Technical Documentation - Predictive Credit Management

For more documentation: PCM

Access Management

Roles & Access

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

Role Code	Role Description	Explanation
ZBI_RCS_FI_A27	ITC Credit Management Analysis - End User role	Application role
ZBI_RCS_FI_A28	ITC Credit Management Analysis - RCS /APM role	Application role
ZR_RCS_FI_A27	ITC Credit Management Analysis - End User role	User role
ZR_RCS_FI_A28	ITC Credit Management Analysis - RCS /APM role	User role
ZR_RCS_FI_A29	ITC Credit Management Analysis - Super User role	User role
ZR_RCS_FI_A30	ITC Credit Management Analysis - Key User role	User role

Authorization Objects

List of authorization objects mandatory for the application.

Authorization object	Explanation
CPFCTR1_2	ZR_*_CA_P05
C_COMPCDE__C_AUTHMA	ZR_*_CA_P00
C_COMPCDE	ZR_*_CA_P01

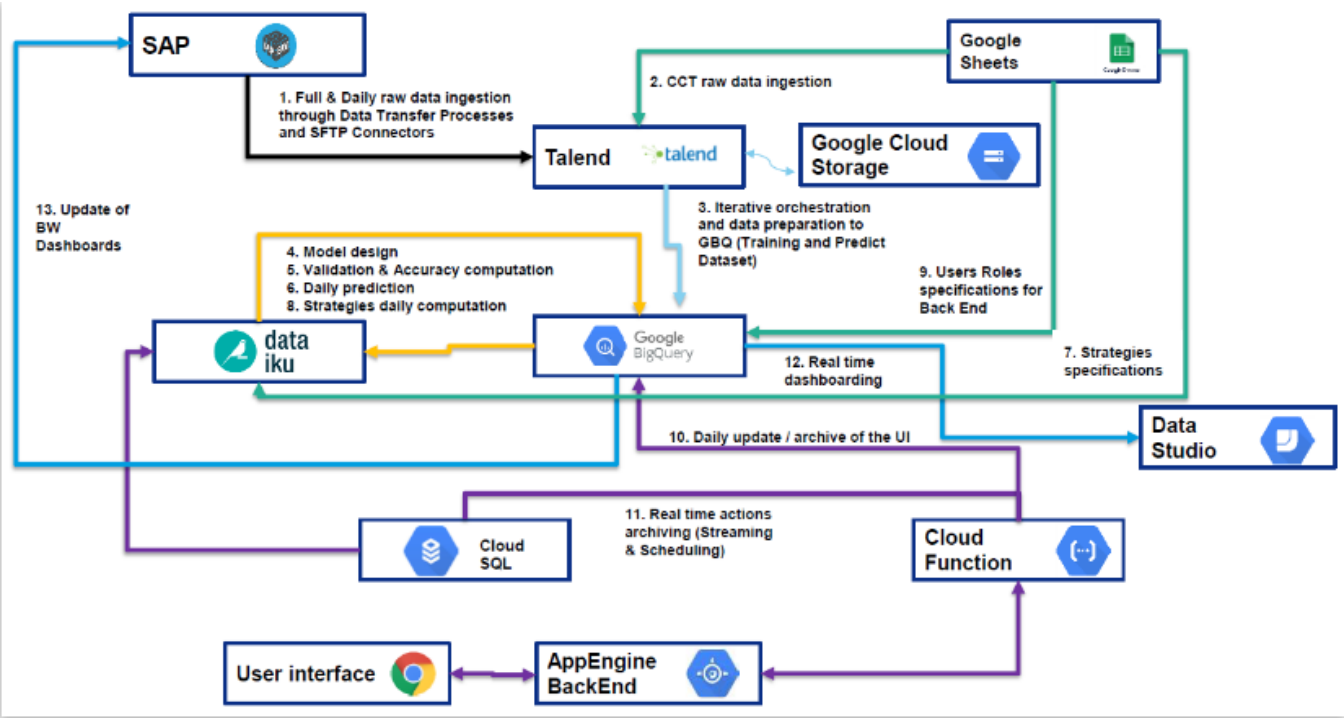
BW catalog of roles: https://docs.google.com/spreadsheets/d/10GEfKYqrT1eeTO_uHYAheL1GX7L5y_pvH0KQU64qh5I/edit#gid=131158862

