Technical Documentation - BW Integrated Margin (WBP)

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Access Management

Roles & Access

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

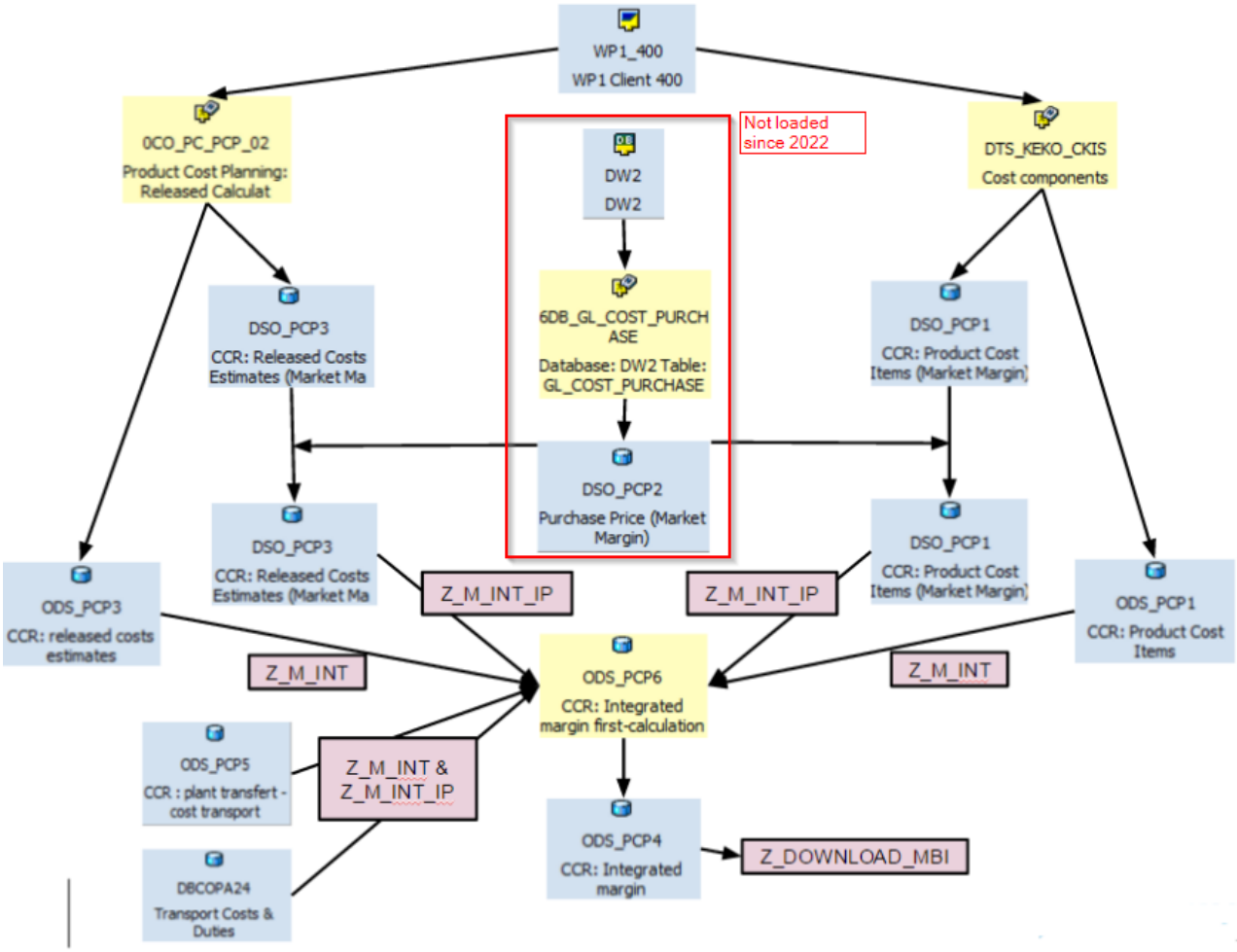
Role Code	Role Description	Explanation
ZBI_RCS_FI_A35	Netback - End User role	End User rights
ZP2_RCS_FI_A35	Netback - End User role	End User rights

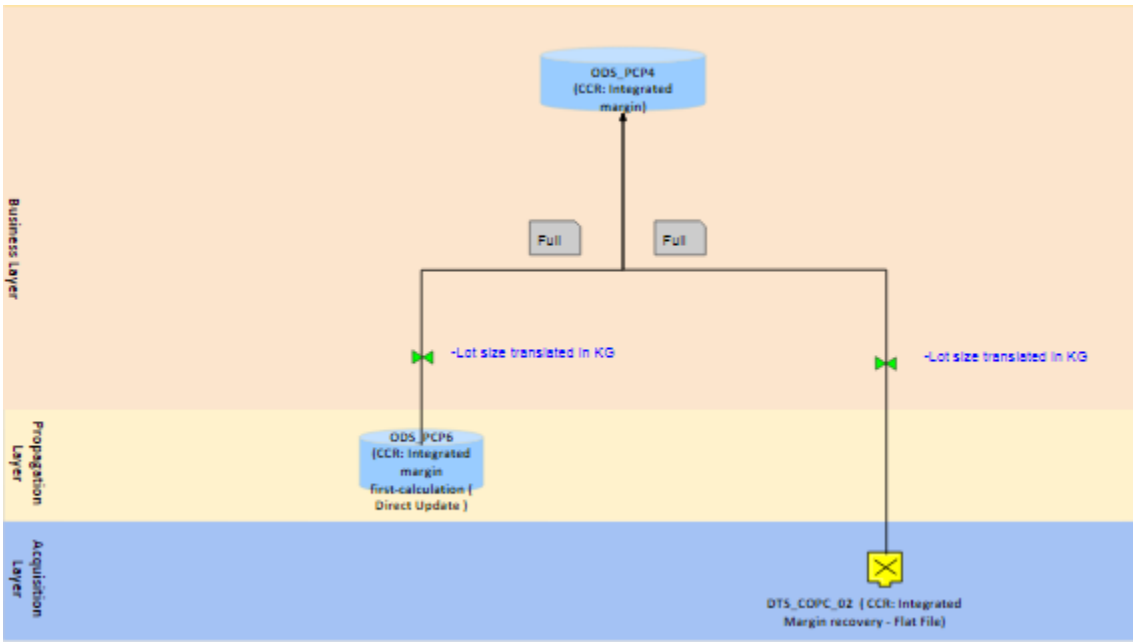
Authorization Objects

Authorization object	Explanation
GBU CPFCTR1_2	ZR_*_CA_P05
PRS Company C_COMPPRS C_COMPCDE__C_COMPPRS	ZR_*_CA_P07
PRS Area C_COMPCDE__C_MNGAREA C_MNGAREA	ZR_*_CA_P08
Plant C_PLANT	ZR_*_CA_P02
Authorization Scope C_COMPCDE__C_AUTHMA	ZR_*_CA_P00

