

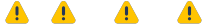
BW QM - Inspection Results (with Deliveries) !\ Obsolete !\



The new wiki link for this data flow is here:

[Technical Documentation - Quality Management Report](#)

Please update the doc there and no longer here.



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General presentation

Objective of the application

This application is used to follow:

- the Quality Results for Shipment
- As source of MiniCus or MniTab application
- To follow the Limites, Quantitative and qualitative results of the Quality inspections.
- Statistical ratios and calculations on the quality inspections results

Tool Leader + IT leader of the application:

Usage information

History

This application has been created in 2006 for Rhodia data (WP1). It was upgraded for Solvay data (PF1) in 2017. At the same time data from both Rhodia and Solvay was consolidated and optimized in a unique multiprovider, and the number of used queries was reduced to keep only those necessary.

In January-February 2019, the application has been updated to integrate the SA&D replacement for the LIMS solution. Changes are mostly consigned to Business and Reporting layers, with a couple new queries used in daily broadcasts (enabled on March 11th 2019). Main process chain PC_QM_00 has been split, to separate updated Multiprovider MVQM01 from MVQM02 because of time constraints on the broadcasting.

In August 2019, after HANA migration complete, we fix the issue of master data display and consuming database space of QM inspection lot by delivery (MVQM02 flow) by using calculation view and composite provider CPQM01 in stead.

In November 2019, we try to migrate all inspection lot report MVQM01, ODS_QM09, ODS_QM08, and CUB_QM01 to CPQM02. We stop the loading in Jan 2021 and completely migrate by Mar 2021. This solution can improve loading from 3 hours to 3 minutes and save a lot of space.

Roles & Access

Roles and access

List of application role + menu role and explanation if we have several applications role with specials rules.

Role Code	Role Description	Explanation
ZR_RCS_C A_M14	QM - Quality Management	This role gives access to the Query and Workbooks through role menus.
ZBI_RCS_Q M_A02	Quality Results Application - End User role	This role controls access to the application.
ZR_*_CA_P 01	Analysis company - XXX	Role to control access to data based on the company code, with XXX being the name of the company code. There is a many role as there is company code. In the new multiproviders created, this role is not relevant.
ZR_*_CA_P 02	Analysis - Plant XXX - YYY	Role to control access to data based on the plant, with XXX being the name of the plant, and YYY its description. There is a many role as there is plants. In the new multiproviders created, the infoobject used for authorization is C_PLANT.

Authorization objects

List of authorization objects mandatory for the application.

Authorization object	Explanation
ZBI_QM	This object gives global access to objects relevant for authorization yet not relevant for the related multiprovider. This is especially true for the controlling area (CO_AREA)
ZXXXXCAP01	This object gives access to the various infoobjects company code related and relevant for authorization, with XXXX being the company code considered.
ZXXXXCAP02	This object gives access to the various infoobjects plant related and relevant for authorization, with XXXX being the plant considered.

Dataflow overview

Reporting documentation drive folder:

D ataflow

Functional and Technical rules on Workbench + Reporting

Rules & Explanations

Inspection Results for deliveries (Sep 2019 version)

1. We use calculation view **CV_QM_INPDVL_WP1** to join **DBQM04** and **DPD001** for **WP1**

2. We use calculation view **CV_QM_INPDVL_PF1** to join **DBQM03** and **DSO_DLV1** for **PF1**

QM HANA Solution to improve performance and mainly reduce the size of database. With this new solution, we can reduce time of loading and database size around 76 GB.

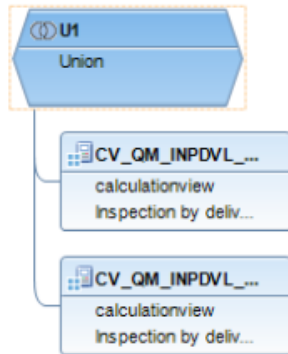
Calculation view : Key to link Inspection lot and delivery are Material and Batch

Solvay.IA_QM::CV_QM_INPDVL_WP1 WB1@400 (TH30085) 1 Warning(s) found.

