

SAP BUSINESS TECHNOLOGY PLATFORM | EXTERNAL

Configuration Guide

Plant Maintenance Order Date Change Notification

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Overview

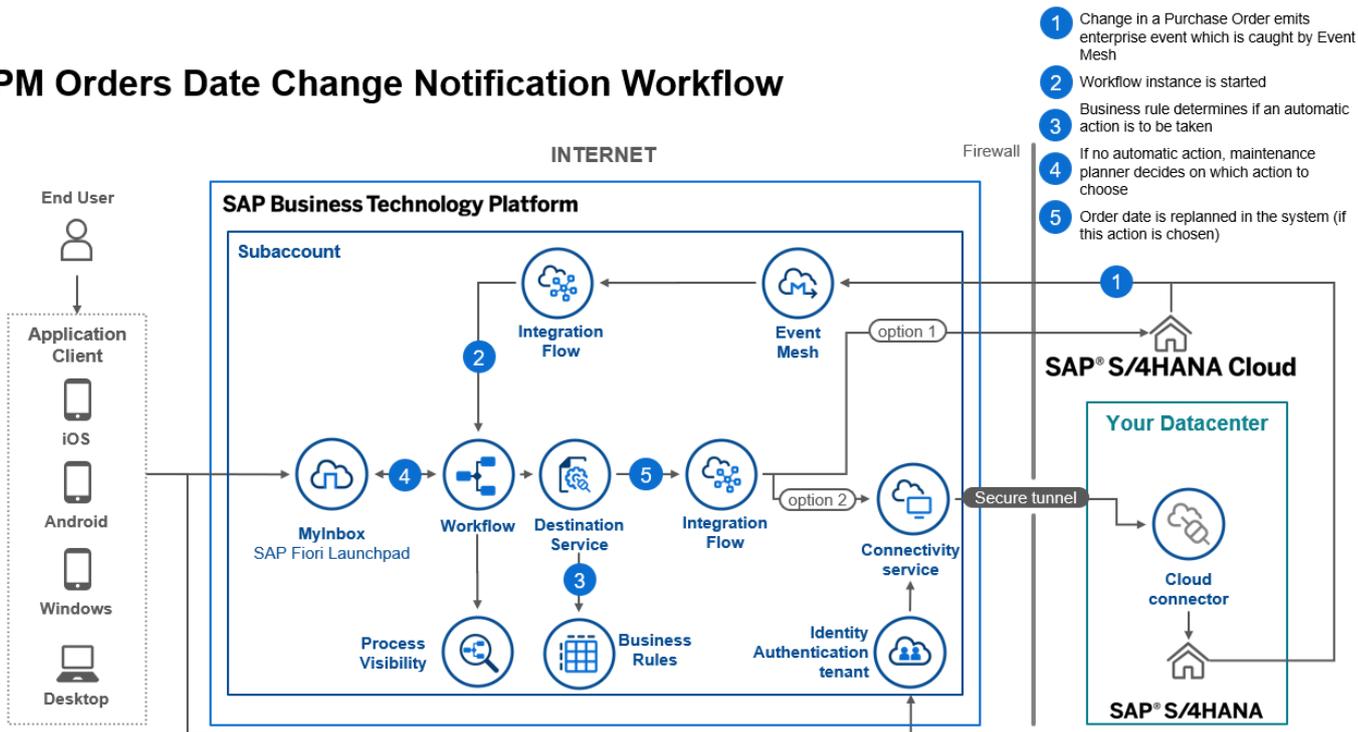
This document provides information about configuration steps to consume the package **Plant Maintenance Order Date Change Notification**. The main audience of this document are Plant Maintenance Planners, Procurement Leads, Developers and Product Owners.

This scenario enables maintenance planners to react to delays in the delivery of components required for plant maintenance orders. When an update to a purchase order or an associated document occurs, the workflow checks if there is a scheduling conflict (e.g., delivery date of vendor confirmation for a component is later than the start date of the maintenance order). In case of a conflict the maintenance planner is informed and can decide between the following actions: They can replan the maintenance order to a later date, can request a supplier change by a procurement responsible or can choose to just accept the delay.

This package includes the following features:

- React to changes to the Purchase Order with event-based integration with Event Mesh
- Automatic determination of procurement responsible based on Responsibility Management
- Automatic replanning of the maintenance order based on the availability date of the parts taking into account the material goods receipt duration

PM Orders Date Change Notification Workflow



Artifacts

A package consists of process templates, process steps, process variants, decisions, and process visibility models. Please refer [help documentation](#) about these artifacts.