DataFlow

Overview

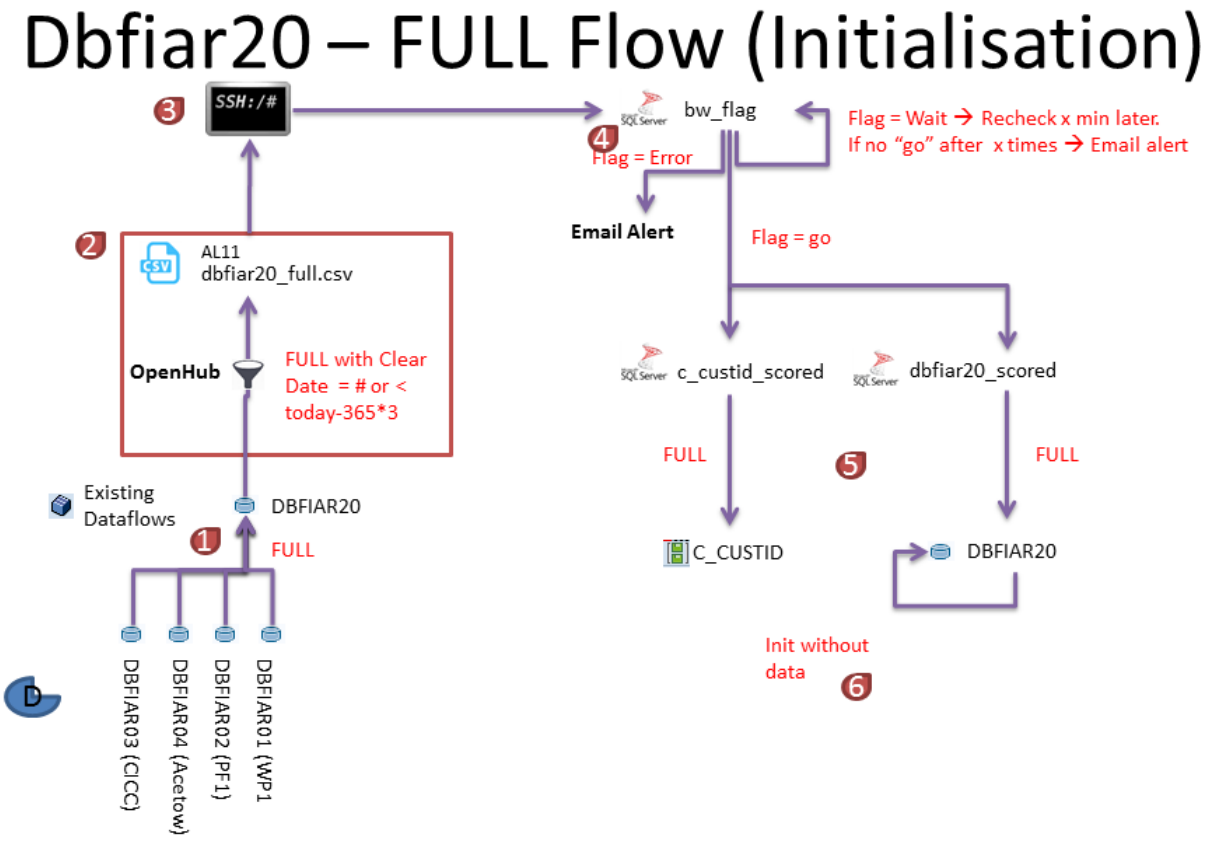
The dataflow can be divided in 3 main steps:

1. check that no other run are in progress (a) and then extract data from BW to PCM
    a. Extract master data in full mode to csv files through openhub
    b. Load FIAR and CAMS data into specific DSO build for PCM project (DBFIAR20 and DBFIAR21),then extract to csv through openhub
    c. Load the data from the file via Talend
2. treatment on PCM GCP
3. Load full with deletion DPFIAR13 from Big Query with new data source DTS_FI_PCM_01 by PC_FI_PCM_10. SQL server was replaced by Big Query



BW to Talend

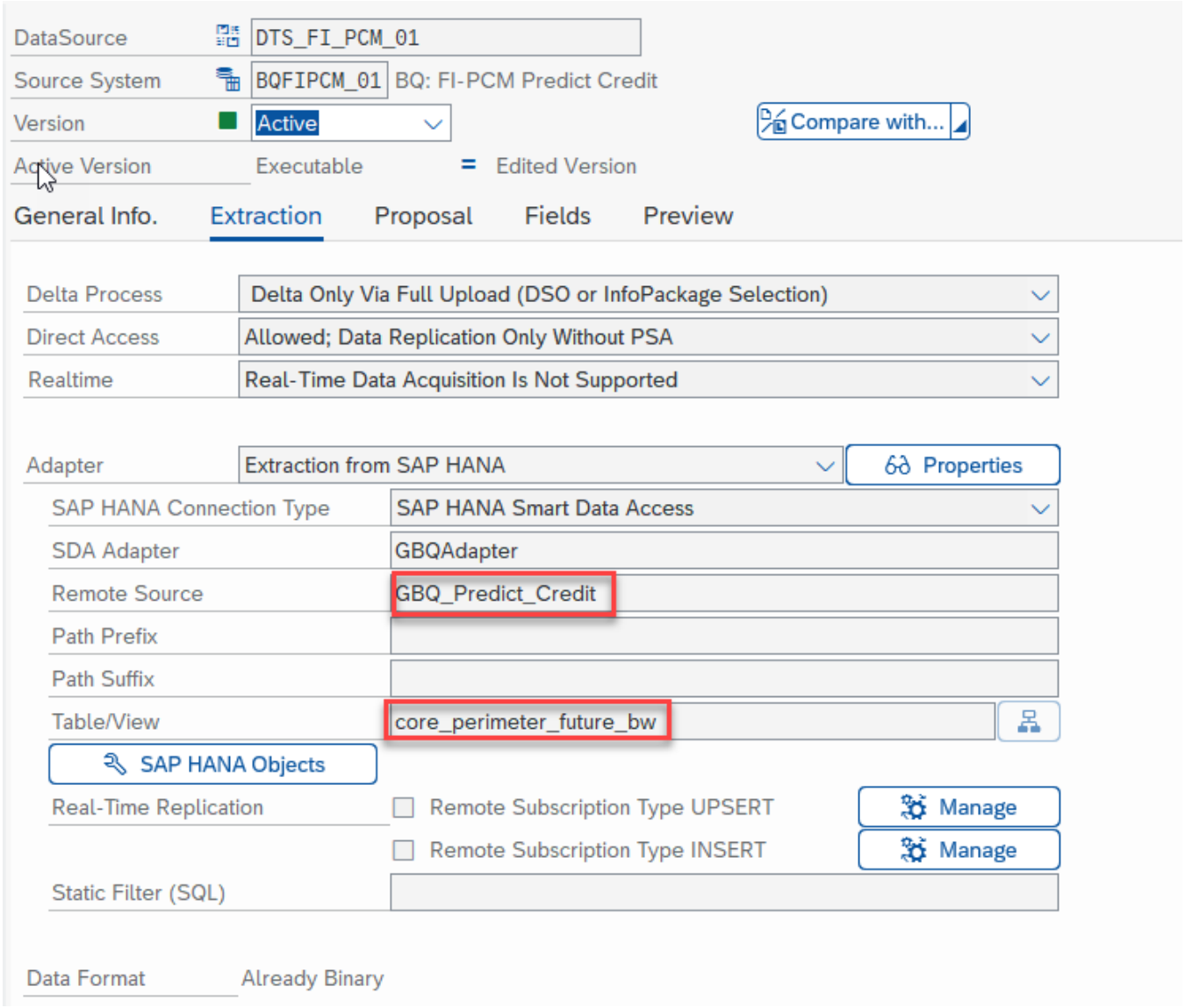
DBFIAR20 loading initialisation process



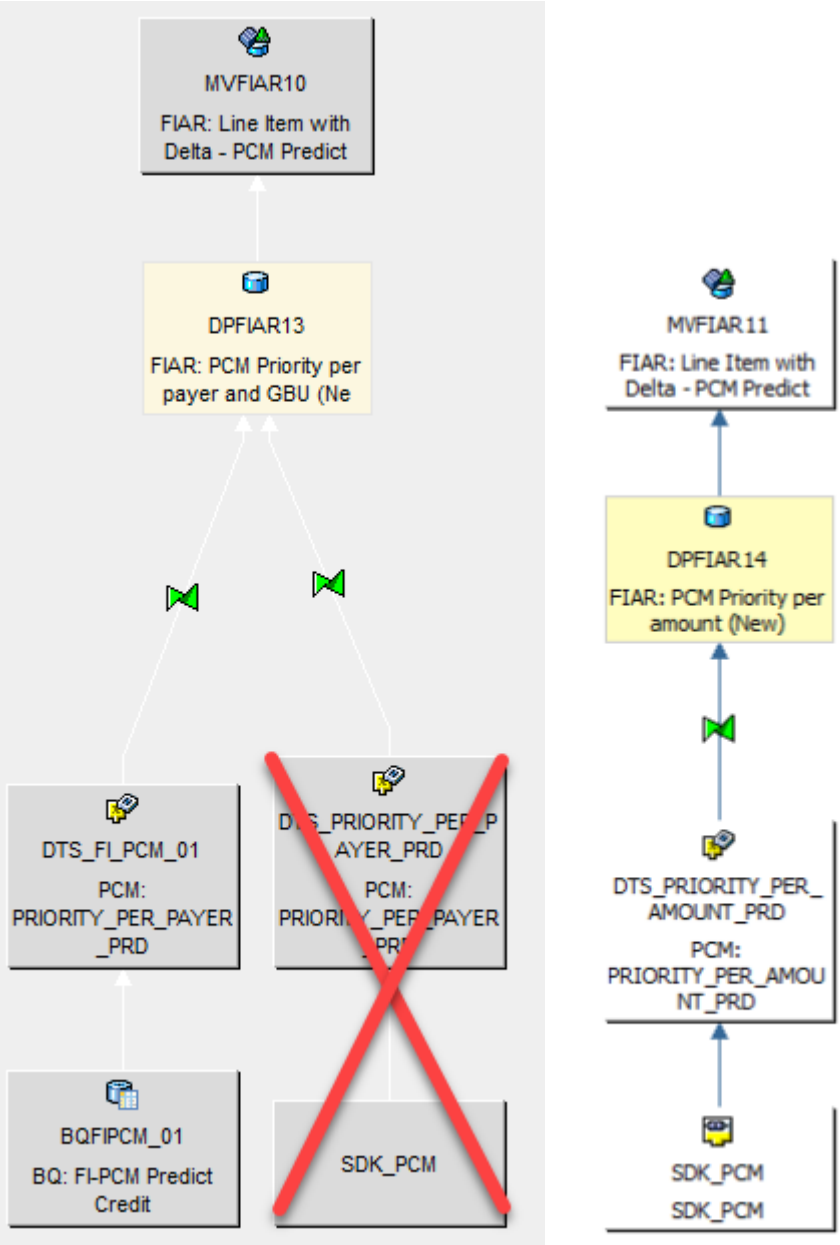
Big Query to BW

DPFIAR13 data loading

Data source DTS_FI_PCM_01 get from remote source GBQ_Predict_Credit and get from table core_perimeter_future_bw (GCP project predict-credit-mgt-v2-prod)



