**CHANGE MANAGEMENT PROCEDURE**

Data Analytics DMPM

*‘Managing What is changed*

*by Whom, How, When and Why?*’

**Version history**

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| --- | --- | --- | --- | --- |
| **Version** | **Changes** | **Date** | **Effective as per** | **Author** |
| 0.1 | Draft | 2022-06-23 | NA | W. Bouma |
| 0.2 | Draft | 2022-11-04 | NA | W. Bouma |
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**TABLE OF CONTENTS**

[1. Objective 3](#_Toc118641792)

[2. Key Definitions 3](#_Toc118641793)

[3. Processes 6](#_Toc118641794)

[1.1. Register Change Requests 6](#_Toc118641795)

[1.2. Review Change Request 6](#_Toc118641796)

[1.3. (Pre)DPIA 7](#_Toc118641797)

[1.4. Complete Change Request 7](#_Toc118641798)

[1.5. Implement Change / Update Change Register 8](#_Toc118641799)

[Use of Version Control/ documenting change in Change Record 8](#_Toc118641800)

[Implementing changes 9](#_Toc118641801)

[1.6. Update Change Record, Plan and Assign Reviewer 10](#_Toc118641802)

[1.7. Review Changes 10](#_Toc118641803)

[1.8. Deploy Changes, Update Register, Inform requester and Update Service Overview (if applicable) 11](#_Toc118641804)

[4. Proces Flow Visualized 12](#_Toc118641805)

# Objective

The objective of this Procedure is to ensure that that standardized methods and procedures are used

by Dutch Mortgage Portfolio Management B.V. (hereafter referred to as DMPM) to enable beneficial changes to the Data Services provided by DMPM’s Data Analytics department.   
Requests for internal one-time analyses (Ad Hoc Products) are only registered for the purpose of prioritizing requests and managing the total workload by having of total overview of work done, under construction and still to be done.

Out of scope for this procedure are the changes executed by Quion on databases and/or Azure that may have a significant impact on DMPM’s Data Services.

# Key Definitions

The following terms shall have the meanings set forth below:

Ad Hoc Change A Change leading to the creation of an Ad Hoc Product. An Ad Hoc Product cannot be modified since it should be treated as if it no longer exists.

Ad Hoc Product A Product developed on a one-time-requester-use-only basis which is explicitly communicated to the requester. Since the Product is developed for one-time use only an Emergency Change can never apply for an Ad Hoc Product. Nor does it have an Owner.   
Furthermore, no other Products or Data Servicers may rely on the existence and the correct functioning of one or more Ad Hoc Products at any time. There is no guarantee that an updated version is quickly available. An Ad Hoc Product should be considered an Product that is deleted after delivery (even if that may not be the case).

Change A Change is defined by an addition, modification, or removal of any Change Item that could have an effect one or more Data Services. For the avoidance of doubt: a Change include any activity that may impact what is provided to whom (or where) and when. An on-demand update of an existing Data Service is not considered a Change. (Note that this does not apply for Ad Hoc Products as they are assumed to be non-existing after delivery)

Change Item Any Product, (configuration of) software, hardware and documentation (including Service Level Agreements) that is managed in order to deliver a Data Service.

Change Management Change Management Policy is the guiding standard that describes the

Policy procedures for, and specifies the rules and levels of authorization required to approve, different types of Changes.

Change RecordA Change Record contains all the details of a Change, documenting the lifecycle of a single Change. Each record contains the following information in the following sections;

Request information (provided by/derived from person requesting change)

* Date of request
* Name of Requester
* Name of the Product for which a change is requested (if applicable)
* Description of desired change or incident
* Priority

Additional information by Data Analytics or requester together with Privacy Offer):

* Is processing personal data required? and if yes:
  + Location DPIA or pre-DPIA.
  + Legal ground for processing data.

Additional information provided by Data Analytics (together with requester if needed)

* Name(s) of affected Change Item(s). (e.g. name of scripts or setting)
* Does the requester agree with Ad Hoc restrictions (see Ad Hoc Product) if applicable.
* Change type (standard, normal, ad hoc, emergency)
* Current status (either: Backlog, To do, Doing, Done)
* Name of assigned lead developer

Change Register The register maintained by Data Analytics containing Change Records. What changes are made when by whom on Change Records will be logged.