Process

A process template is a set of business activities and tasks that, once completed, fulfills an organization goal. The **Plant Maintenance Order Date Change Notification** package contains the following process template:

PMOrdersDateChangeNotification

A business process can be broken down logically into smaller parts or steps. Each process step is a collection of activities to perform a specific task. For example, an approval process step can contain activity to determine the approvers, approval task, notifications, and handle the approval result. Table 1 represents the list of process steps/sub flows available to be used in **Plant Maintenance Order Date Change Notification**.

Table 1. Process Steps

Process Steps	Cardinality	Detailed Description
AutomaticActions	1..1	Determine if an automatic action can be taken and if so, which action should be taken. This step is mandatory
ManualActions	1..1	If no automatic action can be taken, it must be decided manually what to do in this case. This step therefore acts as a fallback to the optional AutomaticActions step. It will create a user task in the inbox of the maintenance planner where they can decide what to do.
ExecuteActions	1..1	This step will execute the actions determined by the previous steps. It either replans the order, creates a task in the inbox of the automatically determined purchase or will do nothing and accept the delay

The process has attributes, and these attributes are available in process visibility to search approval process instances and to define process performance indicators. Please see Table 3 for more details.

Table 3. Process Attributes.

Process Attributes	Detailed Description
AutomaticAction	Was an automated action taken?
DeterminedAction	Which action was determined? Replan/Accept/ChangeSupplier
MaintenanceOrder	ID of the maintenance order
TypeOfConflict	Type of conflict that was detected
AmountDiscrepancy	Discrepancy between the requested and the confirmed amount
DaysDelay	Discrepancy between the requested and the confirmed date
ResponsibleProcessor	Who was determined to make the decision?
Supplier	Which is the supplier causing the delay?
NewSupplier	Which is the supplier chosen to solve the delay?

OrderType	Type of the maintenance order
------------------	-------------------------------

Sample Conditions to directly start a variant workflow

```
{  
  "PurchaseOrder": {  
    "PurchaseOrder": "<ID>"  
  }  
}
```

Process Variants

A process variant consists of multiple process steps configured by a line of business expert. It is possible to create multiple variants of the same process. For example, a variant could be configured that does not contain an AutomaticActions step to only allow manual processing.

Please refer [help documentation](#) about how to import content packages and configure a process variant.

The screenshot displays the SAP Manage Process Variants interface. The main window shows a process flow diagram for the variant 'PM Order Date Change Notification Default'. The flow starts with a green start node, followed by three steps: 'AutomaticActions', 'ManualActions', and 'ExecuteActions', ending with a red end node. The 'Available Steps (3)' panel on the left lists the step types: 'AutomaticActions' (Determine if an automatic action can be taken and if so, which action should be taken), 'ExecuteActions', and 'ManualActions'. The 'Process Variant Properties' panel on the right shows the variant name, process ID, and description.

Available Steps (3)

- AutomaticActions
Determine if an automatic action can be taken and if so, which action should be taken.
- ExecuteActions
ExecuteActions
- ManualActions
ManualActions

Process Variant Properties

Name *
PM Order Date Change Notification Default

Process
PMOrdersDateChangeNotification

Description
PmOrderDateChangeNttDefault

Import Manage Credit Block on Sales Order Content and Configure Process Variants

1. In Process Flexibility Cockpit app, search for content package **PM Orders Date Change Notification**. and import the same. Please refer the standard help document about [how to import a content package](#). This content package has one process template and process variant(s) for that template are required.
2. Open content package in Flexibility Cockpit and click Process Variants tile.
3. Click New Process Variant.
4. Enter Name of the new Process Variant (ex, default) and select “PmOrderDateChangeNtfDefault” as Process.
5. Click the newly created Process Variant tile to save and activate the process variant.
6. The process variant has a default implementation with two steps.
7. It is possible to remove steps like “AutomaticActions” from a process variant. Please note that whether a step is mandatory or optional, and how many a times any step can be used within a variant, are dependent on the constraints defined on the process steps.
8. Save and activate the variant. A successful activation will create a new workflow definition in the account that can be viewed in the Monitor Workflows – Workflow Definition app in SAP Fiori Launchpad.
9. Update the Determine Process Variant Policy and include the newly created workflow definition ID in the rule

AutomaticActions

Determines automatically with the help of a Business Rule if the action to take for this conflict should be taken automatically and if so, which action to choose

1. Place this step at the beginning of the variant. Place this step only once

ManualActions

Determines the responsible maintenance planner and enables them to decide on the action to take in a user task

1. Place this step after the AutomaticActions and before the mandatory ExecuteActions step. Place this step only once

ExecuteAction

Executes the determined actions. This can either be an automatic replanning of the order, an additional user task for the procurement responsible or the acceptance of the delay.

