BW Industrial - Mecano (WBP)

General presentation

Objective of the application

The application loads data of the Plant Maintenance domain from ECC into BW. It takes every week snapshots based on the current state of the data to calculate the KPI. The snapshots are loaded into a Qlikview dashboard.

Main documentation:

- Dataflow Architecture
- Monitoring Procedure (with already known issues)
- List of Jobs in ECC and Process Chains in BW
- List of BEx Core Reports
- Functional Administrator Guide for BW (for setting tables)
- Functional Guide for KPI

List of contacts:

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Usage information

Around XX key users on BW and XXX end users on QV. The tools is used by five plants worldwide during the PoC and the first deployment, it will be opened progressively to new plants.

Roles & Access

Roles and access

- Authorization role : ZR_RCS_PM_A02: Maintenance Orders Applications - End User role
- Role menu : ZR_RCS_CA_M08: PM - Plant Maintenance

Authorization objects

- Plant
- Company Code

Dataflow presentation

Overview

Functional and Technical rules on Workbench + Reporting

<detail of main topics with explanations of the rules and only the main + special rules about queries to run and use in the correct way

Dependencies :

- It shares extractors (2LIS_17_I3OPER, 0PM_OM_OPA_2/3) with the legacy PM application for RCS.
- It shares texts of master data Notification and Work Order with PUNCH.
- Some data is calculated in ECC with program ZWBWF00100 every day at 23:00 GMT+1 before being loaded in BW. BW Snapshots run at 01:00 GMT+1.
- Data is consumed by Qlikview dashboard. The loadings in QV are weekly and done on Monday at 05:00 GMT+1. One KPI is also loaded every day in QV.
- There is no links in the loadings between SAP, BW and QV. It run on a fixed scheduled, the loadings must be finished when the next start.

MECANO KPI

The detail of each KPI

The link between BW queries and PC and QV queries for each KPI

Catalogue	WOM Step	KPI #	KPI NAME	BW Aggregated Query for QV	Description (EN)	BW Detailed Report Query	Description (EN)	Process Chain (Up-to-Date --> Snapshot (Solvay/ Rhodia)
Efficiency	Gatekeeping	2.01	Created Notification by Priority	QVMECANO_BW_QRY_MVPMNO04_0001	BW-MECANO (QV) - PM - Notification by Priority (CQ)	BW_QRY_MVPMNO02_0001	BW-MECANO - PM - Notification by Priority - SnapShot (CQ)	PC_PM_NOTIF_01 / PC_PM_NOTIF_06 PC_PM_NOTIF_02 / PC_PM_NOTIF_07
Efficiency	Gatekeeping	2.02	Notifications without assigned Work Orders	QVMECANO_BW_QRY_MVPMNO04_0001	BW-MECANO (QV) - PM - Notification by Priority (CQ)	BW_QRY_MVPMNO02_0001	BW-MECANO - PM - Notification by Priority - SnapShot (CQ)	PC_PM_NOTIF_01 / PC_PM_NOTIF_06 PC_PM_NOTIF_02 / PC_PM_NOTIF_07
Efficiency	Planning	2.03	Portfolio of Work Orders by status	QVMECANO_BW_QRY_MVPMOR04_0001	BW-MECANO (QV) - PM - Order by Status (CQ)	BW_QRY_MVPMOR02_0001	BW-MECANO - PM - Order by Status - SnapShot (Core Query)	PC_PM_ORDER_01 / PC_PM_ORDER_06 PC_PM_ORDER_02 / PC_PM_ORDER_07
Efficiency	Planning	2.04	Planned Work (Backlog)	QVMECANO_BW_QRY_MVPMOP04_0002	BW-MECANO (QV) - PM - KPI Operation - BW SnapShot (CQ)	BW_QRY_MVPMOP02_0002	BW-MECANO - PM - KPI Operation - BW SnapShot (Core Query)	PC_PM_ORDER_01 / PC_PM_ORDER_06 PC_PM_ORDER_02 / PC_PM_ORDER_07