PJ_DSO_DLV1		PJ_DBQM04	
RE	DELIV_NUMB	DELIV_NUMB	INSP_LOT
RE	DELIV_ITEM	DELIV_ITEM	BIC_INSP_CH
RE	MATERIAL	MATERIAL	PLAN_TYPE
RE	SHIP_TO	SHIP_TO	PLNNR
RE	ACT_GL_DTE	ACT_GL_DTE	BIC_PLANNOD
RE	BATCH	BATCH	PHYS_SP
RE	PLANT	PLANT	BIC_C_DETALLE
12	DLV_QTY	DLV_QTY	BIC_C_PROBENR
RE	RECORDMODE	RECORDMODE	LOGSYS
RE	SALES_UNIT	SALES_UNIT	BATCH
			ICHAR_UOM
			BIC_MATNR2
			INSP_TYPE
			LWR_LIMIT
			BIC_K_MITTEL
			MASTERCHAR
			MCHAR_PLNT
			BIC_C_SATZS
			BIC_C_PRUDV
			BIC_C_RESULT
			BIC_C_PLANT
			QMWCLANT
			UPPR_LIMIT
			LOT_HERK
			PMTVERSION
			CALMONTH
			TOLERANCE

Composite provider **CPQM01** created basing on 2 calculation views (CV_QM_INPDVL_WP1 / CV_QM_INPDVL_PF1)

Scenario: CPQM01



Query Migration

Inspection Results for deliveries (Obsolete Sep 2019)

1: TRSF: DPD001 → DBQM06 (Solvay)

Look up on **DSO_DBQM03** — **DSO QM Business Layer - Inspection Results (Solvay)** using batch number and material number from the deliveries to retrieve QM data. There is also a filter on the "generic inspection lot". Solvay is using some batch to do multiple deliveries. However this generates countless lines which would then be multiplied depending on the lines in **DBQM03** (generating at worst more than 5 millions lines). These generic lot are therefore filtered if the number of lines for a given couple batch / material is more than 30.

2: TRSF: DSO_DLV1 → DBQM05 (Rhodia)

Look up on DSO-DBQM04 — DSO-QM — Business-Layer - Inspection-Results (Rhodia) using batch number and material number from the deliveries to retrieve QM data.

3: ODSO-DSO_DLV1 → ODSO-DSO_QMTL

Look up on DSO-ODS_QM09 — Inspection-Results: Quantitative/Qualitative-Data using batch number and material number from the deliveries to retrieve QM data.

6: ODSO-DSO_QMTL → CUBE-CUB_QM03

7: TRSF: DBQM05 → CRQM08 (Rhodia) and TRSF: DBQM05 → CRQM09 (Rhodia) and TRSF: DBQM06 → CRQM07 (Solvay) and TRSF: DBQM06 → CRQM10 (Solvay)

Difference between historical and current data

7-a: TRSF: DBQM06 → CRQM10 (Solvay) and TRSF: DBQM05 → CRQM09 (Rhodia)

Loading of the inspection lots with a creation date /BIC/C_ENSTEHD greater than current date minus 2 years (ex. current date 16/02 /2017 ==> Loading of data from 01/01/2015 and upwards)

7-b: TRSF: DBQM05 → CRQM08 (Rhodia) and TRSF: DBQM06 → CRQM07 (Solvay)

Loading of the inspection lots with a creation date /BIC/C_ENSTEHD smaller than current date minus 2 years (ex. current date 16/02 /2017 ==> Loading of data older than 01/01/2015)

Inspection Results (Nov 2019 version)

4: ODS_QM09 8ODS_QM07 and ODS_QM08 8ODS_QM07

Transformation done but not used. Only the update rules are used

5: ODSO-ODS_QM01 -> ODSO-ODS_QM01 and ODSO-ODS_QM07 -> ODSO-ODS_QM07

Daily loading but few cases. Mostly irrelevant

7: TRSF: DBQM03 → CRQM06 (Solvay) and TRDF: DBQM04 → CRQM05 (Rhodia) and TRSF: DBQM04 → CRQM03 and TRSF: DBQM03 → CRQM04 (Solvay)

Difference between historical and current data.