1. Place this step at the end. Place this step only once

Decisions & Policies

Decisions allow to encapsulate the business logic from core applications and supports the reuse of business rules across different business processes. Decisions enable customers to adopt changes in processes without changing the underlying workflows or application logic. SAP Workflow Management has business rules capabilities that enables customers to centrally manage all decisions. Please go through the [business rules capabilities](#) in SAP Workflow Management.

Plant Maintenance Order Date Change Notification enable customers to flexibly configure decisions to gain flexibility to

1. DetermineMaintenancePlanner
2. DetermineAppropriateAction
3. DetermineProcessVariant
4. DetermineUserIDFromEmail

DetermineMaintenancePlanner

Determine the maintenance planner to decide action

Rule Service Name: Determine maintenance planner

Input: Maintenance order data (Structure)

Contains all information of maintenance orders.

ATTRIBUTE	TYPE	DESCRIPTION
Functional location	String	Functional location
Equipment	String	Equipment
Maintenance planner group	String	Maintenance planner group
Maintenance planning plant	String	Maintenance planning plant
Maintenance order type	String	Maintenance order type
Maintenance plant	String	Maintenance plant
Operation person responsible	String	Operation person responsible
Material group	String	Material group
Work center	String	Work center
Work center plant	String	Work center plant
Order category	String	Order category
Order type	String	Order type
Plant	String	Plant

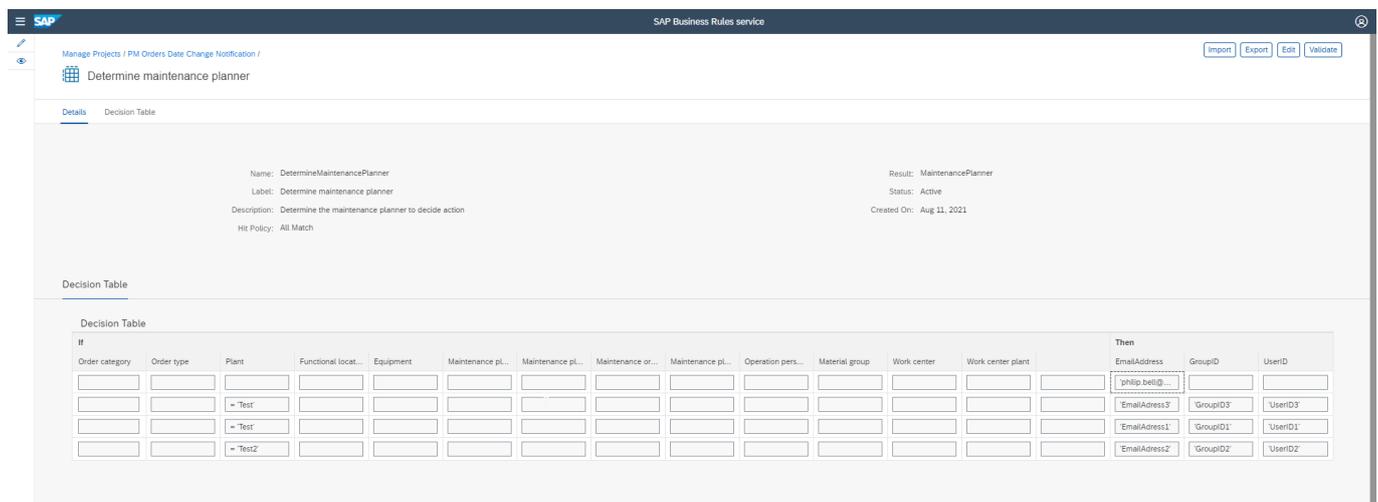
Output: Maintenance planner (Structure)

Contains all relevant attributes of a maintenance planner.

ATTRIBUTE	TYPE	DESCRIPTION
User ID	String	User ID that is unique identifier in the BTP
Group ID	String	A group ID where the user belongs to
Email	String	E-Mail address, to contact the user

Rule Definition

The rule service uses the rule DetermineMaintenancePlanner to determine the details of the planner such as email address, group ID, and user ID.