DataFlow

Overview





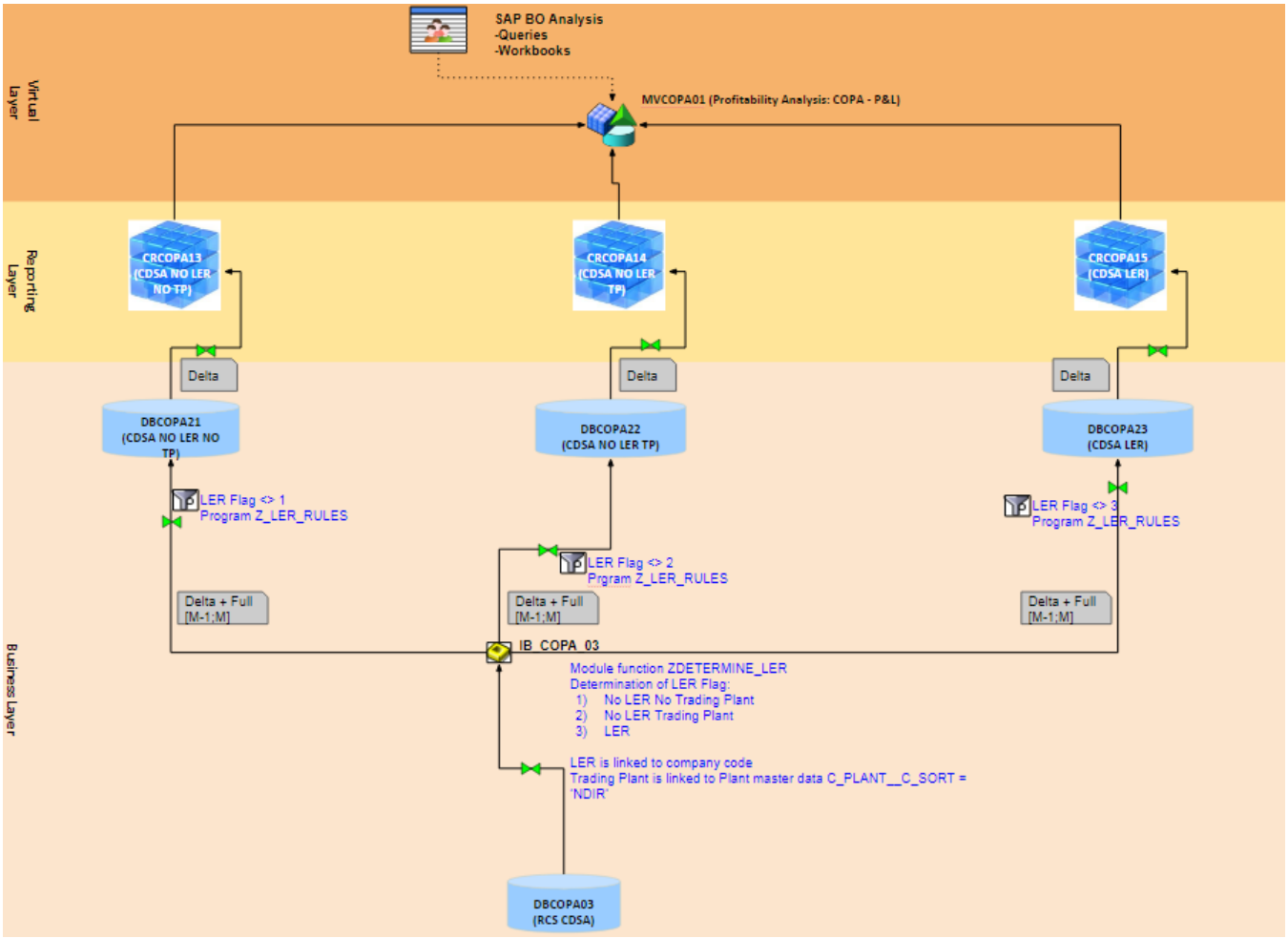
https://drive.google.com/file/d/1De8PXqJ4-roA9qB8_j20Rh6Gmyjvro4PRcE3uVRukXs/view

MVCOPA01 (WBP)

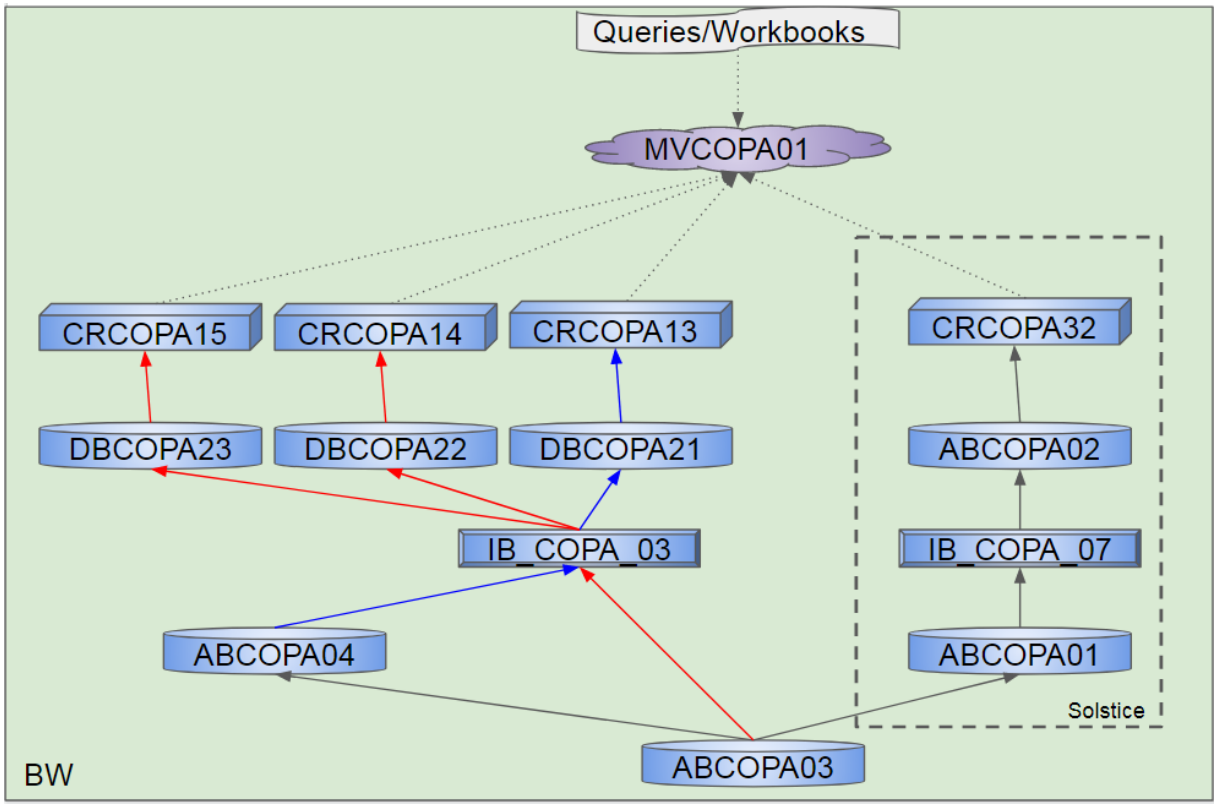
For multiprovider MVCOPA01, not all cubes associated are used for integrated margin report.

