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How To... Using Enhanced Integration of CRM with Master Data Governance for Customers in a CRM/ERP Data Exchange Scenario (CRM@MDG) and Integration of MDG with Provider Transactions – Configuration Guide

Applicable releases:
SAP ECC 6.0 EHP6, MDG 6.1 or higher, and SAP MDG on S/4HANA

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Document History

Document Version	Description
1.0	First official release of this guide
2.0	Small updates
3.0	Small updates
4.0	Layout update (September 2025)

Table of Contents

1. Using Enhanced Integration of CRM with Master Data Governance for Customers in a CRM/ERP Data Exchange Scenario (CRM@MDG)

Up to MDG 6.1, a CRM system can only integrate into MDG-C in either of the following situations:

- The CRM system is a receiving client system.
- The CRM system is connected using CRM Middleware to an ERP system that is set up as an MDG client system.

  As a consequence of these restrictions, the governance of master data for CRM systems integrating with MDG systems up to MDG 6.1 can only occur if you implement either of the following:

- Maintenance of data in the MDG hub followed by replication to all clients.
- Use of the client maintenance scenario in ERP or CRM.

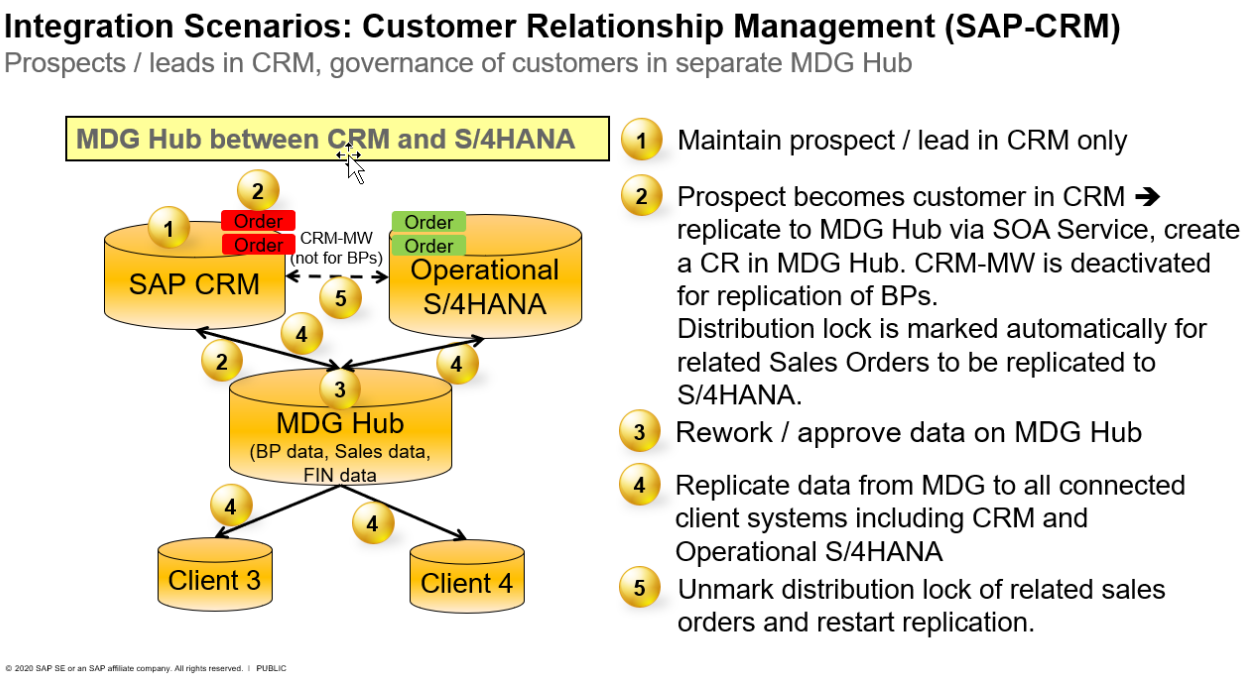
  In this case, data replication can occur in either of the following ways: **Client → MDG hub → Client** Client → ERP → MDG hub → ERP → Client.

  + Also, data replication is restricted. One example of the restriction is the inability to replicate CRM-specific sets.

From MDG 7.0 and S/4HANA 1511, integration between CRM systems and MDG-C supports CRM-specific data, consisting of sales data, shipping data, billing data, tax indicators, and partner functions.

