible. However, as industry solutions are released for S/4HANA at a very high speed, this issue might well soon be obsolete.

For more information about supported industry solutions in SAP S/4HANA, see SAP Note [2214213](#).

For more information about supported industry solutions for SAP MDG, see SAP Note [1690202](#).

MDG Extensions by Customers

For a new implementation of MDG on S/4HANA:

Customers can extend the MDG solution to their needs.

For a conversion of MDG to S/4HANA:

As part of the move to SAP S/4HANA, you must adapt your implemented custom development and the MDG custom extensions to comply with the scope and data structures of SAP S/4HANA. For example, you must adapt custom code or data model extensions, or migrate data to comply with new data models. The checks must be applied based on the S/4HANA simplification list.

Note: The compatibility of the business semantic on the hub and the related client systems must be guaranteed.