Where used

Step: Determine maintenance planner

DetermineAppropriateAction

Determine the action which will be executed during the maintenance order execution.

Rule Service Name: Determine appropriate action

Input: Maintenance order data (Structure)

Contains all information of maintenance orders.

ATTRIBUTE	TYPE	DESCRIPTION
Functional location	String	Functional location
Equipment	String	Equipment
Maintenance planner group	String	Maintenance planner group
Maintenance planning plant	String	Maintenance planning plant
Maintenance order type	String	Maintenance order type
Maintenance plant	String	Maintenance plant

Operation person responsible	String	Operation person responsible
Material group	String	Material group
Work center	String	Work center
Work center plant	String	Work center plant
Order category	String	Order category
Order type	String	Order type
Plant	String	Plant

Output: Action (Structure)

Contains all relevant attributes of a maintenance planner.

ATTRIBUTE	TYPE	DESCRIPTION
Chosen Automatic Action	String	Which action to execute? (REPLAN ACCEPT CHANGESUPPLIER)
Automatic Action Possible	String	Is an automatic action possible? (MANUAL AUTOMATIC)

Rule Definition

The rule service uses the rule DetermineAppropriateAction to determine the details of the planner such as email address, group ID, and user ID.

The screenshot displays the SAP Business Rules service interface for the rule 'Determine appropriate action'. The 'Details' section provides the following information:

- Name: DetermineAppropriateAction
- Label: Determine appropriate action
- Description: Determine the action which will be executed during the maintenance order execution.
- HR Policy: First Match
- Result: Action
- Status: Inactive
- Created On: Sep 29, 2021

The 'Decision Table' section shows the following structure:

If													Then	
Order category	Order type	Plant	Functional locat...	Equipment	Maintenance pl...	Maintenance pl...	Maintenance or...	Maintenance pl...	Operation pers...	Material group	Work center	Work center plant	Chosen automa...	Automatic actio...
				= 'EQUI1'									'PENDING'	'MANUAL'
				= 'PLANNER...									'REPLAN'	'AUTOMATIC'
				= 'PLANZ'									'ACCEPT'	'AUTOMATIC'
													'ACCEPT'	'AUTOMATIC'

Where used

Step: AutomaticAction

DetermineProcessVariant

Determines the process variant to start based on maintenance order data

Rule Service Name: Determine process variant

Input: Maintenance order data (Structure)

Contains all information of maintenance orders.

ATTRIBUTE	TYPE	DESCRIPTION
Functional location	String	Functional location
Equipment	String	Equipment
Maintenance planner group	String	Maintenance planner group
Maintenance planning plant	String	Maintenance planning plant
Maintenance order type	String	Maintenance order type
Maintenance plant	String	Maintenance plant
Operation person responsible	String	Operation person responsible
Material group	String	Material group
Work center	String	Work center
Work center plant	String	Work center plant
Order category	String	Order category
Order type	String	Order type
Plant	String	Plant

Output: Process Variant (Structure)

Contains all relevant attributes of a maintenance planner.

ATTRIBUTE	TYPE	DESCRIPTION
Variant Name	String	The name of the process variant
Process responsible admin	String	The responsible administrator
Escalation time	String	Escalation Time in Hours

Rule Definition

The rule service uses the rule DetermineProcessVariant to determine the details of the planner such as email address, group ID, and user ID.

SAP Business Rules service

Manage Projects / PM Orders Date Change Notification / Determine process variant / Determine process variant

Import Export Edit Validate

Determine process variant

Details Decision Table

Name: DetermineProcessVariant
 Label: Determine process variant
 Description: Determine the process variant which is used as a start condition in the workflow.
 HIT Policy: First Match

Result: ProcessVariant
 Status: Inactive
 Created On: Sep 29, 2021

Decision Table

Decision Table													Then		
Order category	Order type	Plant	Functional locat...	Equipment	Maintenance pl...	Maintenance pl...	Maintenance or...	Maintenance pl...	Operation pers...	Material group	Work center	Work center plant	Process respon...	Variant Name	Escalation time
													Process name (as...)	pmorddatec...	1

Where used

Step: StartVariant

DetermineUserIDFromEmail

Determines which User ID belongs to a given email address. This is used to be able to assign the user task to the procurement responsible as no BTP User ID is returned from Responsibility API

Rule Service Name: Determine process variant

Input: EmailAddress (String)

Output: UserID (String)