7-a: TRSF: DBQM03 → CRQM06 (Solvay) and TRDF: DBQM04 → CRQM05 (Rhodia)

Loading of the inspection lots with a creation date /BIC/C_ENSTEHD greater than current date minus 3 years (ex. current date 16/02 /2017 ==> Loading of data from 01/01/2015 and upwards)

7-b: TRSF: DBQM04 → CRQM03 and TRSF: DBQM03 → CRQM04 (Solvay)

Loading of the inspection lots with a creation date /BIC/C_ENSTEHD smaller than current date minus 3 years (ex. current date 16/02 /2017 ==> Loading of data older than 01/01/2015)

7: TRSF: DBQM03 -> APQM02 (Solvay) and TRDF: DBQM04 -> APQM01 (Rhodia) and TRSF: DBQM04 -> APQM03 and TRSF: DBQM03 -> ABQM04 (Solvay)

Difference between historical and current data.

7-a: TRSF: DBQM03 -> APQM02 (Solvay) and TRDF: DBQM04 -> APQM01 (Rhodia)

Loading of the inspection lots with a creation date /BIC/C_ENSTEHD greater than current date minus 3 years (ex. current date 16/02 /2017 ==> Loading of data from 01/01/2015 and upwards)

7-b: TRSF: DBQM04 -> APQM03 and TRSF: DBQM03 -> APQM04 (Solvay)

Loading of the inspection lots with a creation date /BIC/C_ENSTEHD smaller than current date minus 3 years (ex. current date 16/02 /2017 ==> Loading of data older than 01/01/2015)

8: TRSF: DPQM09 -> DBQM04 (Rhodia) and TRSF: DPQM08 -> DBQM03 (Solvay)

- Deletion of data if results exist (field C_MRMITNI).
- CO_AREA determination

9: TRSF: DPQM07 -> DBQM03 (Solvay) and TRSF: DPQM08 -> DBQM03 (Solvay) and TRSF: DPQM10 -> DBQM04 (Rhodia) and TRSF: DPQM09 -> DBQM04 (Rhodia)

Mapping of a few fields with the values of QASE, QAMR or QASR, depending on the values of c_semesni (if value is set for QASE), c_secod e1 (code QASE), c_srscod1 (Code QASR), C_SRMITNI (if value is set for QAMR)

10: TRSF: IH_QM_2LIS_05_QE1_RCS -> DPQM09 and TRSF: IH_QM_2LIS_05_QE1_SOLVAY -> DPQM08

Determining of the shift work and shift work day. Customized fields are get from class (SE24) = Z2LIS_05_QE1 and Z2LIS_05_QE2 instead of user exit (CMOD)

11: TRSF: 2LIS_05_QE1 / Rhodia -> IH_QM_2LIS_05_QE1_RCS and TRSF: 2LIS_05_QE1 Solvay -> IH_QM_2LIS_05_QE1 and TRSF: 2LIS_05_QE1 Solvay -> IH_QM_2LIS_05_QE1 and TRSF: 2LIS_05_QE2 - Solvay -> IH_QM_2LIS_05_QE2

Cleaning of data

Dependencies with other applications

Inspection Results

None

Inspection Results for deliveries

Both DSO DSO_DLV1 and DPSD001 (deliveries) need to be loaded before the upwards dataflow is loaded. This is done through the PC:

- DPSD001: PC_SD_01
- DSO_DLV1: PC_SD

Data loadings

Info providers and objects loaded

Loading frequency

Main Process Chains

Process Chain	Code	Comments
META - D - QM - Master Chain	PC_Q M_00	Loading of data in delta mode
META - D - QM - Master Chain for MVQM01	PC_Q M_34	Loading of data in delta mode, for MVQM01 (CRQM03/04/05/06) only. Process Chain runs every day at 3: 20 AM (CET).
META - ADH - QM - Inspection Results Init	PC_Q M_19	Used to reload data for dataflow QM. Caution: The loading of the two DSO ODS_QM07 and ODS_QM01 for Rhodia is not included.
TD - ADH - QM - Deletion of Inspection Results data	PC_Q M_18	Used to delete data in infoproviders
TD - Y - QM - Inspection Results - Historic Data	PC_Q M_07	Updates the infocubes containing historical data for both Solvay and Rhodia Data with year - 3. The infocubes containing the last 5 years of data is emptied and reloaded accordingly.
TD - Y - QM - Qual. Insp. Res. for deliv. - Historic Data	PC_Q M_17	Updates the infocubes containing historical data for both Solvay and Rhodia Data with year - 3. The infocubes containing the last 5 years of data is emptied and reloaded accordingly.

Sub Process Chains

Process Chain	Code	Comments
TD - D - QM - Propagation Layer - Solvay	PC_Q M_01	Used to load Solvay data for the propagation layer for every QM projects

TD - D - QM - Propagation Layer - Rhodia	PC_Q M_02	Used to load Rhodia data for the propagation layer for every QM projects
TD - D - QM - Business Layer - Rhodia	PC_Q M_03	Used to load Rhodia data for the business layer for every QM projects
TD - D - QM - Business Layer - Solvay	PC_Q M_04	Used to load Solvay data for the business layer for every QM projects
TD - D - QM - Reporting Layer - Rhodia	PC_Q M_05	Used to load Rhodia data for the reporting layer.
TD - D - QM - Reporting Layer - Solvay	PC_Q M_06	Used to load Solvay data for the reporting layer.
TD - D - QM - BL - Inspection Results - Rhodia	PC_Q M_08	Used to load Rhodia data for the business layer for Inspection Results
TD - D - QM - BL - Inspect. Results for Deliveries - Rhodia	PC_Q M_09	Used to load Rhodia data for the business layer for Inspection Results for deliveries
TD - D - QM - BL - Inspect. Results for Deliveries - Solvay	PC_Q M_10	Used to load Solvay data for the business layer for Inspection Results for deliveries
TD - D - QM - BL - Inspection Results - Solvay	PC_Q M_11	Used to load Solvay data for the business layer for Inspection Results
TD - D - QM - PL - Inspection Results (Solvay)	PC_Q M_12	Used to load Solvay data for the propagation layer for Inspection Results
TD - D - QM - RL - Inspection Results - Rhodia	PC_Q M_13	Used to load Rhodia data for the reporting layer for inspection results. (CRQM03)
TD - D - QM - RL - Inspect. Results for Deliveries - Solvay	PC_Q M_14	Used to load Solvay data for the reporting layer for inspection results for deliveries. (CRQM07)
TD - D - QM - RL - Inspect. Results for Deliveries - Rhodia	PC_Q M_15	Used to load Rhodia data for the reporting layer for inspection results for deliveries. (CRQM08)
TD - D - QM - RL - Inspection Results - Solvay	PC_Q M_16	Used to load Solvay data for the reporting layer for inspection results. (CRQM04)
TD - Y - QM - RL - Inspection Results - Historic - Rhodia	PC_Q M_20	Used to load Rhodia historical data for the reporting layer for inspection results. (CRQM05)
TD - Y - QM - RL - Inspection Results Historic - Solvay	PC_Q M_21	Used to load Solvay historical data for the reporting layer for inspection results. (CRQM06)
TD - Y - QM - RL - Inspect. Results for Del. - Hist - Rhodia	PC_Q M_22	Used to load Rhodia historical data for the reporting layer for inspection results for deliveries. (CRQM09)
TD - Y - QM - RL - Inspect. Results for Del. - Hist - Solvay	PC_Q M_23	Used to load Solvay historical data for the reporting layer for inspection results for deliveries. (CRQM10)
MD - D - QM - Textes QM	PC_Q M_24	Loading of the texts for specific QM MD
TD - ADH - QM - BL - Insp Res for Del - Rhodia - Init < 2013	PC_Q M_25	Used when loading Rhodia data for project inspection results for deliveries. Given the volumetry generated, it's easier to load the data year by year. This PC loads data depending on the creation date up to 31.12.2012
TD - ADH - QM - BL - Insp Res for Del - Rhodia - Init >=2013	PC_Q M_26	Used when loading Rhodia data for project inspection results for deliveries. Given the volumetry generated, it's easier to load the data year by year. This PC loads data depending on the creation date from 01.01.2013
TD - ADH - QM - BL - Insp Res for Del - Solvay - Init < 2013	PC_Q M_27	Used when loading Solvay data for project inspection results for deliveries. Given the volumetry generated, it's easier to load the data year by year. This PC loads data depending on the creation date up to 31.12.2012
TD - ADH - QM - BL - Insp Res for Del - Solvay - Init >=2013	PC_Q M_28	Used when loading Solvay data for project inspection results for deliveries. Given the volumetry generated, it's easier to load the data year by year. This PC loads data depending on the creation date from 01.01.2013
MD - D - QM - Attributes /Texts 0PHYS_SP	PC_Q M_32	Used to load Attributes and Texts from PF1/WP1 for 0PHYS_SP (Physical Sample Number)
META - D - QM - SA&D Broadcasts	PC_Q M_33	Used to launch broadcast mailing on MVQM01

