

**PUBLIC** 

# How-To: Set Up Parallel Change Requests for Material

Applicable Releases:

From MDG 7.0 and from SAP S/4HANA 1511

Version 4.0

October 2023



# **Document History**

Document	
Version	Description
1.0	First official release of this guide
2.0	Validity update
3.0	Small update (March 2020)
4.0	Layout update (October 2023)



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# 1 Business Scenario

SAP Master Data Governance (MDG) provides business processes to find, create, change, and mark master data for deletion. It supports the governance of master data in a central hub and the distribution to connected operational and business intelligence systems.

The processes are workflow-driven and can include several approval and revision phases, and the collaboration of all users participating in the master data maintenance.

MDG offers change request (CR)-based processing of master data with integrated workflow, staging, approval, activation, and distribution.

As of MDG 7.0 and SAP S/4HANA 1511, MDG also supports the creation of more than one Change Request in parallel for a single Business Object. This enables you to activate or reject a change request independently from the processing results of other change requests for the same business object.

This guide gives some background information and explanation for setting up Parallel Change Requests for the Business Object Material.

# 2 Background Information

You can only use parallel change requests for the change material process. You cannot use them to create materials in parallel. Note that creation of a plant/distribution chain/storage location assignment is considered as *change* in MDG and not as *creation* like it is in the back end.

# 2.1 Scope of Change Request

What you can change with a parallel change request is determined by the change request type. Parallel change requests are created on entity-level; you must choose the entities to be included in your change request. You can only maintain fields related to entities in the change request scope. Other fields are read only.

To create a meaningful scope, you must ensure that you can maintain all mandatory fields required. Otherwise, you will not be able to activate the change request.

To ensure basic consistency of the change request type in terms of the implemented derivations, restrictions concerning the maintenance are checked. For the MM data model, the following logic applies:

Selected Entity	Additional Required Entity
MATERIAL	UNITOFMSR, MEAN_GTIN
UNITOFMSR	MATERIAL, MEAN_GTIN
MEAN_GTIN	MATERIAL, UNITOFMSR
MVKEGRPNG	MLANSALES
MVKESALES	MLANSALES
MARCBASIC	MLANPURCH

There are additional points you must consider:

- If you want to create a new Distribution Chain, the Entities MVKEGRPNG, MVKESALES and MLANSALES must be in scope.
- If you want to create a new Plant Assignment, MARCBASIC and all MARC\*Entities which have Required Fields (from T130F, Model, BAdI, BRF+ Checks...) must be in scope.
- If you have Cross Entity Derivations, all relevant Entities must be in scope.
- Some hardcoded derivations that run in the back end (SAP Standard) default values (for example: Procurement type MARC-BESKZ), which are on different entities. Create a BRF+ Rule to derive the default values and make sure that the related Entity is in scope.
- See restriction SAP Note 1806108, 2129261 and 2284745 Functional restrictions in MDG-M. Some hardcoded rules that run in the back end (SAP Standard) require value in fields that belong to different entities. All relevant Entities must be in scope.
- If you use T130F customizing for Required Fields, all relevant Entities must be in scope. For example, field Material Group MARA-MATKL is required if you create a new plant assignment. Entities MARCBASIC and MATERIAL must be in scope.
- It is also possible to have Change Request Types with Business Activity MATA with PCR. Please keep in mind that you also need a scope for this Change Request Type where you should reduce the entities. But you could also create a new material with this Change Request Type and this will only work if you have all necessary basic data entities in scope.

# 2.2 Locking Logic

Non-parallel change requests, such as those created by MAT01, completely lock the chosen material. Likewise, to create a non-parallel change request the entire material record must be unlocked.

For materials in parallel change requests, locking happens on entity level, that is, on the object level of the entity type. In the background an object list is maintained for this. For example, if *Plant ATP Data* is maintained for plant 0001 in the first parallel change request, then in a second change request the *Plant ATP Data* is locked in plant 0001, but not for plant 0002. Examples of objects on entity level are plants, storage locations, sales organizations, distribution channels, warehouses, and storage types.

#### Note:

If you discard your changes in a parallel change request, the entities are still interlocked in the change request and cannot be added in another parallel change request until the first one is activated.

#### Note:

You cannot have two change requests accessing the same material in Edit mode at the same time. When going to edit mode the complete material is locked in changes for all other change requests. Only after ending the edit mode, for example by saving, can other processors process their parallel change request for the scope as described above.