Change Request The request for a Change. For the avoidance of doubt this may for example include the request for an Ad Hoc Product.

Data Analytics The manager or any other member of the DMPM’s Data Analytics team reporting to the manager of DMPM’s Data Analytics team, which for the avoidance of doubt may include external resources hired by DMPM.

Data Service A Data Service is the service of delivering (or provide access to) any Product (‘what’) in time (‘when’) to the correct target audience (‘to whom’) or location (‘where’).

DMPM Dutch Mortgage Portfolio Management B.V.

Emergency Change An Emergency Change is a change that must be deployed as soon as possible in order to resolve an outage, address severe impact to the business and/or severe impact to the security baseline.

Normal Change A Normal Change is a change that does not have a preapproved standard operating procedure and not classified as an Emergency Change. It may include the fix of an existing Product but is not severe in terms of impact on the business. A request regarding an Ad Hoc Product is never a Normal Change but an Ad Hoc Change

Product Any online or offline dashboard, report, publication, script or any other type of output which is the result of data processing that are build and maintained by DMPM’s Data Analytics department. All data processing steps required for a correct and fully working Product form integral part of the Product. (e.g. functions, sourced scripts etc.). A Product can either be an Ad Hoc Product or Regular Product.

Service Overview A version controlled overview of all Data Services developed and maintained by Data Analytics and the corresponding ownership. This document is made accessible for each employee of DMPM. For the avoidance of doubt: the Service Overview does not contain Ad Hoc Products as they are assumed to be non-existing after first delivery.

Regular Product Every Product other than an Ad Hoc Product. Regular Products get assigned product names which recipients can reference to. Products are named [according to DMPM’s naming guidelines] for future reference.  
For the avoidance of doubt: a Regular Product may be a product that is developed with a one-time delivery in mind (e.g. an analyses for an external publication).

Standard ChangeA Standard Change is a pre-authorized change that is low-risk and predictable in its outcome. It is repeatable through defined work instructions (standard operating procedure). For Example: add an user and provide a access to a web application by following their standard operating procedures.

*Schematically:*

|  |  |  |
| --- | --- | --- |
| Product Type | Request for new | Request for change existing |
| Ad Hoc | Ad Hoc Change | *Not applicable* |
| Data Service | Normal Change | Normal Change  Standard Change  Emergency Change (request registered afterwards) |

Data Service

Ad Hoc Product

Regular Product

Other relevant Change Items that are required for the Regular Product to be delivered in time to correct target audience

# Processes

All changes to any Data Service should be managed and approved through the Change Management Process, regardless of source or type.

## Register Change Requests

All change requests must be registered in the Change Register before the start of implementing the change.

*Exception: Emergency Changes may be registered after the problem is fixed.*

A change request is either added to the Change Register by:

(1) Data Analytics on behalf of the requester and based on written request (to be attached with the request in the Change Register) by the requestor (e.g. email) or

(2) by the requester himself or

(3) by Data Analytics on their own initiative.

The latter is only allowed for:

* (re)developments of existing products based on an improved (re)design or fixes.
* Registry of Emergency Changes (after implementation Change)
* Data Services for which Data Analytics assigned herself as owner (e.g. Data Services build an maintained on Data Analytics own initiative, e.g. monitoring scripts)

## Review Change Request

Each new change request will first be checked by Data Analytics on the following:

* **Authority/ Ownership**  
  Is the requester authorized to request a change for the Data Service based on the Product’s ownership as included in the Service Overview?   
  If not, the requester is informed that the change will be declined and referred to the owner of the Data Service to discuss any changes.

Note:

1. A request for a new Data Service or Ad Hoc Product can be requested by anyone at any time and will never be declined based on ‘lack of authority argument’.
2. If a group of persons (e.g. a department or role) is assigned as an owner of a Data Service, each individual member of this group is fully authorized to request a Change for the Data Service. This requesting member is assumed to have pre-discussed the Change with the Product’s co-owners.
3. Change Requests for Data Services for which the ownership is not explicitly determined will be labeled ‘All’ (i.e. all employers of DMPM are allowed to request a change).   
   Changes in ownership can only be approved based on an approval of the previous owner(s) which should be documented together with the change for audit purposes.