Rule Definition

The rule service uses the rule DetermineUserIDFromEmail to determine the UserID

The screenshot displays the SAP Business Rules service interface. At the top, the SAP logo and 'SAP Business Rules service' are visible. The breadcrumb path is 'Manage Projects / Plant Maintenance Order Date Change Notification / Determine User ID From Email'. Action buttons for 'Import', 'Export', 'Edit', and 'Validate' are present. The 'Details' tab is active, showing the following information:

Name: DetermineUserIDFromEmail	Result: UserID
Label: Determine User ID From Email	Status: Active
Description: Determine User ID From Email	Created On: Nov 13, 2021
Hit Policy: First Match	

The 'Decision Table' tab is also active, showing a single rule entry:

If	Then
Email Address = 'jane.doe@sap.com'	UserID 'DOEJANE1'

Where used

Step: StartVariant

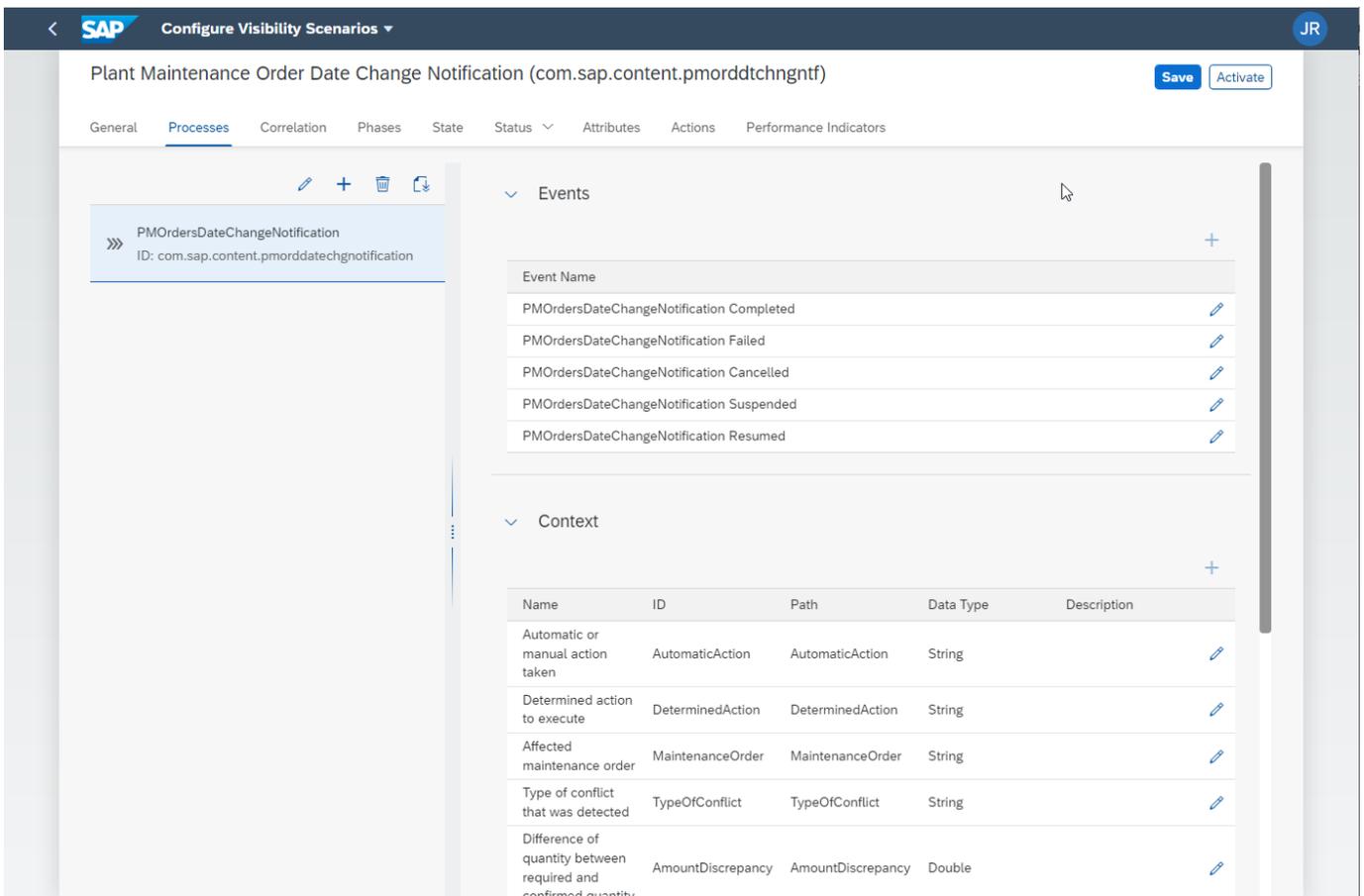
Process Visibility

Process Visibility capability in SAP Workflow Management enables Process Owners and Process Operators to gain real time visibility on processes and key process performance indicators. It also enables customers gain out of the box process visibility into their deployed processes. Please refer [help documentation](#) for more details.