Report to get back from BigQuery after calculate by Data Science



WIth new version 2.0, BW get only 3 key figures

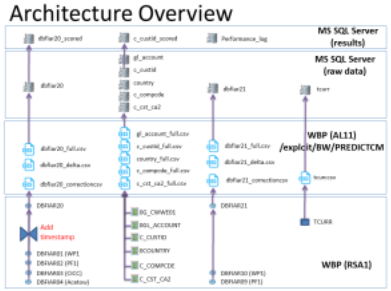
PRED_NOT_PIM K_PFNPI
PROBA_NOT_PIM K_PPNPI
AMOUNT_EUR 0DEB_CRE_LC

Note: **DPFIAR14 is obsolete**

Architecture Overview

Obsolete

Architecture Overview



SQL server was replaced by Big Query and after files are generate, they will be loaded by Talend by Data Engineering team

Objective of the application

Provide predictive information on Credit Management.

- Define which payer is a priority based on its history and the due amount.

Tool Leader: David TONDA

IT leader of the application: Guillaume THEVENET

Name of project: PCM Predictive Credit Management

PMO Project: 6958 Big Data for Credit Management

Reporting Coordinator: David TONDA

Usage information

Nu mber of users: tbd

Critical period: none

Geographical perimeter: worldwide

InfoArea:

- All objects are stored in FIAR infoarea: IA_FMCO_FIAR

Accounts Receivable Accounting	IA_FMCO_FIAR
Accounts Receivable Harmonisation Layer	IA_FMCO_FIAR_HARMONISATION
Accounts Receivable Propagation Layer	IA_FMCO_FIAR_PROPAGATION
Accounts Receivable Business Transfer Layer	IA_FMCO_FIAR_BUSINESS_TRANSF
Accounts Receivable Reporting Layer	IA_FMCO_FIAR_REPORTING
Accounts Receivable Virtual Layer	IA_FMCO_FIAR_VIRTUAL
Accounts Receivable Corporate Layer	IA_FMCO_FIAR_CORPORATE
Predictive Credit Management Cat. Char	IOCC_FMCO_FIAR_PCM
Predictive Credit Management Cat. Key Figure	IOCK_FMCO_FIAR_PCM

Process chain Display Component:

- 134 - PROJECT - PCM
COMP_PCM

134 - PROJECT - PCM	COMP_PCM

History

In Mar 2020, the data flow was updated to PCM 2.0

In 2021, BW change the source system SDK_PCM (SQL) to BigQuery(#4749200)

In Feb 2023, Po2 project requires to segregate data of Eco/Sco, therefore, company master data file is modified to add C_AUTHMA(authorization scope) to the openhub OH_PCM_05

Technical Rules on Workbench

The whole process can be summarized has follow:

- Extraction of BW data (master and transactional data) in flat files (csv with "|" separator)
- copy and loading of these file into a SQL database
- Calculation of predictive information on SQL side to produce two table which define Priority per Amount & Priority per Payer
- Loading of these data in BW to be used on standard reporting

Openhub

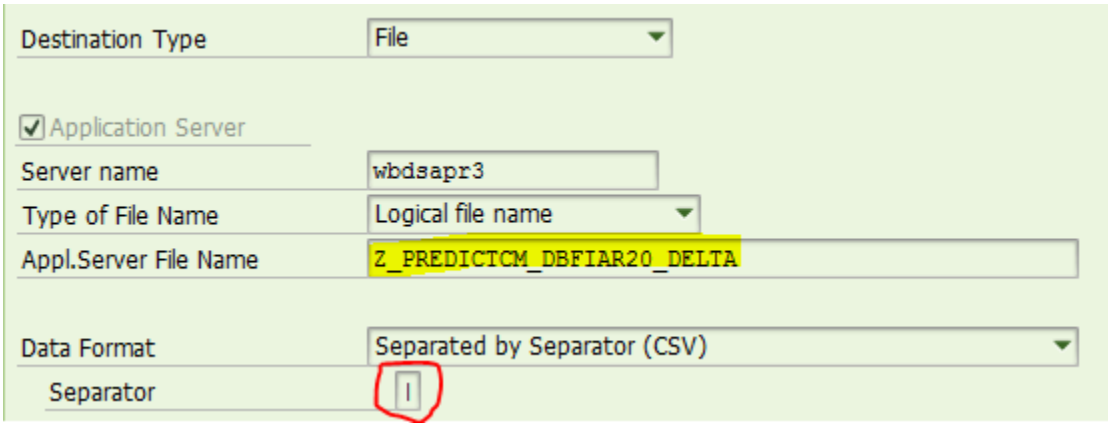
Updated on 12 Mar 2021: 18 Openhub (2 Transactional and 16 Master data)