Efficiency	Planning	2.05	Delayed Notifications by Type	QVMECANO_BW_QRY_MVPMNO04_0001	BW-MECANO (QV) - PM - Notification by Priority (CQ)	BW_QRY_MVPMNO02_0001	BW-MECANO - PM - Notification by Priority - SnapShot (CQ)	PC_PM_NOTIF_01 / PC_PM_NOTIF_06 PC_PM_NOTIF_02 / PC_PM_NOTIF_07
Efficiency	Scheduling	2.06	Weekly Schedule Compliance	QVMECANO_BW_QRY_MVPMOP04_0001	BW-MECANO (QV) - PM - KPI Operation - GWOS Weekly SnapShot (CQ)	BW_QRY_MVPMOP02_0001	BW-MECANO - PM - KPI Operation - GWOS Weekly SnapShot (Core Query)	PC_PM_ORDER_01 / PC_PM_ORDER_06 PC_PM_ORDER_02 / PC_PM_ORDER_07 PC_PM_ORDER_08 / PC_PM_ORDER_09
Efficiency	Scheduling	2.07	Break in Works	QVMECANO_BW_QRY_MVPMOP04_0001	BW-MECANO (QV) - PM - KPI Operation - GWOS Weekly SnapShot (CQ)	BW_QRY_MVPMOP02_0001	BW-MECANO - PM - KPI Operation - GWOS Weekly SnapShot (Core Query)	PC_PM_ORDER_01 / PC_PM_ORDER_06 PC_PM_ORDER_02 / PC_PM_ORDER_07 PC_PM_ORDER_08 / PC_PM_ORDER_09
Efficiency	Scheduling	2.08	Available Weekly Scheduled Resources	QVMECANO_BW_QRY_MVPMOP04_0005	BW-MECANO (QV) - PM - KPI Operation - Capacity SnapShot (CQ)	BW_QRY_MVPMOP04_0005	BW-MECANO - PM - KPI Operation-% Available Resources snapshot(CQ)	PC_PM_ORDER_01 / PC_PM_ORDER_06 PC_PM_ORDER_02 / PC_PM_ORDER_07
Efficiency	Scheduling	2.08	Available Weekly Scheduled Resources			BW_QRY_MVPMOP04_0004	BW-MECANO - PM - KPI Operation - Capacity snapshot (CQ)	PC_PM_ORDER_01 / PC_PM_ORDER_06 PC_PM_ORDER_02 / PC_PM_ORDER_07
Efficiency	Scheduling	2.09	Unscheduling Rate	QVMECANO_BW_QRY_MVPMOP04_0001	BW-MECANO (QV) - PM - KPI Operation - GWOS Weekly SnapShot (CQ)	BW_QRY_MVPMOP02_0001	BW-MECANO - PM - KPI Operation - GWOS Weekly SnapShot (Core Query)	PC_PM_ORDER_01 / PC_PM_ORDER_06 PC_PM_ORDER_02 / PC_PM_ORDER_07 PC_PM_ORDER_08 / PC_PM_ORDER_09
Efficiency	Execution	2.10	Wrench Time					
Efficiency	Execution	2.11	Barcode Scanning Rate	QV_BW_QRY_MVPMOP02_0010		BW_QRY_MVPMOP02_0010		PC_PM_ORDER_01 / PC_PM_ORDER_06 PC_PM_ORDER_02 / PC_PM_ORDER_07
Efficiency	Execution	2.12	Respect of Notification Date	QVMECANO_BW_QRY_MVPMOR04_0001	BW-MECANO (QV) - PM - Order by Status (CQ)	BW_QRY_MVPMOR02_0001	BW-MECANO - PM - Order by Status - SnapShot (Core Query)	PC_PM_ORDER_01 / PC_PM_ORDER_06 PC_PM_ORDER_02 / PC_PM_ORDER_07
Efficiency	Scheduling	2.13	Daily Schedule Compliance	QVMECANO_BW_QRY_MVPMOP04_0006	BW-MECANO (QV) - KPI Operation - GWOS Daily Snapshot (Detail) (CQ)	BW_QRY_MVPMOP02_0003	BW-MECANO - PM - KPI Operation - GWOS Daily SnapShot (Core Query)	PC_PM_ORDER_01 / PC_PM_ORDER_06 PC_PM_ORDER_02 / PC_PM_ORDER_07 PC_PM_ORDER_08 / PC_PM_ORDER_09
Efficiency	Execution	2.14	Backlog in number of weeks					
Effectiveness	OEE	3.01	OEE losses C2&C4					
Effectiveness	OEE	3.01	Perform OEE					
Effectiveness	Proactive	3.02	Respect of Plan Maintenance	QVMECANO_BW_QRY_MVPMCL01_0001	BW-MECANO (QV) - PM - Maintenance Plan Calls - SnapShot (CQ)	BW_QRY_MVPMCL01_0001	BW-MECANO - PM - Maintenance Plan Calls - SnapShot (CQ)	PC_PM_CALL_01 / PC_PM_CALL_02 PC_PM_CALL_03 / PC_PM_CALL_07
Effectiveness	Reactive	3.03	Number workorder / Equipmenet					
Effectiveness	Reactive	3.04	Number of PSS / RCFA and impact					
Effectiveness	Proactive	3.05	Number of FMECA and impact					

Data loadings

Info providers and objects loaded, Loading frequency and Average performance

- **SAP**

Jobs WP1 + PF1 for GWOS KPI. Every night from Monday to Friday, and every Sunday at 23:00 GMT+1. Duration 10 minutes.