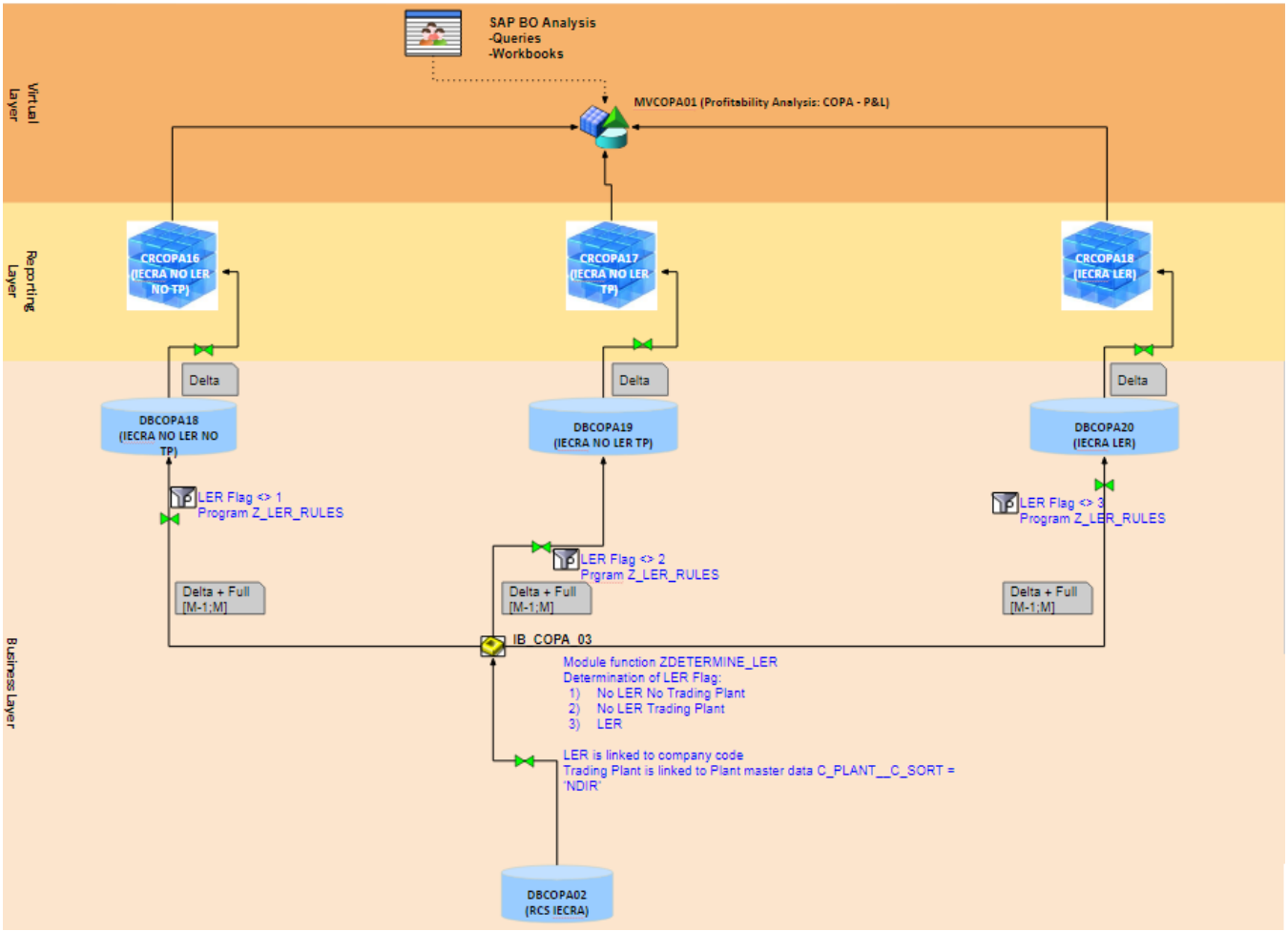
Only the providers with IM in red are concerned:

WP1



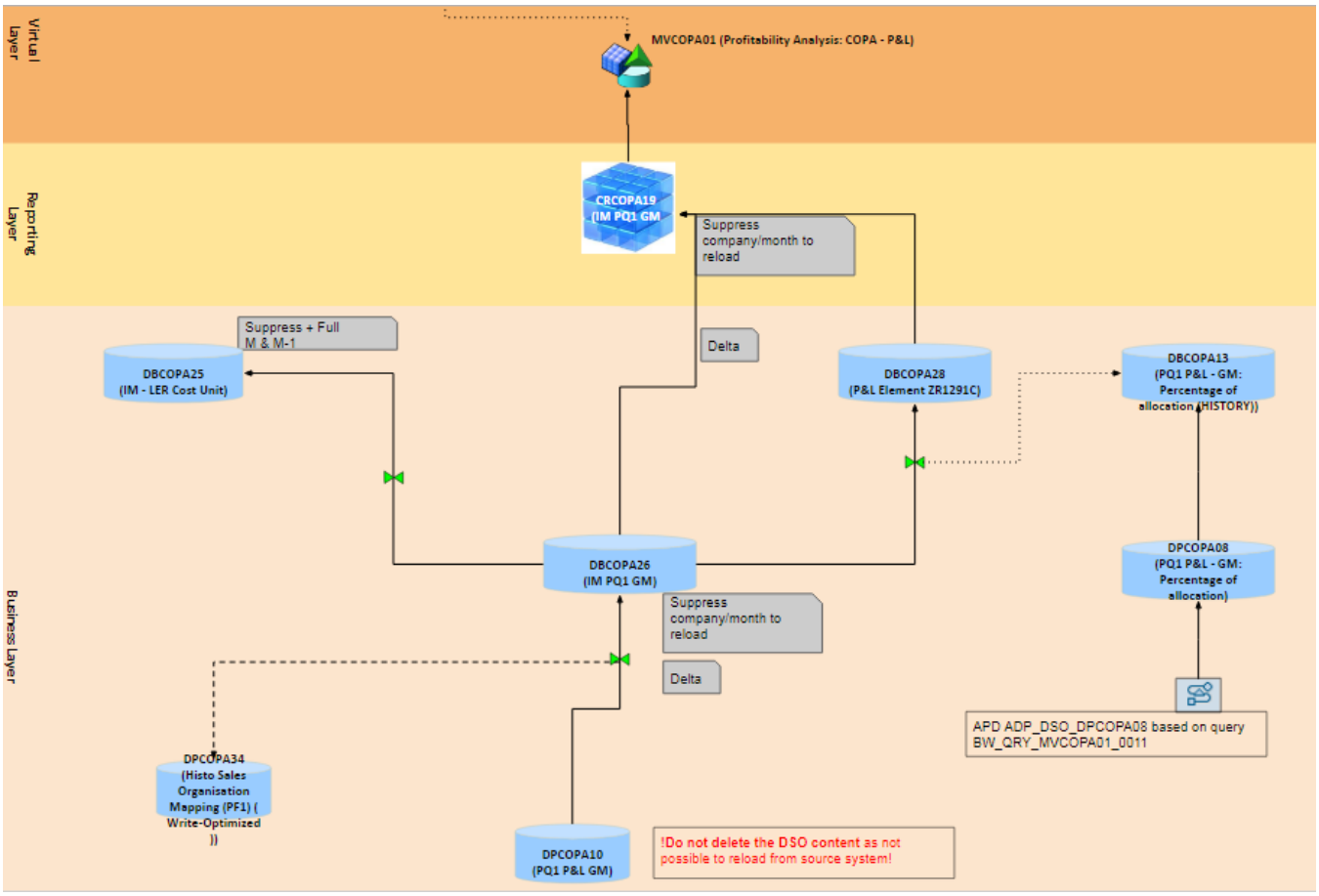
Updated dataflow after Solstice update (Rules are unchanged except for the Solstice split)


Queries/Workbooks
MVCOPA01
CRCOPA15
CRCOPA14
CRCOPA13
CRCOPA32
DBCOPA23
DBCOPA22
DBCOPA21
ABCOPA02
IB_COPA_03
IB_COPA_07
ABCOPA04
ABCOPA01
Solstice
ABCOPA03
BW