Furthermore, the MDG hub can be placed *between* CRM and ERP, if you are implementing new CRM/ERP landscapes or if you are introducing MDG-C into existing landscapes. You can use both CRM and ERP for client maintenance, which involves replicating almost all data via the MDG hub. The data exchange of business partners between CRM and ERP does not require the CRM Middleware anymore (materials or orders still do). This document describes what has to be done to use this enhanced integration in lower releases.

The graphic below shows the scenario in which prospects in CRM are blocked from being sent to MDG, and a prospect becomes a customer that is used immediately in a CRM order:



1.1. Supported releases

In principle, product releases with which the integration could be used are:

- MDG hub: SAP ECC 6.0 EHP6, SAP MDG 6.1 or higher, and SAP MDG on S/4HANA
- CRM client: SAP CRM 7.0 EHP2 or later (CRM on S/4HANA is not supported)
- ERP client: SAP R/3 Enterprise (4.70), SAP ECC and S/4HANA

1.2. Replication modes

The communication between the CRM client system and the MDG hub system always takes place using a SOA service. Communication from the MDG hub to the ERP client uses either SOA (EHP6 or later) or IDoc (older ERP releases).

1.3. Prerequisites

Whether you are working with a new system landscape or with an existing one, a number of tasks that are not covered in this guide must be completed before you can use the enhanced integration of CRM with MDG-C.

This guide does not cover the following topics:

- Setup information about data exchange in general (technically or by customizing), the system landscape, or system communication.
- The exchange of other master data or the interaction with such data (for example materials/products)
- Process integration settings (for example, organizational management).

CRM system requirements:

- EHP3 for SAP CRM 7.0 or higher
- EHP2 for SAP CRM 7.0 on HANA DB SP04 or higher
- EHP2 for SAP CRM 7.0 SP09 or higher

If you want to use the scenario of the order block and restart. For more information, see 1.5.2 Prevention of Erroneous Order Replication from CRM to ERP.

Minimum CRM system requirements:

- CRM 7.13 SP04
- CRM 7.12 SP07
- CRM 7.02 SP12.

Minimum ERP system requirements:

- EHP7 for SAP ECC 6.0
- EHP6 for SAP ECC 6.0 SP06

1.4. Alternative Replication Modes

For more information about the configuration for data replication to CRM system, see SAP Help Portal at https://help.sap.com/docs/SAP_S4HANA_ON-PREMISE/6d52de87aa0d4fb6a90924720a5b0549/d6b86551d839d61be10000000a445394.html

1.4.1. Steps That Are Independent of the Replication Mode

- If your CRM client system is running on NetWeaver 7.40 (or later), check whether the changes of SAP Note 1906487 are already there. If not, implement the SAP Note.
- Check whether the MDG outbound module event is activated. You can use transaction `CRMC_BUT_CALL_FU` to do this. If the entry for the event is missing, create the following event:
  - Event: *Business Partner Outbound* (`BPOUT`)
  - Object: *Business Partner and BP Relationship* (`BUPX`)
  - Item: `1100000`
  - Function Module Name: `CRMMDG_BUPX_OUTBOUND`
- In the MDG hub, maintain table `MDG_BP_SYS_PAR` using the maintenance view `MDGV_BP_SYS_PAR`. Enter the business system ID of your CRM client and activate the following parameters:
  - `Map.Tax.Cl`: Tax classification mapping
  - `Flt.Rfl.Pf`: Filtering reflexive partner functions
- If the MDG hub system is between a CRM and ERP system for which master data exchange and process integration is already set up, delete all settings in the CRM Middleware referring to business partner replication to the corresponding ERP system. For example, you must remove all business partner subscriptions in the MW Admin Console for that site.
- In the MDG hub system, make sure that the incoming data will result in the creation of a change request.
  1. Open Customizing for *Data Replication* (transaction `DRFIMG`).
  2. Choose Data Replication → Define Custom Settings for Data Replication → Define Technical Settings → Define Technical Settings for Business Systems.
  3. Mark the entry of your CRM system (if it does not exist, create an appropriate entry with logical system and RFC connection) and choose the subdialog Define Bus. Systems, BOs.
  4. Mark the entry for BO type 147 (if it does not exist, create the entry and leave option *System Filter* deselected). Choose the subdialog Define Bus. Systems, BOs, Communication Channel.
- Make sure that the entry for the C. Channel (Communication Channel) is 1 Replication via Services has the value 1 Staging Area assigned as the storage replication area. If this entry does not exist, create an appropriate entry leaving the Upd. KM flag deselected and the Time Dep. option undefined.