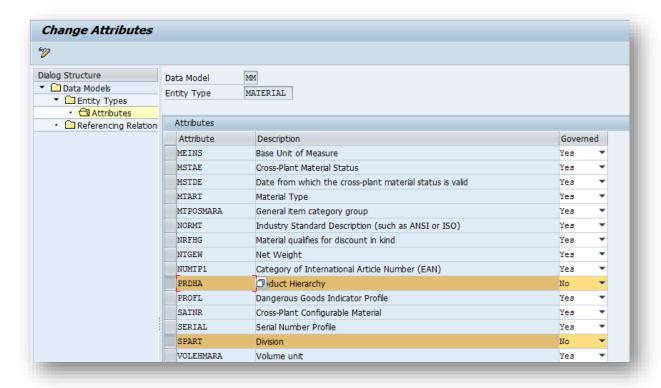
If the delivered data model MM does not reflect the field groups which you would like to maintain and lock together you can adapt the model.

#### Use case:

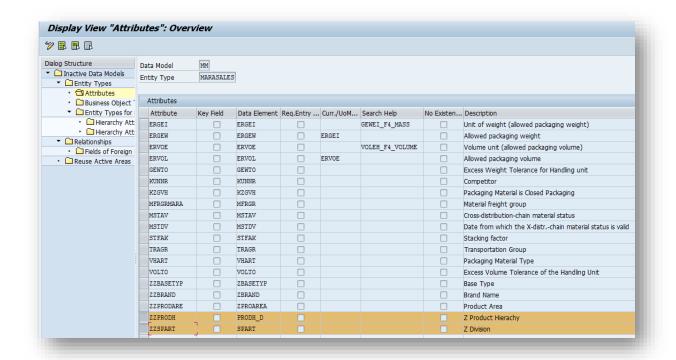
Fields PRODH and SPART are on entity MATERIAL. But you would like to maintain and lock them together with the other sales data on MARASALES.

#### Solution:

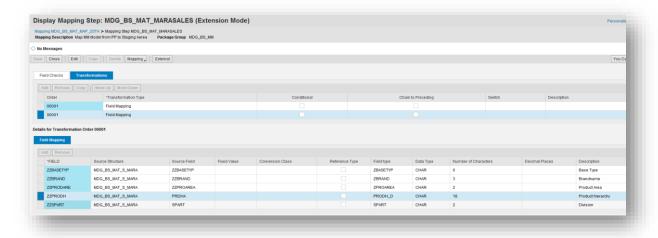
Set fields PRODH and SPART on MATERIAL out of Governance Scope. You can do this in Customizing for MDG under *Master Data Governance*  $\rightarrow$  *General Settings->Process Modeling*  $\rightarrow$  *Define Governance Scope.* 



Create new attributes on MARASALES. You can do this in Customizing for MDG under *Master Data Governance*  $\rightarrow$  *General Settings*  $\rightarrow$  *Data Modeling*  $\rightarrow$  *Edit Data Model.* 



Extend the SMT Mapping for MDG\_BS\_MAT\_MAP\_2STA and MDG\_BS\_MAT\_MAP\_2PP. You can do this in Customizing for MDG under Master Data Governance  $\rightarrow$  *General Settings*  $\rightarrow$  *Data Modeling*  $\rightarrow$  *Extend Mappings*.



# 2.3 UI Configuration

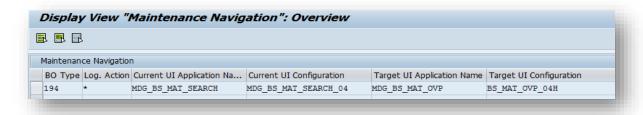
Change Request Types that run in parallel should lead to the same OVP configuration. You can use CBA (context-based adaptation) for the different Change Request Types to hide the UIBBs that are not to be shown. It is then possible to toggle between the Active and Inactive versions (see chapter 3.4.2 Button 'Switch to Active Version'/'Switch to Inactive Version').

If you have a different OVP configuration and assign this to the Change Request Types in Customizing for Master Data Governance under *General Settings*  $\rightarrow$  *Process Modeling*  $\rightarrow$  *Change Requests*  $\rightarrow$  *Configure Properties of Change Request Step: User Interface per Change Request Step*, you will have the following limitations:

• Step-dependent UIs are not used from My Change Request (only one configuration is possible)



 Step-dependent UIs are not used from search with display and then switch to edit (only one configuration is possible)



• Step-dependent UIs work from Worklist and if you enter a change request type in the initial screen.