As a result of legacy a Data Service may exist with the ownership labelled as ‘All’ (also meaning ‘Nobody’). The requester that will first request a change on such Service will be asked to be assigned the Owner.

* **Completeness**   
  Is the information in the request complete and clear for Data Analytics?   
  If not: the requester is requested to provide additional information.

*Exception: In case of issues with a severe impact for the business (Emergency Changes) fixing the issue has priority over following these process steps.*

## (Pre)DPIA

**TO BE FINALIZED**

For each request is determined whether or not one of the following applies:

* Is requested change to develop a new Data Service for the support of executing a new process (whether or not on behalf of a LOR) that requires processing personal data?
* Is the requested Change to grant access to an existing Data Service to members of other organizations?
* Does the requested Change require or result in processing additional personal data?
* Does the requested Change require or result in changing or adding data source containing personal data?
* Does the requested Change require or result in storage of additional personal data ?
* Is personal data used to treat (groups of) individuals differently?

If any of the questions above are answered with ‘Yes’ we contact the requester and together with the Privacy Offer determine whether or not a DPIA is required.

A requested Change will not be implemented before the pre-DPIA or DPIA process is completed if one or both are required.

If a (pre)DPIA process is executed a written approval is required by the Privacy Officer or a written statement why an approval is not required.

*Exception: Above does not apply for Emergency Changes since changes are only aimed to fix already approved functionality.*

## Complete Change Request

Once a Change Request is received Data Analytics on a regular basis discusses received requests. The requests are completed by:

* Register whether or not the requester agrees with the Ad Hoc restrictions (see Ad Hoc Product) (if applicable). If not the Change Request cannot be labelled an Ad Hoc Change and handled as such.
* Assigning a type to the Change Request (either Emergency Change, Standard Change, Ad Hoc Change or Normal Change)
* Adding additional information (attachment or link with relevant information (e.g. DPIA))
* Prioritize and plan the Change (based on priority and complexity)
* Assigning a lead developer (once a Change is about to be implemented) who will implement the change (or is the primary contact for both requester as other developers)

***Standard Changes/ Standard Operating Procedure***

A change can only be labeled a standard Change (by Data Analytics) when an approved Standard Operating Procedure exists for the requested Change.

When a Standard Operating Procedure does not yet exists but a similar change is expected to be requested repeatedly in the future best practice is that a Standard Operating Procedure is drafted so the next time a similar request can be treated as a Standard Change. The current request however should due to the presence of a reviewed Standard Operating Procedure by handled as an Normal Change.   
During the implementation phase the Standard Operating Procedure must be (1) reviewed and (2) tested by DMPM Analytics through a four-eye-principle, together with the implemented Changes (if any).

All Standard Operating Procedures are centrally stored […]/ in the readme file/ in the repository/other.

***Ad Hoc Change***

A change can only be labeled an Emergency Change, Standard Change or a Normal Change when the Change refers to a Data Service delivering a Regular Product.

## Implement Change / Update Change Register

### Use of Version Control/ documenting change in Change Record

Who made what Changes on Data Services based on what request or feedback should be documented at all times. This in order to perform audits and revert changes in case of serious unexpected behaviour.

At least the following items should be version controlled using Git [according to DMPM’s Git guidelines]

* All R-based scripts that form part of any Regular Product (including shiny dashboards and API’s)
* All power BI files required for dashboard that are or form of part of any Regular Product
* All Standard Operating Procedures
* The Service Overview
* Dockerfiles, pipelines
* All users and their authorizations to any Data Service [User Overview]
* All Policies or Guideline this Policy may refers to
* This Change Management Procedure itself

Each Change Record should provide the information to get a clear and complete overview of all implemented Changes;

* The git repository and branche(s) in which the Change is implemented is recorded in the Change Record.
* A description of implemented changes in other kind of systems or platforms (e.g. change of system environment variable or adding an user to DMPM’s Active Directory) will be recorded in the Change Record.

### Implementing changes

The steps to follow during implementation amongst other vary by the Change Type

***Ad Hoc Changes***

Ad Hoc Products are assumed to be non-existing after delivery. If a request for change is received for an Ad Hoc Product that has already been delivered before, the request therefore should be considered a request for a new Ad Hoc Product. After all, there is no certainty whatsoever the Ad Hoc Product still exists or functions provide the output as it once did. (e.g. changes in functions may have impacted the Ad Hoc Product). A developer may of course choose to determine if and what elements of a previous version (if exists) are still useable.