1.4.2. Steps That Depend on the Replication Mode (MDG Hub to ERP Client)

Replication Using an SOA Service

1. In the ERP client system, check whether there is an (active) BAdI implementation called `MDG_BS_KEY_MAP_HANDLER_CUSTOM` for the enhancement implementation `MDG_BS_CUSTOM_SI_ERP` of the enhancement spot `MDG_BS_SUPPLIER_SI`.
   a. If no active BAdI implementation exists, create one with an implementing customer class (for example, `ZCL_MDG_BS_CUST_KEYMAP_HANDLER`).
   b. Copy the code from the attachment `ZSAVE_SUPPLIER_DATA_IN.DOCX` of SAP Note 1929736 into the interface method `IF_EX_MDG_BS_SUPPLIER_SI~SAVE_SUPPLIER_DATA_IN` of your class.
   c. Activate the implementation.
2. In the ERP client system, check whether there is an (active) BAdI implementation called `MDG_BS_KEYMAP_CUST_CP_HANDLER` for the enhancement implementation `MDG_BS_CUSTOM_RELSHIP_SI_IN` of the enhancement spot `MDG_BS_BP_RELSHIP_SI`.
   a. If no active BAdI implementation exists, create one with an implementing customer class (for

example, ZCL_MDG_KEYMAP_CUST_CP_HANDLER).

b. Copy the code from the attachment ZSAVE_RELATIONSHIP_DATA_IN.DOCX of SAP Note 1929736 into the interface method IF_MDG_BS_BP_RELSHIP_SI~SAVE_RELATIONSHIP_DATA_IN of your class.

c. Activate the implementation.

Replication Using IDocs

1. In the MDG hub system, check whether function module MDG_BS_ECC_CUST_GET_KEYMPPG exists.
   a. If the function module does not exist, create your own function module called ZMDG_BS_ECC_CUST_GET_KEYMPPG in a customer function group and copy the code from the attachment ZMDG_BS_ECC_CUST_GET_KEYMPPG.DOCX of SAP Note 1929736 (don't forget to maintain the interface accordingly).
   b. Activate the function module.
2. In the ERP client system, check whether there is an (active) implementation called MDG_ECC_CUST_CRMTBLS for the BAdI IDOC_DATA_MAPPER.
   a. If no active implementation exists, create your own implementation in a customer class and copy the code from the attachment ZMDG_ECC_CUS_CRMTBLS.DOCX of SAP Note 1929736.
   b. Activate the implementation.

   Important: In case the function module mentioned in step 1 already exists in the hub, you must adapt the two calls in the BAdI implementation code accordingly.

1.5. Further Information

1.5.1. Double Replication Required to Fill CRM Mapping Tables

Process integration tasks such as order replication from CRM to ERP require all CRM mapping tables to be filled (CRMM_BUT_CUSTNO and CRMM_BUT_CONTNO in the CRM client; CRMKUNNR and CRMPARNR in the ERP client). However, the central mapping information in MDG is stored in the hub system. As a result, the CRM mapping tables get filled with the information from the key mapping defined in the MDG hub.

This replication setup may lead to several situations. For instance, suppose CRM mapping information is being written in the MDG hub. When the confirmation message comes back from CRM to MDG, the independent processing occurring in the ERP client, which may be running faster, might not yet find the required information to fill CRMKUNNR. As mentioned above, information to fill CRMKUNNR is needed for an order to be transferred. In this situation, you often have to trigger the replication of a customer a second time (for example, via direct send in CRM or via manual Data Replication Framework (DRF) in the MDG hub).

If you create a CRM order using a new business partner before the governance process finishes, or if the mapping tables are incomplete, the CRM order will have an error state.

The second manual replication is no longer necessary if your MDG hub system runs on SAP_BS_FND 7.47 SP10 or 7.31 SP16 (refer to SAP Note 2079352) or from MDG 8.0 and S/4HANA 1511.

You must also complete the following steps:

- In table MDG_BP_SYS_PAR on the MDG hub, fill the new field Business System of Target with the business system of the ERP system that acts as the actual CRM target (such as sales orders).
- Check whether there is an active RFC destination maintained for the business system of the ERP system. You can check these settings via transaction DRFIMG. Choose Data Replication → Define Custom Settings for Data Replication → Define Technical Settings → Define Technical Settings for Business Systems.