Average performance

/!\ Cubes CRQM03 to CRQM06 contain very large dimensions (in term of percentage of full data), and as such are very slow to reload (= 3 hours for 2 weeks). With HANA solution on CPQM01, we reduce time to a few minutes

Key Figure	Estimation
~ Average Process Chain Runtime	
~ Average nb of rows loaded per load	
~ Total nb of rows loaded (if full)	
~ Average Runtime for 10k lines	

Record Keeping

Reporting

Queries End User Documentation

Main queries

BW_QRY_CPQM01_001	BW - Quality Results for Deliveries (core query-HANA)
BW_QRY_CPQM02_0001	BW - QM - Results (Core Query) - HANA
BW_QRY_CPQM02_0011	BW - QM - Inspection Results by Lot (Core Query) - HANA
BW_QRY_CPQM02_0005	BW - QM - Results - Column (Core Query) - HANA
BW_QRY_CPQM02_0013	BW SILICA - Résultats QM - HANA
BW_QRY_CPQM02_0006	BW - Analytical time (Core Query) - HANA
BW_QRY_CPQM02_0002	BW-QM Statistics (Core Query)
BW_QRY_CPQM02_0001	BW - QM Results (Core Query)
BW_QRY_CPQM02_0005	BW - QM - Results - Column (Core Query)
BW_QRY_CPQM02_0007	QM - Equip - Maintenance (Corr/Prev/Adj) Core Query - HANA
BW_QRY_CPQM02_9003	QM - Laboratory Billing (by Determinations) Core Query- HANA
BW_QRY_CPQM02_9004	QM - Laboratory Productivity (by Workcenter)Core Query- HANA
BW_QRY_CPQM02_9005	QM - Laboratory Productivity (by Analyst) Core Query - HANA

Main functionalities

Broadcast

Two Broadcast settings exist, respectively on queries *BW - QM - SA&D Environment Service Data (Broadcast)* (BW_QRY_MVQM01_0005) and *BW - QM - SA&D Esco Report (Broadcast)* (BW_QRY_MVQM01_0006).

Both broadcasts are designed to send Previous Day data on a selection of Plants to selected users (not defined yet), in PDF format, on a daily basis. In the future, additional settings with one or more Plants separated from the rest may be requested by users.

Maintenance

Known bugs

Recurring procedure

Planned Evolution

Transformation done but not used. Only the update rules are used