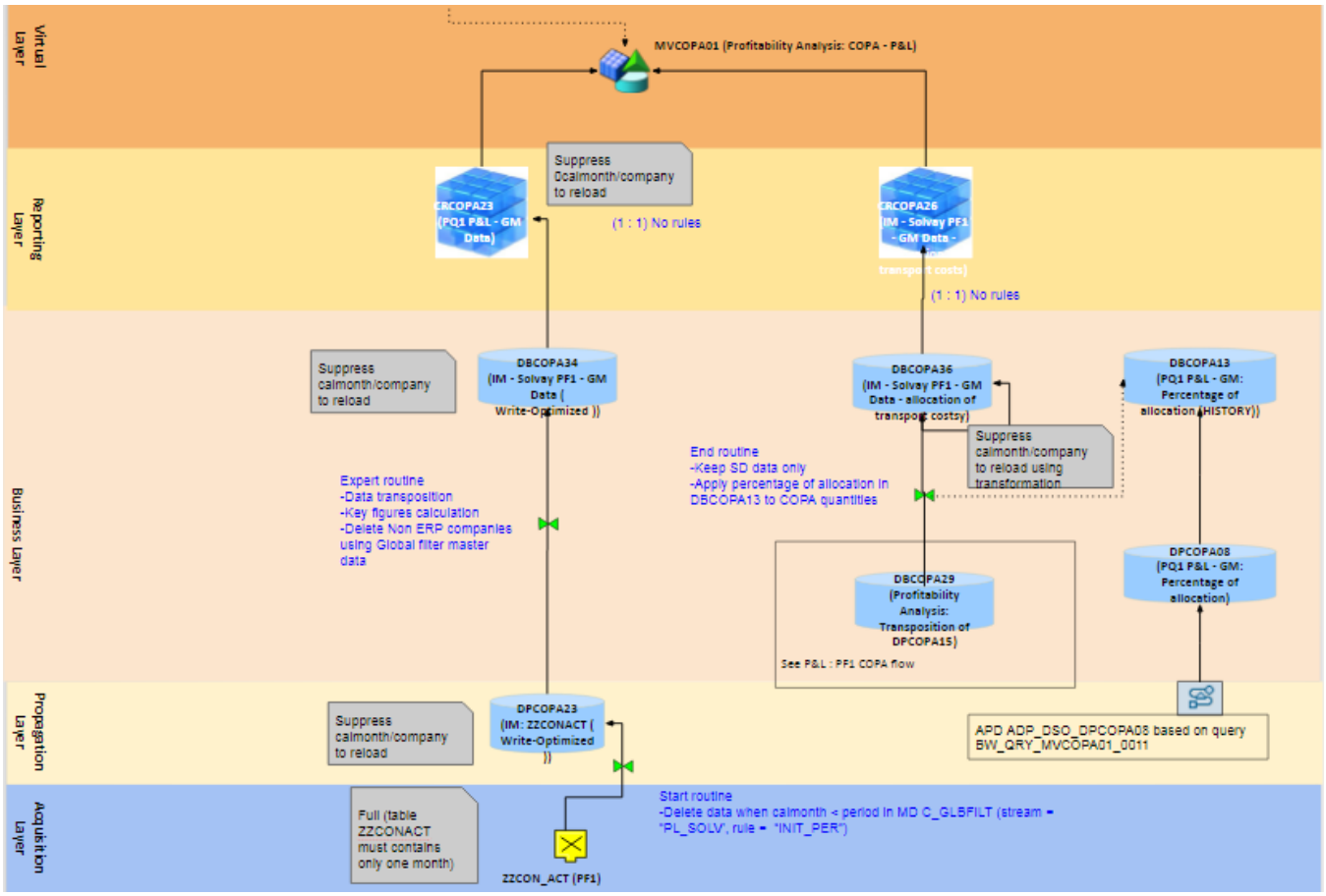

Virtual Layer
Reporting Layer
Business Layer
SAP BO Analysis
-Queries
-Workbooks
MVCOPA01 (Profitability Analysis: COPA - P&L)
CRCOPA16 (IECRA NO LER NO TP)
CRCOPA17 (IECRA NO LER TP)
CRCOPA18 (IECRA LER)
Delta
Delta
Delta
DBCOPA18 (IECRA NO LER NO TP)
DBCOPA19 (IECRA NO LER TP)
DBCOPA20 (IECRA LER)
LER Flag <> 1
Program Z_LER_RULES
LER Flag <> 2
Prgram Z_LER_RULES
LER Flag <> 3
Program Z_LER_RULES
Delta + Full [M-1;M]
Delta + Full [M-1;M]
Delta + Full [M-1;M]
IB_COPA_03
Module function ZDETERMINE_LER
Determination of LER Flag:
1) No LER No Trading Plant
2) No LER Trading Plant
3) LER
LER is linked to company code
Trading Plant is linked to Plant master data C_PLANT__C_SORT = 'NDIR'
DBCOPA02 (RCS IECRA)

PQ1:

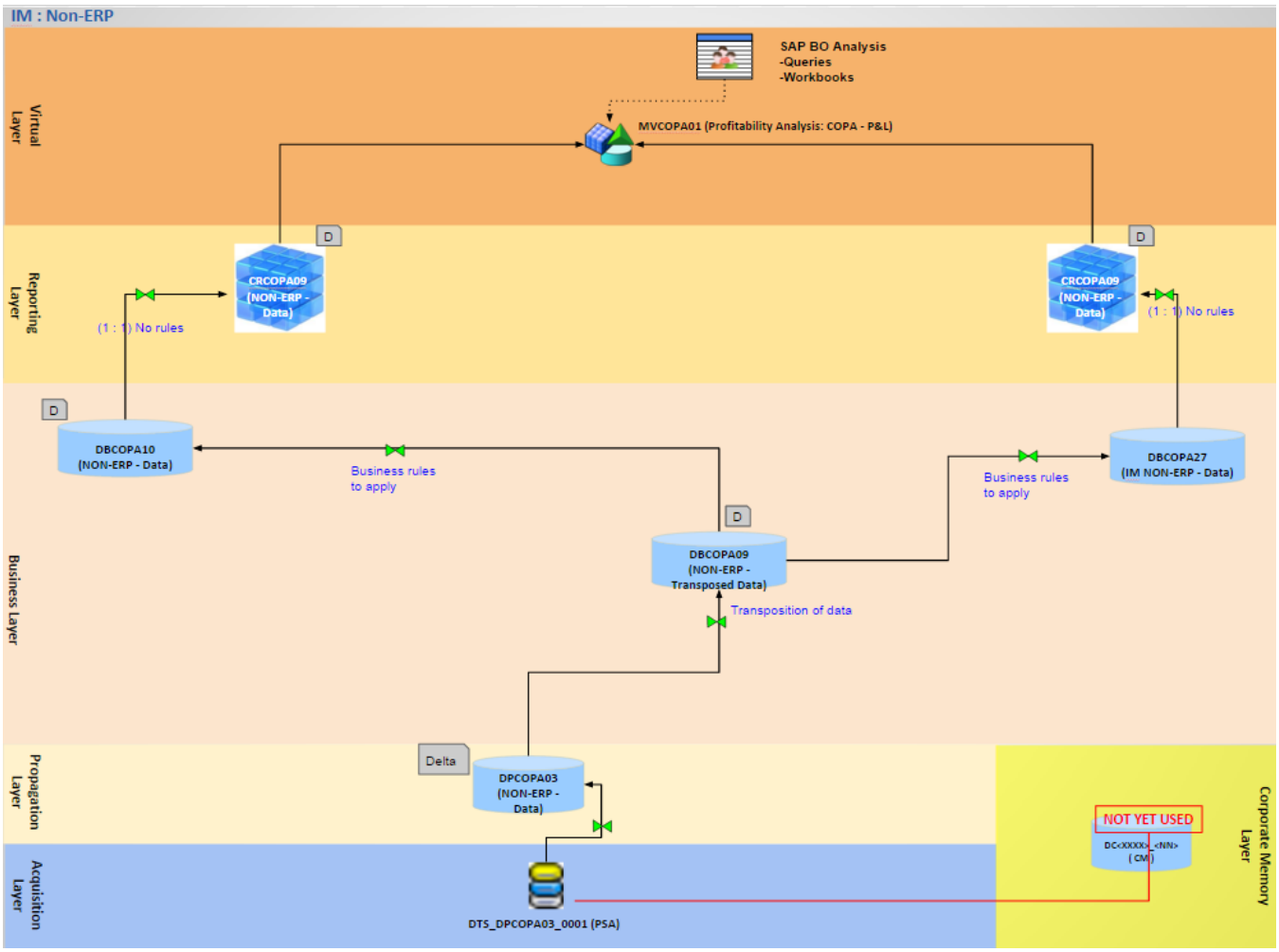
PQ1 flows are kept only for historical data, they are replaced by PF1 flows since 01.2018.