It is not required, but may be useful to have the function module MDG_CHECK_MPG_TABLE_CRMKUNNR in the ERP target system. For more information about automatic correction instructions for some releases, and a code example for other releases, see SAP Note 2079352.

Note: This additional background replication only works when there are no errors in the original replication, all system connections are working, and there is no interference in the system communication.

1.5.2. Prevention of Erroneous Order Replication from CRM to ERP

Erroneous order replication is avoided automatically if you use a certain CRM support package level (see 1.3 Prerequisites). If you save a CRM order that uses a business partner in a partner function while the processing of the business partner is not finished and the CRM mapping tables have not yet been filled, the system applies a distribution lock to the CRM order. This lock is automatically removed by a background process as soon as the system creates a CRM mapping table entry. After the lock is removed, the same background process triggers the CRM Middleware replication of the order to the ERP system.

So, the behaviour for the user is the same as it would be outside of MDG because the CRM order is saved as usual and the replication is background functionality only. Furthermore, there are no longer erroneous business documents (or business documents containing error messages) that have to be checked.

For more information about the necessary manual steps, see SAP Note 1975213.

SAP Note 2079352 provides function modules that check blocked orders to see if the automatic distribution lock is still correct. If it is not, the orders are released and sent to the ERP target system. For details on the usage, refer to the long text of the note.

Note: Only distribution locks that have been set by the procedure described in this chapter are removed.

The prevention of erroneous replication is also provided for other objects (provider contract, master agreement, and business agreement) to make sure they are not replicated until the business partner exists in both the target and the source system. For more information, see chapter 2 Integration of MDG with Provider Transactions - Configuration Guide.

1.5.3. Restriction of Governance by Filtering Business Partners in the CRM Outbound

When you send business partners to the ERP system, the most common filtering option is to filter by sales classification. Filtering by sales classification is relatively easy in the CRM Middleware data exchange (transaction PIDE in ERP plugin). There is no such option in MDG.

For this scenario, there is an example code for a function module in the attachment ZCRMMDG_BUPX_OUTBOUND_FILTER.DOCX of SAP Note 1929736. Ensure you maintain the interface accordingly. In this example code, no prospect is sent to MDG, but you can easily adapt the code to any other sales classification.

You must enter the function module in the CRM event table (transaction CRMC_BUT_CALL_FU) and ensure you include the following:

- Event: *Business Partner Outbound* (BPOUT)
- Object: *Business Partner and BP Relationship* (BUPX)
- Item: <a number around that of CRMMDG_BUPX_OUTBOUND>
- Function Module Name: ZCRMMDG_BUPX_OUTBOUND_FILTER

Important: if this event is active, the event for CRMMDG_BUPX_OUTBOUND must be inactive.

Of course, you can use any criterion to block the sending of a BP created in a CRM system from the CRM system to the MDG hub. However, depending on the complexity of the criterion, it might be useful to call another function module in the event module.

2. Integration of MDG with Provider Transactions - Configuration Guide

If *SAP Master Data Governance* (MDG) is used to distribute the business partner between CRM and ERP, the business partner is no longer distributed using the middleware. Other documents, such as a provider contract or a master agreement, are sent as usual from the CRM system to the ERP system, where a technical error occurs if the business partner has not yet been replicated by MDG.

MDG-C provides a blocking mechanism for the sales order, which means that the sales order is not replicated until the business partner exists in both systems. This ensures that technical errors do not occur in the middleware and that it is not necessary to redistribute the documents.

A similar concept is provided with EHP4 for SAP CRM 7.0 SP08 for the provider contract, master agreement, and business agreement. These objects can only be distributed to ERP if the business partner has been replicated to both systems.

This chapter explains this concept and describes which manual configurations are required in CRM.

2.1. Prerequisites

- MDG must be configured and connected to the CRM and ERP systems using an SOA service (like MDG-C).
- The connection between the CRM and MDG systems must be established using an SOA service.
- The connection between the MDG and ERP systems can use either an SOA service or ALE.
- The business partner must not be distributed using the CRM Middleware.
- Provider scenarios require the business partner number to be identical in both CRM and ERP, which must be defined accordingly in the MDG system.
- The business partner who is used as a sold-to party or payer in SAP ERP must exist in the contract partner role in SAP ERP. This requires the business partner roles to be mapped in MDG. The CRM role `CRM000` (sold-to party) must be mapped to the ERP role MKK (contract partner).
- The CRM system must have a minimum release level of EHP4 for SAP CRM 7.0 SP08.