Plant Maintenance Order Date Change Notification process content package provide out of the box visibility on all the process variants in SAP Workflow Management. Line of business expert will be able to enhance the visibility scenario to their requirements.

Configure Visibility Scenarios

1. Go to Process Flexibility Cockpit.
2. Select **Plant Maintenance Order Date Change Notification** tile.
3. Click Visibility Scenarios tile.
4. Select Plant Maintenance Order Date Change Notification scenario

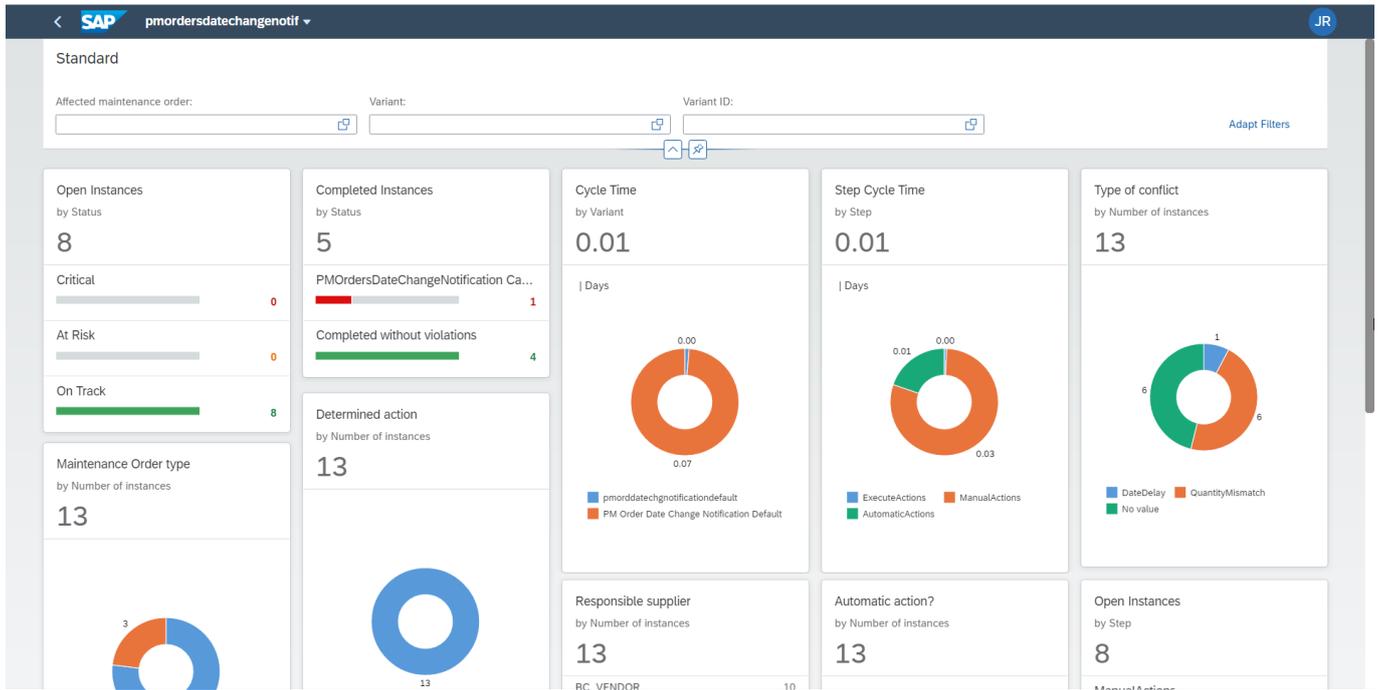


Please go through [help documentation](#) on how to model a visibility scenario.

Access Process Workspace

1. Go to Process Flexibility Cockpit

2. Select **Plant Maintenance Order Date Change Notification**
3. Click Live Process Insights **Plant Maintenance Order Date Change Notification**
4. User will see the below detailed process visibility dashboard.



Please go through [help documentation](#) on how to access process workspace.