- **BW**
  - **PC_PM_MECANO_01** (MECANO 01:00). Daily data loadings in BW. Every night from Sunday to Thursday at 20:00 GMT+1. Duration 3 hours.
  - **PC_PM_MECANO_02** (MECANO 02:00). Weekly calculation of KPI. Every Monday at 01:00 GMT+1. Duration 1 hours and a half. It sends an email at the end.
  - **PC_PM_MECANO_03** (MECANO 03:00) : Daily and Weekly loadings of GWOS KPI (2.4, 2.10, 2.14, 2.15, 2.16). Every night at 01:00 GMT+1. Duration 10 minutes.
  - **PC_PM_MECANO_04** (MECANO 04:00) : Daily loadings of maintenance costs. Every night after FI loadings in RSP_DAILY. Duration 30 minutes.

Impact between Process Chain PC_PM_MECANO_01 and PC_PM_MECANO_03.

Even if those metachains are independent technically, some DSO from PC_PM_MECANO_03 needs some DSO loaded from PC_PM_MECANO_01 .

Some events have been created, to avoid load wrong data:

- Solvay side - PC_PM_ORDER_01 (sub-chain of PC_PM_MECANO_01) after loading of DSO DBPMOR01 , event ZEVT_PC_PM_OPER_08 is generated. In chain PC_PM_OPER_08, DSO DBPMOP03 will be loaded after generation of event ZEVT_PC_PM_OPER_08.

- Rhodia side - PC_PM_ORDER_06 (sub-chain of PC_PM_MECANO_01) : after loading of DSO DBPMOR02 , event ZEVT_PC_PM_OPER_09 is generated. In chain PC_PM_OPER_09, DSO DBPMOP05 will be loaded after generation of event ZEVT_PC_PM_OPER_09.

- MECANO - PC_PM_MECANO_03 - After execution of process chain PC_PM_OPER_09, if it is in error program ZADM_RESET_INTERRUPT is executed on event ZEVT_PC_PM_OPER_09.

After execution of process chain PC_PM_OPER_08, if it is in error program ZADM_RESET_INTERRUPT is executed on event ZEVT_PC_PM_OPER_08.

- Process chain PC_PM_MECANO_02 should not be executed if PC_PM_MECANO_01 is not executed.

- **QV**

Loadings start every Monday at 05:00 GMT+1.

Historization

We keep all the data in the Up to Date DSO, and we keep only one year of history for Snapshots in DSO and cubes.

The deletion of old Snapshots is done in process chain based with deletion programs, it has been generated as described here : https://drive.google.com/file/d/19qMG61cpFfq0NTh8Jxen2yoCpAOjuD0S/view

The programs have been modified to fill automatically the parameter C_SNAPWK for the deletion from the setting RET_WEEK from master data C_GBLFILT.

Reporting

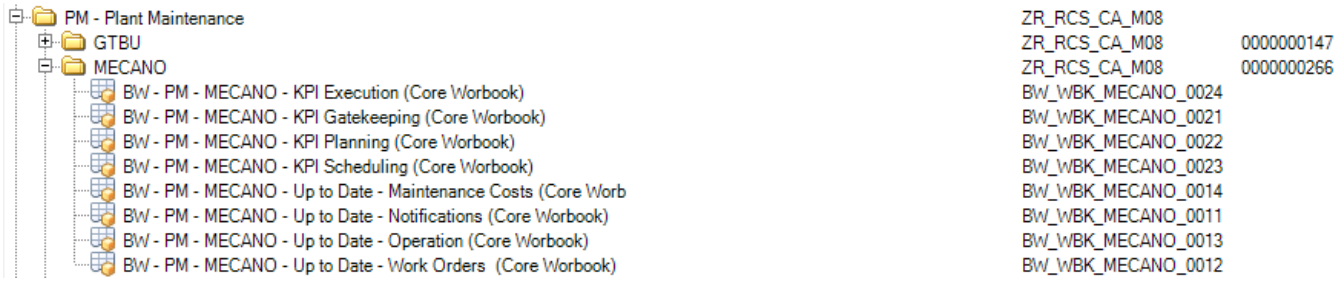
Queries Documentation or user guide

- List of BEx Core Reports
- Functional Guide for KPI

Main queries

- List of BEx Core Reports

Main workbookrs :



Main functionnalities

- Functional Guide for KPI
- Qlikview user manual

Broadcast

- None

Maintenance

Known bugs

- Refer to the known bugs in the recovery procedure: Monitoring Procedure (with already known issues)

Recurring procedure

- Monitoring Procedure (with already known issues)

Planned Evolution

Actions to plan for a deployment on a new plant:

- Grant users authorizations for reporting in BO Analysis and Qlikview.
- Create jobs for calculation of KPI 2.4, 2.10, 2.15 and 2.16 in ECC if needed.

MECANO - Planned Evolutions BW