# 2.4 Display Logic

When using a parallel change request, a user always sees the data of the snapshot for locked entities. The snapshot is a copy of active data at the point of time when the first Change Request was created. He only sees changes for entities of his change request. If a parallel Change Request is activated, the active area then the snapshot is updated with the changes. These changes are reflected in all the other open parallel Change Requests.

#### Note:

If data is changed directly in the active area, these changes are not reflected in the open Change Requests when a Change Request is opened again. Instead, you will see a staging icon on organization level. This happens because the determination is based on a comparison between the active area and staging area. Activation is then only possible if you ignore the snapshot differences during activation with process pattern 06 in the Non-User Agent Decision Table of the Rule-Based Workflow.

The same behavior occurs if the back-end code (Function Module MATERIAL\_MAINTAIN\_DARK) derives additional default values during activation of a Change Request. When that happens, a difference between the active area and staging area is also indicated. To avoid this indication, you have to anticipate the back-end derivations by using BRF+ Derivation Rules or the Derive BAdI in the MDG process *before* activation.

# 2.5 Activation Logic

The changes that could be maintained will be activated. Other data that has been maintained and activated in a parallel change request won't be overwritten by activating the current change request.

# 3 Step by Step Explanation for Parallel Changes

With this step-by-step explanation you will be able to support the following example scenario:

Master data users can request changes to the Basic Data of a Material in parallel to create/change unit of measure, to create/change data of a plant, and to create/change a new Distribution Chain.

The related change requests can be processed, activated, and rejected independently of each other.

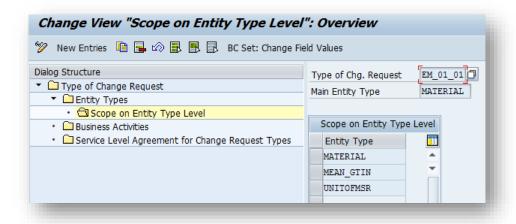
# 3.1 Create new Change Request Type for parallel Changes of Basic Data

u can configure these change request types in the Customizing activity *Create Change Request Type* under *Master Data Governance* → *General Settings* → *Process Modeling* → *Change Requests*.

Copy Change Request Type MAT02 and mark it as Parallel Change Request.



Maintain the scope. Select all Entity Types you would like to change with this Change Request Type.



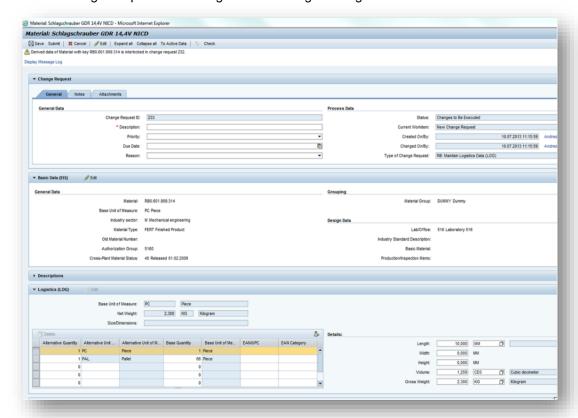
If entity MATERIAL, UNITOFMSR, or MEAN\_GTIN is in scope, **all 3** of them must be in scope because of standard derivations (like dimension data for the base unit of measure) between the entities.

#### 3.1.1 Interlocking

With the scope of the change request type, you define the entities that can be changed. However, they are not locked in the change request until you change data in the entity.

Therefore, it can happen that you create a change request with EM\_01\_01 and later in the process you want to change the Width and Height for the base unit in dimension UIBB (entity UNITOFMSR). But the standard derivations to the entity MATERIAL could not be carried out because the MATERIAL entity is interlocked in a

different Change Request. You will get the following message:



You can activate your change request, but the other change request will overwrite the values. To avoid this behavior, you can create a BRF+ Check Rule which allows changes only if the derivation to the other entities was successful (for example: Check if values for the dimension in UNITOFMSR are the same as for MATERIAL. If not raise an Error Message, and you are not able to save the Change Request).