Open Hub	Open Hub Name	Source of Open Hub	Process Chain	Filename	Detail of file
OH_PCM_21	PCMV2: DBFIAR20	**DBFIAR20**	PC_FI_PCM_V2	dbfiar20_delta.csv	FIAR: Line Item with Delta - PCM - All systems
OH_PCM_02	PCM: GL_ACCOUNT	ATTRIBUTES 0GL_ACCOUNT	PC_FI_PCM_01	gl_account_full.csv	Attribute of GL account
OH_PCM_03	PCM: C_CUSTID	ATTRIBUTES C_CUSTID	PC_FI_PCM_01	c_custid_full.csv	Attribute of Customer
OH_PCM_04	PCM: COUNTRY	ATTRIBUTES 0COUNTRY	PC_FI_PCM_01	country_full.csv	Attribute of Country
OH_PCM_05	PCM: C_COMPCDE	ATTRIBUTES C_COMPCDE	PC_FI_PCM_01	c_compcde_full.csv	Attribute of Company
OH_PCM_06	PCM: C_CST_CA2	ATTRIBUTES C_CST_CA2	PC_FI_PCM_01	c_cst_ca2_full.csv	Attribute of Customer credit control area
OH_PCM_07	PCM: TCURR	DTS_TCURR	PC_FI_PCM_01	tcurr_full.csv	Attribute of Currency
OH_PCM_08	PCM: DBFIAR21	**DBFIAR21**	PC_FI_PCM_01	dbfiar21_delta.csv	FIAR: Credit blocked - PCM - All systems
OH_PCM_09	PCM: G_CWWE01	ATTRIBUTES 0G_CWWE01	PC_FI_PCM_01	g_cwwe01_full.csv	Attribute of sub activity (IECRA)
OH_PCM_10	PCM: 0CLM_CLSP Texts	TEXTS 0CSM_USER	PC_FI_PCM_01	0CLM_CLSP_TEXT.csv	Text of Collection specialist
OH_PCM_11	PCM: C_COMPCDE Texts	TEXTS C_COMPCDE	PC_FI_PCM_01	c_compcde_text.csv	Text of Company
OH_PCM_12	PCM: C_SALEMP Texts	TEXTS C_SALEMP	PC_FI_PCM_01	c_salemp_text.csv	Text of Sales employee
OH_PCM_13	PCM: C_PMNTTRM Texts	TEXTS C_PMNTTRM	PC_FI_PCM_01	C_PMNTTRM_TEXT.csv	Text of payment term
OH_PCM_14	PCM: CPFCTR1_2 Texts	TEXTS CPFCTR1_2	PC_FI_PCM_01	CPFCRT1_2_TEXT.csv	Text of GBU
OH_PCM_15	PCM: CPFCTR2_2 Texts	TEXTS C_FACUBU	PC_FI_PCM_01	CPFCTR2_2_TEXT.csv	Text of BFC group of activity
OH_PCM_16	PCM: 0G_CWWE01 Texts	TEXTS 0G_CWWE01	PC_FI_PCM_01	0G_CWWE01_TEXT.csv	Text of sub activity (IECRA)
OH_PCM_17	PCM: C_PM_MTHD Texts	TEXTS C_PM_MTHD	PC_FI_PCM_01	C_PM_MTHD_TEXT.csv	Text of payment method
OH_PCM_18	PCM: 0REPR_GROUP Texts	TEXTS 0REPR_GROUP	PC_FI_PCM_01	0REPR_GROUP_TEXT.csv	Text of credit management representatives group

All master data openhub are loaded in full mode. All extract data from master data except the TCURR one which is connected to a datasource.