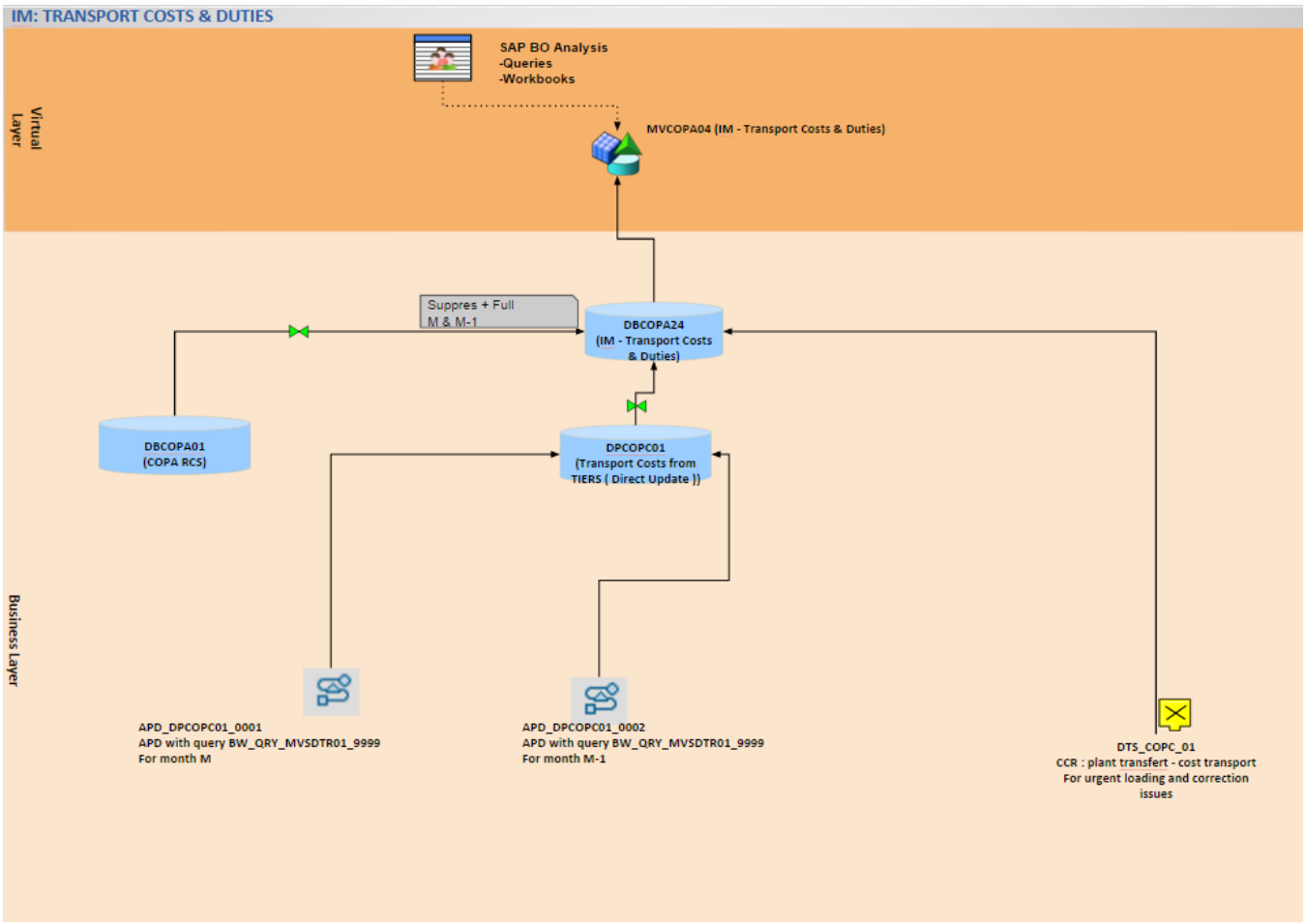


PF1:


Virtual Layer
Reporting Layer
Business Layer
Propagation Layer
Acquisition Layer
MVCOPA01 (Profitability Analysis: COPA - P&L)
CRCOPA23 (PQ1 P&L - GM Data)
Suppress 0calmonth/company to reload
(1 : 1) No rules
CRCOPA26 (IM - Solvay PF1 - GM Data -
transport costs)
(1 : 1) No rules
Suppress calmonth/company to reload
DBCOPA34 (IM - Solvay PF1 - GM Data (Write-Optimized))
DBCOPA36 (IM - Solvay PF1 - GM Data - allocation of transport costsy)
DBCOPA13 (PQ1 P&L - GM: Percentage of allocation (HISTORY))
Suppress calmonth/company to reload using transformation
End routine
-Keep SD data only
-Apply percentage of allocation in DBCOPA13 to COPA quantities
Expert routine
-Data transposition
-Key figures calculation
-Delete Non ERP companies using Global filter master data
DBCOPA29 (Profitability Analysis: Transposition of DPCOPA15)
See P&L : PF1 COPA flow
DPCOPA08 (PQ1 P&L - GM: Percentage of allocation)
Suppress calmonth/company to reload
DPCOPA23 (IM: ZZCONACT (Write-Optimized))
APD ADP_DSO_DPCOPA08 based on query BW_QRY_MVCOPA01_0011
Full (table ZZCONACT must contains only one month)
Start routine
-Delete data when calmonth = period in MD C_GLBFILT (stream = "PL_SOLV", rule = "INIT_PER")
ZZCON_ACT (PF1)

NON ERP:


IM : Non-ERP
Virtual Layer
Reporting Layer
Business Layer
Propagation Layer
Acquisition Layer
Corporate Memory Layer
SAP BO Analysis
-Queries
-Workbooks
MVCOPA01 (Profitability Analysis: COPA - P&L)
D
CRCOPA09 (NON-ERP - Data)
(1 : 1) No rules
D
CRCOPA09 (NON-ERP - Data)
(1 : 1) No rules
D
DBCOPA10 (NON-ERP - Data)
Business rules to apply
Business rules to apply
DBCOPA27 (IM NON-ERP - Data)
D
DBCOPA09 (NON-ERP - Transposed Data)
Transposition of data
Delta
DPCOPA03 (NON-ERP - Data)
NOT YET USED
DC<XXXX>_<NN> (CM)
DTS_DPCOPA03_0001 (PSA)



Infoarea & Infoprovider

Infoarea Name	Infoarea Techname
Product Cost Controlling	AREA_F_COPC
ODS: Product Cost Controlling	AREA_F_COPC_ODS
CCR: Market Margin	AREA_F_COPC_MM