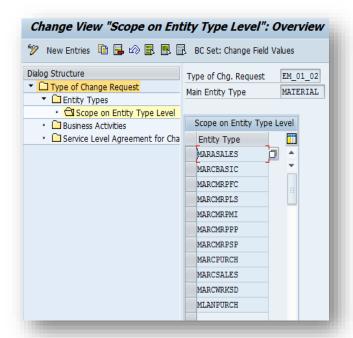
# 3.2 Create new Change Request Types for parallel Changes of Plants

You can configure these change request types in the Customizing activity *Create Change Request Type* under *Master Data Governance* → *General Settings* → *Process Modeling* → *Change Requests*.

Copy Change Request Type MAT02 and mark it as Parallel Change Request.



Maintain the scope. Select all Entity Types you would like to change with this Change Request Type.

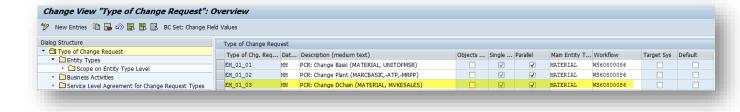


If you want to create a new Plant Assignment, MARCBASIC and all MARC\* Entities which have Required Fields (from T130F, Model, BAdI, BRF+ Checks...) must be in scope.

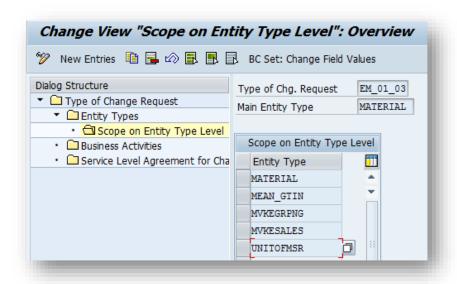
# 3.3 Create new Change Request Types for parallel Changes of Distribution Chain

You can configure these change request types in the Customizing activity Create Change Request Type under Master Data Governance  $\rightarrow$  General Settings  $\rightarrow$  Process Modeling  $\rightarrow$  Change Requests.

Copy Change Request Type MAT02 and mark it as a Parallel Change Request.



Maintain the scope. Select all Entity Types you would like to change with this Change Request Type.



# 3.4 Process

Create the first Change Request with Change Request Type EM\_01\_01.

You are only able to change the Basic Data. All other data is read-only and you see the values from the active area.

Create a second Change Request with Change Request Type EM\_01\_02.

You are only able to add a plant or change existing plant data. All other data is read-only and you see the values from the active area.

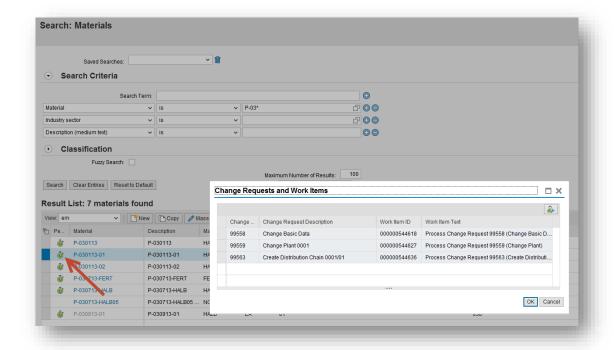
Create a third Change Request with Change Request Type EM\_01\_03.

You are only able to add a distribution chain or change existing distribution chain data. All other data is readonly and you see the values from the active area.

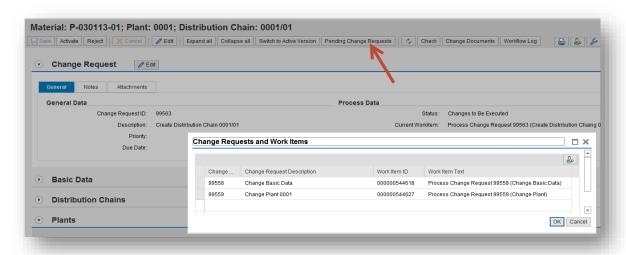
The change requests can be processed, activated, and rejected independently of each other.

# 3.4.1 Pending Change Request Pop-Up

A pop-up for Pending Change Request appears if there is more than one parallel Change Request. It appears if you click on the Pending Change Request Icon in the Search:



The pop-up also appears if you choose the Pending Change Request button in a Change Request for a material that has other Change Requests.



# 3.4.1.1 Force Pending Change Request Pop-Up

You can control the appearance of the pop-ups with an Overwrite-Exit in class CL\_MDG\_BS\_MAT\_APPCC.

If you want the Pending Change Request pop-up to *always* appear if at least one change request exists, you have to create an Overwrite Exit of method CL\_MDG\_BS\_MAT\_APPCC → SKIP\_CR\_WI\_POPUP.