2.2. MDG Integration

2.2.1. Business Agreement

If a business agreement is created or changed, this is only distributed to the ERP system if you create the following new event type linkages in the CRM system using transaction `SWETYPV` (if you do not specify a parameter here, this is left blank or unchanged):

- Object Category: BOR Object Type
- Object Type: `BUS1006005`
- Event: `DELETED`
- Receiver Type: `NONE`
- Receiver Call: Function Module
- Receiver Function Module: `CRMMDG_BUPA_ON_HOLD_DELETED`
- Destination of Receiver: `NONE`
- Event delivery: Using tRFC (Default)
- Linkage Activated: Selected
- Response if an error is reported: System defaults

- Receiver Status: No errors

Save the event type linkage.

Setting for the CRM Middleware:

- The business partner must not be distributed using the middleware. The BDoc types `BUPA_MAIN` and `BUPA_REL` for the business partner must not be used during replication to the ERP site.
- If you are using more than one ERP site, and also distribute the business agreement (replication object `BUAG_MAIN`) to more than one site, you must create your own implementation for the BAdI `CRM_IU_IL_SYSTEMS` to identify the correct ERP site.

2.2.2. Business Agreement Replication

If a business agreement is created or changed, this is only distributed to the ERP system if the business partner to which this agreement belongs has already been distributed to both systems by MDG. If this is not the case, distribution cannot be performed, and can only be started automatically by a background job if the business partner exists in both systems.

The user is not affected by this. The user saves the business agreement as usual, and the system performs a background check to ensure that there are no BDocs with error messages that must be checked.

Manual steps required[.underline]:

- The function module `CRM_BUAG_MWX_BDOC_FILTER_MDG` must be entered in table `CRMC_BUT_CALL_FU` and defined as active for the following:
  - Event: CRM outbound (`CRMOU`)
  - Object: Business agreement (`BUAG`)
  - Position: Must be accessed before function module `CRM_BUAG_MWX_FILL_EXT_FROM_MEM`, for example `2000`.

2.2.3. Master Agreement Replication

If a master agreement is created or changed, this is only distributed to the ERP system if the relevant business partners (partners with the partner function Payer and Sold-to party), have already been distributed to both systems by MDG. If this is not the case, distribution cannot be performed, and can only be started automatically by a background job if the business partner exists in both systems.

The user is not affected by this. The user saves the master agreement as usual, and the system performs a background check to ensure that there are no BDocs with error messages that must then be checked.

2.2.4. Provider Contract Replication

If a provider contract is created or changed, this is only distributed to the ERP system if the relevant business partners (partners with the partner function Payer, Sold-to party, Bill-to party, and Ship-to party) have already been distributed to both systems by MDG. If this is not the case, distribution cannot be performed, and can only be started automatically by a background job if the business partner exists in both systems.

Since the provider contract is distributed using the Order Distribution Infrastructure (ODI) and not using the middleware, an additional distribution step is required, which has the status Waiting until all relevant business partners have been distributed to MDG. Following this, all dependent processing steps are processed. Steps that are not dependent on business partner distribution can already be executed simultaneously.

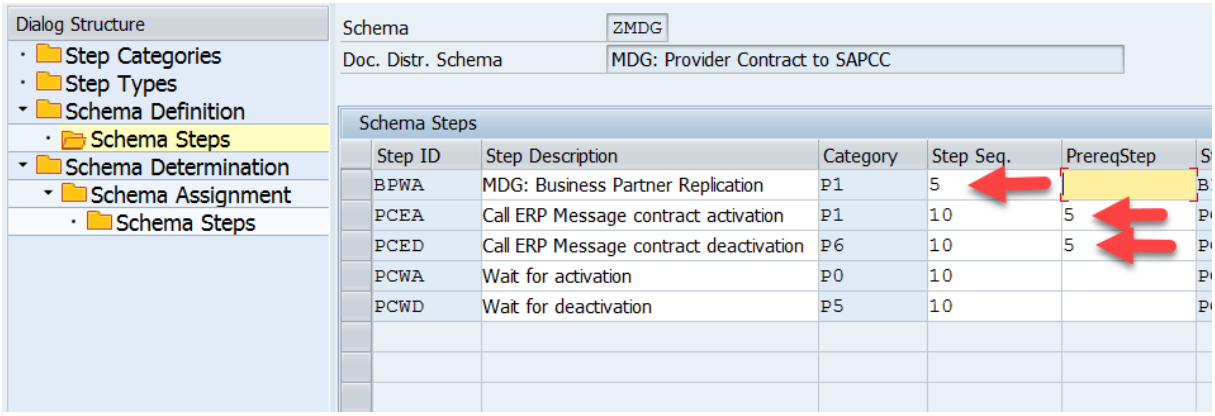
Manual steps required:

- The Step ID `BPWA` is supplied for Category P1 and class `CL_MDG_ISX_ORDER_MD_BUPA_WAIT` for the

ODI.
If this step ID does not exist, it should be created as a customer-specific step ID.

- This step ID must be assigned to the schema used, so that this step becomes a prerequisite for subsequent distribution to the ERP system.

Example of an ODI distribution schema:



2.2.5. Reports for Redistributing Blocked Objects

The distribution of blocked business agreements and provider agreements is usually started automatically using a background RFC if the business partner has been distributed to both systems by MDG. This can lead to errors if the object cannot be blocked or if the RFC connection does not work in ERP.

If this is the case, you can use the following reports to check whether distribution is possible, and to trigger it:

- Report `CRMMDG_BUAG_ONHOLD_RESTART`
  Repeated distribution of business agreements
- Report `CRMMDG_BT_ISX_RESTART`
  Repeated distribution of provider transactions

For more information, see the corresponding report documentation.

3. Additional Information

3.1. Further Reading

Information on SAP MDG on SAP S/4HANA

- Exchange knowledge: SAP Community | Q&A | https://blogs.sap.com/tags/67837800100800004488/Blog]
- Try SAP Master Data Governance on S/4HANA for free: Trial Version
- Learn more: https://blogs.sap.com/2020/10/08/benefit-from-sap-master-data-governance-on-sap-s-4hana-2020/Latest Release] | https://blogs.sap.com/2020/03/12/upcoming-webinars-about-consolidation-and-data-quality-management-with-sap-master-data-governance-on-s-4hana/Webinars] | Help Portal | How-to Information | https://blogs.sap.com/2020/07/21/sap-master-data-governance-at-a-glance/Key Presentations]

SAP Roadmap Explorer

- Please see the roadmap for SAP Master Data Governance

Related Information

- Learn more: Floorplan Manager for Web Dynpro ABAP | How to Adapt FPM | https://blogs.sap.com/2021/03/02/how-to-create-enhance-and-adapt-floorplan-manager-applications-for-sap_ui-7.55/FPM Blog] | How-to Information | Service Mapping Tool | SAP S/4HANA Cookbook CVI |

3.2. SAP Notes

In addition to the detailed explanations written in this document, please see the following SAP Notes for further important information.

Note Number	Note Description
3372801	Upgrade or Conversion for Master Data Governance, Central Governance
2221398	MDG-BP/C/S/CA: (Un-)Supported Fields in Data Model BP
2847807	MDG-BP/C/S/CA: Usage of MDG Tools and Processes
2313368	Functional restrictions in MDG for Business Partner / Customer / Supplier with SAP Master Data Governance 9.0□□
2472845	Functional restrictions in MDG for Business Partner / Customer / Supplier with SAP Master Data Governance 9.1□
2656712	Functional restrictions in MDG for Business Partner / Customer / Supplier in SAP Master Data Governance 9.2 and on SAP S/4HANA 1809
2816557	Functional restrictions in MDG for Business Partner / Customer / Supplier on SAP S/4HANA 1909
2925030	Functional restrictions in MDG for Business Partner / Customer / Supplier on SAP S/4HANA 2020
3070003	Functional restrictions in MDG for Business Partner / Customer / Supplier on SAP S/4HANA 2021
3220117	Functional restrictions in MDG for Business Partner / Customer / Supplier on SAP S/4HANA 2022
3374711	Functional restrictions in MDG for Business Partner / Customer / Supplier on SAP S/4HANA 2023
3043582	MDG Customer Connection 2020
3194967	MDG Customer Connection 2021 for S/4HANA 2022
3311039	MDG Customer Connection 2023
3428179	Master Data Governance: Continuous Influence
1929736	More detailed information about integration with CRM in MDG
1975213	CRM@MDG: Blocking order distribution until approval
1906487	Check for temporary key
2079352	CRM@MDG: Duplicate replication when filling CRM mapping tables