Infoprovider Name	Infoprovider Techname
Material Units	IST_PCMA
CCR: Cost elements matrix	ODS_PCP2
CCR: released costs estimates	ODS_PCP3
CO-PC: list of materials of utilities (10)	ODS_PC1A
CO-PC: list of materials of utilities (30)	ODS_PC2A
CO-PC: order header quantity (10)	ODS_PC1B
CO-PC: order header quantity (30)	ODS_PC2B
CCR : Product Cost Planning - All Cost Estimates	CUB_PCP01
CCR Exploded Itemization	CUB_PCP02
CO-PC: Manufacturing Costs per Process Order (10)	CUB_PC001

CO-PC: Manufacturing Costs per Process Order (30)	CUB_PC002
CO-PC: Manufacturing Costs per Process Order	MPR_PC001
Stock valorisation by costing	MPR_ICPC1
CCR : plant transfert - cost transport	ODS_PCP5
Transport Costs & Duties	DBCOPA24
CCR: Integrated margin	ODS_PCP4
CCR: Integrated margin first-calculation (Direct Update)	ODS_PCP6
CCR: Product Cost Items	ODS_PCP1
Cost Components for Cost of Goods Mfd	ODS_PCP7
Resource's Unit Price	ODS_PCP8
CCR: Product Cost Items (Market Margin)	DSO_PCP1
Purchase Price (Market Margin)	DSO_PCP2
CCR: Released Costs Estimates (Market Margin)	DSO_PCP3

Technical Rules on Workbench

Integrated Margin for EP & PI

Core Query Name	Core Query Techname	Infoprovider Name	Infoprovider Techname
BW - Integrated Margin (Core Query)	BW_QRY_ODS_PCP4_0001	CCR: Integrated margin	ODS_PCP4
BW - Integrated Margin (Core Query)	BW_QRY_ODS_PCP4_2	CCR: Integrated margin first-calculation	ODS_PCP6

Infoprovider Name	Infoprovider Techname	Source System	Source Infoprovider Name	Source Inforprovider Techname
CCR: Integrated margin	ODS_PCP4	WBP_400	CCR: Integrated margin first-calculation (Direct Update)	ODS_PCP6
CCR: Integrated margin first-calculation (Direct Update)	ODS_PCP6	WBP_400	Updated by ABAP Program	1) Z_M_INT 2) Z_M_INT_IP
CCR: Product Cost Items (Market Margin)	DSO_PCP1	WP1_400 WBP_400	Cost components CCR: Product Cost Items (Market Margin)	DTS_KEKO_CKIS DSO_PCP1
CCR: Released Costs Estimates (Market Margin)	DSO_PCP3	WP1_400 WBP_400	Product Cost Planning: Released Calculations CCR: released costs estimates (Markte Margin)	0CO_PC_PCP_02 DSO_PCP3
Purchase Price (Market Margin)	DSO_PCP2	DW2	Database: DW2 Table: GL_COST_PURCHASE	6DB_GL_COST_PURCHASE

KT file.

Some e xplanations on P&L wiki page .

Data Update Conditions for DSO_PCP1 from DTS_KEKO_CKIS

Data Source: DTS_KEKO_CKIS
Source System: WP1_400
Data Flow Version: BI 7.0
Transformation: RSDS DTS_KEKO_CKIS WP1_400 -> ODSO DSO_PCP1 (0K1O4SUXOC9DPNTS7R3JSO0DRSOF0BY9)
Start Routine: This start routine is to do 2 main tasks.
1) It is to delete all records where the amount and quantity is equal to zero.

2) It is to delete all records where the costing variants are not equal to ZFO, Z25 and ZEP.

After the start routine, each individual record will have fields that will be set with constant values or formulas.
Individual Constants:
1) Costing Variant is overwrited with the new costing variant value ZIP that is defined for this project.

2) Fiscal Variant is fixed to K4.

3) Cost Component Structure is fixed to Z1.

Individual Routines:
1) Fiscal Year/Period required some ABAP codings to convert the incoming data into the correct format to be updated.

2) For the key figure Variable Amount, a formula is required to take the total amount minus the fixed amount to get just the variable amount.

Data Update Conditions for DSO_PCP3 from 0CO_PC_PCP_02

Data Source: 0CO_PC_PCP_02

Source System: WP1_400

Data Flow Version: BI 7.0

Transformation: RSDS 0CO_PC_PCP_02 WP1_400 -> ODSO DSO_PCP3 (0CY1UWMKPVWXUI74VIAPF3V2S12PIYQ1)

Start Routine: This start routine is to do 2 main tasks.

1) It is to delete all records where the currency type is not equal to Company Currency (Value = 10).

2) It is to delete all records where the costing variants are not equal to ZFO, Z25 and ZEP.

After the start routine, each individual record will have fields that will be set with constant values or formulas.

Individual Constants:

1) Costing Variant is overwrited with the new costing variant value ZIP that is defined for this project.

Individual Routines:

1) For the key figure 0AMOUNT, we add the Fixed Amount (WERTF) and Variable Amount (WERTV) together.

2) For the key figure K_CCR_100 (100 Raw Materials), we add the Fixed Amount (WERTF) and Variable Amount (WERTV) together if the Cost Component (ELEMT) equals to 100.

3) For the key figure K_CCR_105 (105 Packaging), we add the Fixed Amount (WERTF) and Variable Amount (WERTV) together if the Cost Component (ELEMT) equals to 105.

4) For the key figure K_CCR_110 (110 Toll Manufacturing), we add the Fixed Amount (WERTF) and Variable Amount (WERTV) together if the Cost Component (ELEMT) equals to 110.

5) For the key figure K_CCR_120 (120 Utilities - VC), we add the Fixed Amount (WERTF) and Variable Amount (WERTV) together if the Cost Component (ELEMT) equals to 120.

6) For the key figure K_CCR_200 (200 Labor Costs), we add the Fixed Amount (WERTF) and Variable Amount (WERTV) together if the Cost Component (ELEMT) equals to 200.

7) For the key figure K_CCR_210 (210 Supplies & Misc.), we add the Fixed Amount (WERTF) and Variable Amount (WERTV) together if the Cost Component (ELEMT) equals to 210.

8) For the key figure K_CCR_220 (220 Maintenance), we add the Fixed Amount (WERTF) and Variable Amount (WERTV) together if the Cost Component (ELEMT) equals to 220.

9) For the key figure K_CCR_230 (230 Overheads), we add the Fixed Amount (WERTF) and Variable Amount (WERTV) together if the Cost Component (ELEMT) equals to 230.

10) For the key figure K_CCR_240 (240 Utilities -FC), we add the Fixed Amount (WERTF) and Variable Amount (WERTV) together if the Cost Component (ELEMT) equals to 240.

11) For the key figure K_CCR_300 (300 Depreciation), we add the Fixed Amount (WERTF) and Variable Amount (WERTV) together if the Cost Component (ELEMT) equals to 300.

12) For the key figure K_CCR_310 (310 N/A), we add the Fixed Amount (WERTF) and Variable Amount (WERTV) together if the Cost Component (ELEMT) equals to 310.

End Routine:

1) The purpose of this routine is to check if the current incoming record already exists in the DSO_PCP3 from the previous month loading. If it exists, delete the incoming record.

Data Update Conditions for DSO_PCP2 from 6DB_GL_COST_PURCHASE

Data Source: 6DB_GL_COST_PURCHASE

Source System: DW2

Data Flow Version: BI 7.0
Transformation: RSDS 6DB_GL_COST_PURCHASE DW2 -> ODSO DSO_PCP2 (07G0MUNSUYM2GSSZ09F9Q6CC9OF3LCOZ)
There are 3 individual rountines in this transformation to divide the following key figure values that are of currencies Korean Won (KRW) and Japanese Yen (JPY) by 100.