# 3.4.1.2 Additional fields in the Pop-Up

If you want to display additional fields in the Pending Change Request pop-up, you have to:

- Implement your own feeder (inherit from standard feeder CL\_USMD\_CR\_WITH\_WORKITEM\_POPUP)
- Extend the new feeder with additional fields (IF\_FPM\_GUIBB\_LIST~GET\_DEFINITION)

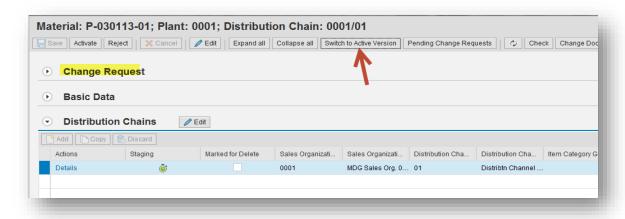
- Exchange the Feeder on pop-up (Web Dynpro Component MDG\_BS\_GOV\_COMMUNICATOR, Configuration USMD\_CR\_CR\_WITH\_WI)
- Extend the configuration with new columns
- Get the new data with IF\_FPM\_GUIBB\_LIST~GET\_DATA.

# 3.4.1.3 New Window to display Pending Change Request

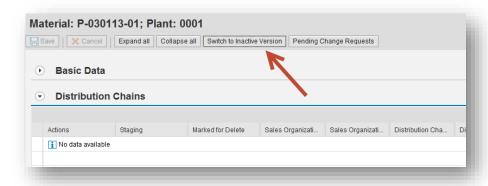
If you want to open a second window from the Pending Change Request pop-up, create an Overwrite Exit of method CL\_MDG\_BS\_MAT\_ASSIST\_UI  $\rightarrow$  NAVIGATE\_FROM\_OVP. Replace the call of the method NAVIGATE INPLACE with your own adapted call of the navigation method.

#### 3.4.2 Button 'Switch to Active Version'/'Switch to Inactive Version'

If you are in a Change Request, you can see the *Switch to Active Version* button which allows you to toggle between the selected Change Request Data and the Active Area.



#### Back:



# 4 Additional Information

# 4.1 Further Reading

#### 4.1.1 Information on SAP MDG on SAP S/4HANA

- Exchange knowledge: <u>SAP Community</u> | <u>Q&A</u> | <u>Blog</u>
- Try SAP Master Data Governance on S/4HANA for free: Trial Version
- Try SAP Master Data Governance on S/4HANA on the SAP Cloud Appliance Library: <u>S/4HANA 2022</u> FPS1
- Learn more: Latest Release | Help Portal | How-to Information | Key Presentations

#### 4.1.2 SAP Roadmap Explorer

• Please see the roadmap for SAP Master Data Governance

#### 4.1.3 Related Information

Learn more: Floorplan Manager for Web Dynpro ABAP | How to Adapt FPM | FPM Blog | How-to Information | Service Mapping Tool | SAP S/4HANA Cookbook CVI

# 4.2 SAP Notes

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

Note	Description
3043582	MDG Customer Connection 2020
3194967	MDG Customer Connection 2021 for S/4HANA 2022
3311039	MDG Customer Connection 2023
3134600	MDG-M: Supported fields in Data Model MM
<u>1806108</u>	Functional restrictions in MDG-M in MDG7 (incl. SP02)
2129261	Functional restrictions in MDG-M in MDG8
2284745	Functional Restrictions in MDG for Material with SAP Master Data Governance 9.0
2461516	Functional Restrictions in MDG for Material with SAP Master Data Governance 9.1
<u>2656693</u>	Functional Restrictions in MDG for Material in SAP Master Data Governance 9.2 and on SAP S/4HANA 1809
2816571	Functional Restrictions in MDG for Material on SAP S/4HANA 1909
2948873	Functional Restrictions in MDG for Material on SAP S/4HANA 2020
3070012	Functional Restrictions in MDG for Material on SAP S/4HANA 2021

3219945	Functional Restrictions in MDG for Material on SAP S/4HANA 2022
3374998	Functional Restrictions in MDG for Material on SAP S/4HANA 2023
2479869	Usage of Lean Classification with SAP Master Data Governance
1619534	How to Create, Enhance and Adapt FPM Applications
1637249	MDG: Information for efficient message processing
2105467	MDG Performance
2561461	Scope of support for SAP Master Data Governance (MDG)