A developer may also solely decide to change the label from Ad Hoc Change to Normal Change and follow the corresponding change management process. Even if the requester has agreed with the Ad Hoc limitations (see Ad Hoc Product). This for instance if an update for an Ad Hoc Product is requested on a regular basis. In this situation the Ad Hoc Product becomes a Data Service which has to added to the Service Overview.

Important: If the developer wants to develop a Product that requires a Change that might have impact on any Regular Product (e.g. using a changed internal package) the Change must be labelled a Normal Change and follow the Normal Change process.

***Standard Change***  
In case a change is labeled as Standard Change the change must be implemented by strictly following the Data Service’s (most recent version of the) Standard Operating Procedure.

If during the implementation of a Standard Change the Standard Operating Procedure appears to be incorrect, unclear or incomplete the process for a Normal Change applies and the Standard Operating Procedure should be amended and reviewed in order for the next similar request to be able to be handled as an Standard Change again.

***Normal Change***

*Determine preferred short and long term solution*

The developer who is assigned a Normal Change will first determine the strategy to implement the requested Change. Sometimes the solution is obvious. Sometimes there are multiple alternative solutions that could be considered. These solutions can vary from a very straight forward adjustments to highly sophisticated solutions based on a full redesign that (potentially) impact multiple Data Services.

The developer makes a decision taking into consideration risk, requests priority, benefits and costs. If the preferred approach is to implement more elegant, better solutions in the future such suggestion or idea is recorded in the Change Register for future discussion and follow-up.

*Potential Impact related Change Items*

A developer will always assess beforehand how the Change Items that are intended to be altered are intertwined in order to obtain a total overview of what Data Service may be impacted.

***High risk solutions***

If the developer intends to implement a solution that either is;

(1) irreversible and/or;

(2) can only be implemented directly in a production environment without the possibility of testing the results or;

(3) (potentially) impact multiple other Data Services

the developer will always discuss with its team members if, how and when to implement the intended solution.

***Functional Design***A Functional Design (or an equivalent thatprovides detailed informationhow information should be interpreted) is required for at least the Data Services that meet one of the below requirements:

* The Data Service is used (or it may reasonably expected to be used) to comply with regulations.
* […]

The developer drafts or updates an Functional Design if required.

Functional Designs will be centrally stored […]/in the repository/other.

**Styling/look-and-feel**

Data Services that are recurrently delivered to/are constantly available for external recipients must comply with the requirements as set out in [Data Analytics Styling Guidelines].  
This to ensure a constant, recognizable and professional style.

**PowerBI**

Changes in Powerbi dashboards that form part of a Data Service will be implemented using deployment pipelines.

## Update Change Record, Plan and Assign Reviewer

*Below only applies for Normal Changes. Standard Changes, Ad Hoc Changes and Emergency Changes do not require a review by a third person.*

Once the developer is ready implementing the changes it updates the Change Record so that it is clear that a review can be performed and a reviewer should be assigned to the Change Request.

Data Analytics will discuss who can best perform the review based on background, learning objectives, work load and priority.

## Review Changes

Normal Changes require a review (four-eye-principal) before taken officially taken into production. If a review after implementation is for whatever reason impossible (e.g. because there is no possibility to test the changes) the developer will closely involve the reviewer during the development process.

The reviewer either provides feedback and suggestions on the Changes in Change Items and/or documentation (in which case the developer is asked to implement the suggestions) or all changes are accepted.

For the avoidance of doubt: the reviewer will also check if Functional Designs, Service Overview, Standard Operating Procedures or any other relevant documentation is updated correctly. Reviews are performed in line with DMPM’s [developing and documentation] guidelines

## Deploy Changes, Update Register, Inform requester and Update Service Overview (if applicable)

In case all Changes are accepted (which might take a few iterations) the reviewer informs the developer that the changes are approved and can be deployed to production (e.g. by merging develop branche with the main branche).

The developer will inform the requester together with any additional documentation and disclaimers (if applicable).

Furthermore the Developer updates the Change Record and if applicable updates the Service Overview (e.g. by adding the Data Service in case of a new Data Service)

# Proces Flow Visualized