- C_AMT_CP
- C_AMT_CNP
- C_AMT_AMO

Correction of IM costs - flat file dataflow (ODS_PCP4 from DTS_COPC_02)

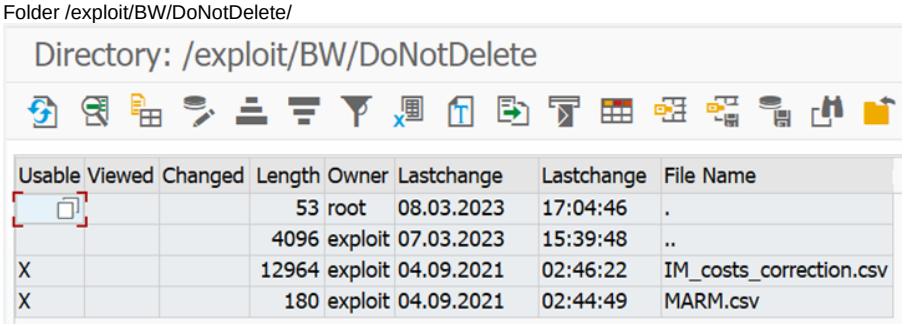
This dataflow is used in order to correct directly the costs in ODS_PCP4.

DTS_COPC_02 extract the csv file from BW server, under the folowing logical path: Z_IM_CORRECTION (/exploit/BW/Integrated_Margin/IM costs correction.csv))

Due to recent archive process the file in the path Z_IM_CORRECTION (/exploit/BW/Integrated_Margin/IM costs correction.csv)) is archived.

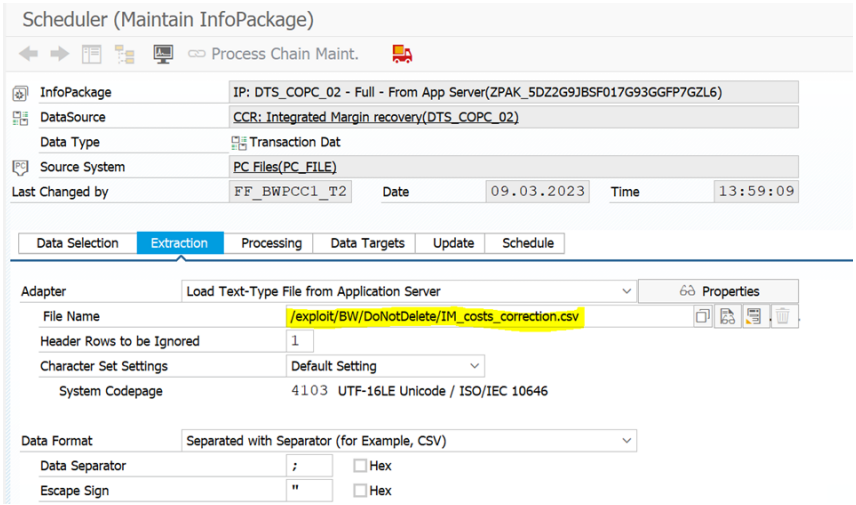
We asked Basis team to restore the file and they created new folder and placed the files under the folder.

Folder /exploit/BW/DoNotDelete/

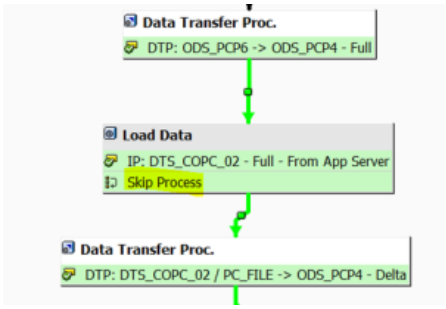


Usable	Viewed	Changed	Length	Owner	Lastchange	Lastchange	File Name
			53	root	08.03.2023	17:04:46	.
			4096	exploit	07.03.2023	15:39:48	..
X			12964	exploit	04.09.2021	02:46:22	IM_costs_correction.csv
X			180	exploit	04.09.2021	02:44:49	MARM.csv

we have changed the logical path Z_IM_CORRECTION to the new location /BW/exploit/DoNotDelete/IM_costs_correction.csv



We have added the skip step for this one as it not required to load every month (will use it when required)



We created the same for WBD, now both WBP and WBD are aligned.

Here is an exemple of file to upload: https://drive.google.com/drive/folders/16m_tjMl0l6yXPGJI4uHdwKa0C7BtfTpq

The transformation into ODS_PCP4 is similar to the one from ODS_PCP6: it is direct mapping except the conversion of the lot size in Kilogram.

This file is loaded into ODS_PCP4 in the Process Chain after the loading from ODS_PCP6 so that the correction is not cleared after an historical recovery.

Read more information in :
https://drive.google.com/open?id=0BwtAGBKWM-z-cWdzQ0QyTTFpRHM

Simple/Integrated/Market Margin

The Simple Margin is the margin done between each transaction.
o Ex : Simple Margin from A to B = 10. Simple Margin from B to End Customer = 10.

The Integrated Margin is the cumulated margin from the beginning of the chain.
o Ex : Integrated Margin at A = 10 (same as simple margin since nothing before that)

Integrated Margin at B = 20 because it “integrates” the margins done before.

The idea of integrated margin is to give you, when we sell goods to a customer an idea of the overall margin done at Solvay level, not only the vision at the last entity.
(For example you could have a negative margin between B and end customer, but a large margin between A and B so the group is still getting a good margin).

Unfortunately it’s not possible in the system to simply cumulate the simple margins, so instead the BO system recalculates all the cumulated costs and based on that recalculates the integrated margins :

Basically : Integrated Margin at B = (Sales B to EndCust) – B Costs – A Costs

The “**Market Margin**” is specifically used for the cases of sales between EP and PI GBU inside a legal entity.

Both GBU want to be able to distinguish their own margins, but the normal system doesn’t allow them to do this because usually there is no invoice between them : EP and PI are in the same entity and sometimes even the same plant, so they cannot create invoices.

To solve this BO has a system where EP/PI can upload a “Market Price” agreed between them. The “Market Margin” will therefore be recalculated taking this “Market Price” when there is a transfer of goods between EP and PI.

Update with project 8612 - Solstice (CPX)

BW - CO - Integrated Margin

In scope of project 8612 - Soltice we put in place a link between WBP and CPX system to take into account the vault data in calculation of Integrated Margin.

To do that, we have three steps:

1 - Transfert source data from WBP to CPX.

2 - Calculation of IM in CPX side with data from WBP and WPX.

3 - Transfert the result of IM in CPX to WBP and take it into account in the calculation of IM in WBP.

CPX data flow

DSO correspondance WBP - CPX :

CPX	WBP
ABCOMM01	ODS_PCP 1
ABCOMM02	ODS_PCP2
ABCOMM03	ODS_PCP3
ABCOMM04	ODS_PCP5
ABCOMM05	ODS_PCP6
ABCOMM06	OSD_PCP4

ABCOPA01	DBCOPA24
ABMARM01	ODS_MARM

Details:

To put in place these three steps we had to split the chain RSP_COPCP_MONTHLY in two chains:

RSP_COPCP_MONTHLY to load the source of data and PC_INT_MARGIN to retreive result of IM from CPX (in dso ABDSOPCP1) and calcul the IM in WBP side.

More details about the split here:

https://drive.google.com/file/d/1aI-ptjt44Whj_oJYnwz-AYQBHUuiOUIi_GOV0dhOvDU/view#

1 - transfert from WBP to CPX:

We use datasource from WBP dso to load data in CPX side.

At the end of process chain **RSP_COPCP_MONTHLY** there is a process "Remote process chain" to launch process chain PC_CO_PC_MM_04 in CPX.