All transactional data openhub are loaded in delta mode. (remark delta is not possible with multiprovider).

All openhub use a "|" separator because some field already contain ";" in the value and openhub doesn't encapsuPC_FI_PCM_10ate data.



All openhub use logical file name defined through FILE transaction. All files are stored in the following folder

Directory: /exploit/BW/PREDICTCM

DBFIAR20 flow

Transformations before DBFIAR20 DSO from other applications:

Technical Documentation - RTR - FI Working Capital for Solvay Group (WBP)

Technical Documentation - ITC - Credit Management

ODSO DBFIAR20 -> DEST OH_PCM_01:

Delete data where C_LGSYSAF = PF1_020 and C_COMPCAF = 6059.

ODSO DBFIAR20 -> DEST OH_PCM_21

Delete data where C_LGSYSAF = PF1_020 and C_COMPCAF = 6059.

DBFIAR21 flow

TRSF: ZZV_KPI_CREDITBL2 Rhodia -> DPFIAR05 & TRSF: ZZV_KPI_CREDITBL2 Solvay -> DPFIAR06

Conversion from time stamp to dates.

TRSF: DPFIAR06 -> DBFIAR09 & TRSF: DPFIAR05 -> DBFIAR10

Number of hours to release are the differences between times stamps.

C_CUSTPRS, C_CUSTPR are an attribute from C_CUSTID.

C_CST_CAT2 comes from master data C_CST_CAT2 (with help of c_ctr_area and c_custpr).

C_CRDACC comes from master data C_CST_CAT2 (with help of c_ctr_area and c_cst_ca2).

C_COMPCDE comes from master data C_COMPCDE (with help of fields logsys and c_compprs).

MVFIAR11 flow

RSDS DTS_PRIORITY_PER_AMOUNT_PRD SDK_PCM -> ODSO DPFIAR14

DPFIAR14 not loaded since septemeber 2019

If C_CUSTID, CPFCTR1_2, C_ZONEFI = #, the result is empty.

C_CUSTPR comes from C_CUSTID

MVFIAR10 flow

RSDS DTS_FI_PCM_01 BQFIPCM_01 -> ODSO DPFIAR13

No specifics rules.

RSDS DTS_PRIORITY_PER_PAYER_PRD SDK_PCM -> ODSO DPFIAR13

Not used since june 2021

C_CST_CA2 comes from C_CUSTID

Reporting

Query	Description
BW_QRY_MVFIAR10_0001	PCM: predictive analytics (GBU)
BW_QRY_MVFIAR11_0001	PCM: predictive analytics (Detail)

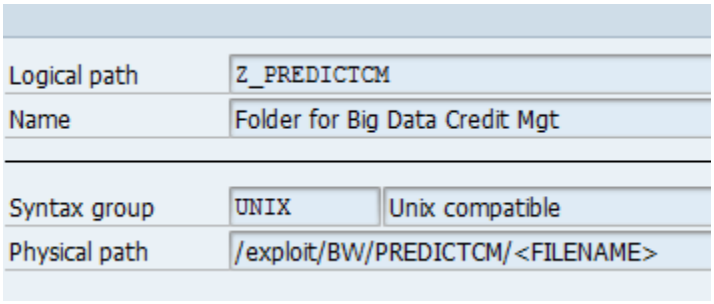
Dependencies with other applications

We should have the information where the application is sending or receiving information (e.g. APD open hub)

Data Loading

Main Process Chain	Final Provider Loading	Frequency	Time start	Duration
PCM: File generation PC_FI_PCM_01	Open hubs for master data DBFIAR20 DBFIAR21	Daily	10 am	10 mins
PCM: Predictive data load PC_FI_PCM_10	DBFIAR13 DBFIAR14 (at 10.26.2023 skipped)	Daily	11 am	2 mins

Target folder for open hubs



Record Keeping

DSO are loaded with full historical data but we only send today - 3 years to SQL server.

Data Quality Control

Operational Documentation

Procedures

If the service account:bqtobw@predict-credit-mgt-v2-dev.iam.gserviceaccount.com in Google Cloud Platform is expired, then the configuration of remote source:GBQ_Predict_Credit in BW/HANA should be adapted accordingly.

1. Copy the new JSON file to the folder defined in gbqadapter_prod.properties on dp agent server (acew1dhcahca1)
2. Change the KeyFilePath to the folder of the new JSON file (JSON file provide by DataOps team: dataops@solvay.com)

Remote source in BW configuration is not required to change.

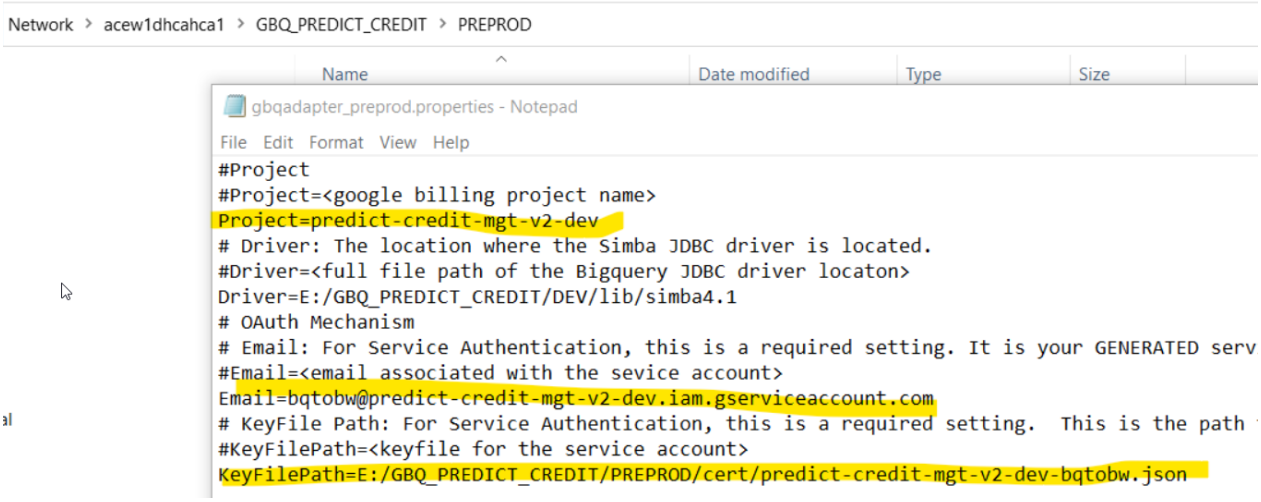
Source Name:	Adapter Name:
GBQ_Predict_Credit	GBQAdapter

Type filter

Property name	Value
Connection Parameters	
Property File *	E:\GBQ_PREDICT_CREDIT\PROD\gbqadapter_prod.properties
Data Catalog *	predict-credit-mgt-v2-prod
Dataset ID *	working
Help *	Make sure to enter the Project and Authentication info in /usr/sap/dpagentwbd/adapters/gbqadapterhr.properties file

The properties file in dp agent server is required to change if the project name or the location to keep the JSON file is changed.

The new JSON file must be the same as the detail in the properties file at KeyFilePath



Scheduling

<Describe the scheduling in place for the application (eg. existing jobs, trigger time/event based, dependencies)>

Monitoring

<Describe the monitoring checks to confirm the application is performing well (eg. check the overall status, check performance metrics like runtime /data volume/memory/disk/CPU, maintain and react to alerts/notifications)>

Error Handling

<Describe how to handle errors (eg. error codes, description and respective resolution, alert users)>

Known Bugs

<List the existing bugs, its criticity, workarounds and resolution plan.>

Roadmap

<List past & future evolutions for the application (including links to MED/FSD/TSD)>