2 - calculation of IM in CPX:

The principle is similar to what we done in WBP. We load data from WPX and WPB in ABDSOPCP1 and after we execute program ZBW_M_INT to calculate the Integrated Margin. All is done in meta chain **PC_CO_PC_MM_04** (CPX).

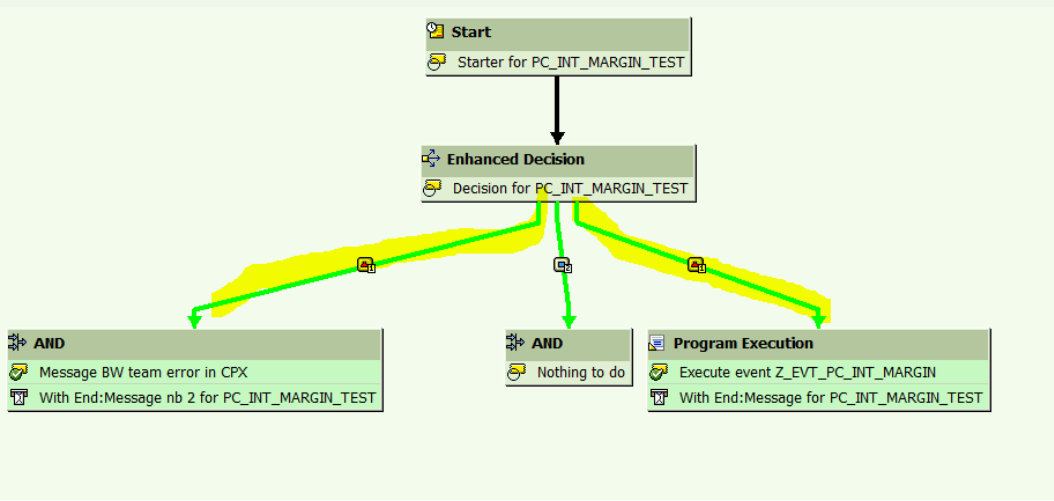
ZBW_M_INT in CPX is a copy Z_M_INT in WBP, so if there is a change in Z_M_INT it may be helpful to make the same change in ZBW_M_INT.

3 - Transfert the result of IM in CPX to WBP and take it into account in the calculation of IM in WBP:

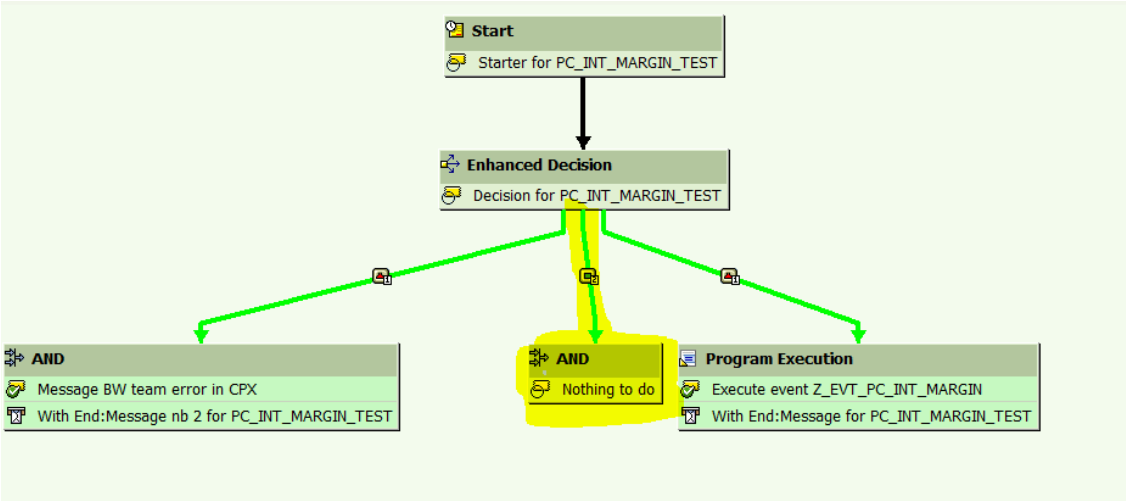
After the calcultion of IM in CPX, a webmethods will sent a flat file with results (/exploit/BW/Integrated_Margin/OH_COMM01.CSV) in WBP and execute the chain **PC_INT_MARGIN** to load dso DSO ABDSOPCP1 with data from CPX, and after load this in ODS_PCP1 and do the calculation of IM.

If an error occurs in CPX system or with WebMethods, there is a process chain **PC_INT_MARGIN_TEST (Integrated Margin - test if Integrated Margin 2 is scheduled)** which runs every D+3 at 1 a.m. to check if PC_INT_MARGIN is running or not:

If not, we can suppose there was a problem and we force the execution of process chain PC_INT_MARGIN.



If yes, there is no problem, it's not necessary to force the execution of PC_INT_MARGIN.

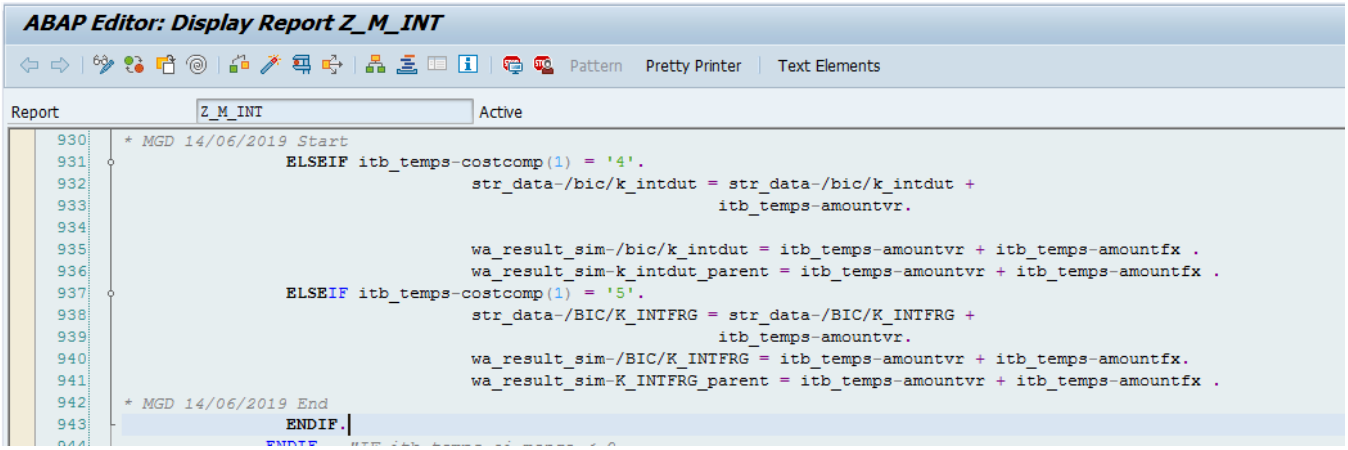


The calculation of IM has same principle than before, there are two things that change with CPX data.

- Webmethods load data from CPX with a flat file and this flat file is loaded in DSO AADSOPCP1 APDSOPCP1 ABDSOPCP1 and ABDSOPCP2 for historical save.

  Data from DSO ABDSOPCP1 are loaded in ODS_PCP1, like that we have the source from WBP (WP1) and CPX (WPX) to calculate the IM.

  Between DSO APDSOPCP1 and ABDSOPCP1 we transpose the data to adapt the source to the next target (ODS_PCP1). Some values of ABDSOPCP1 are defined in master dat global filter (C_GLBFILT) on stream "DSO_PCP1"
- In program Z_M_INT we calcul the Integrated Duty and the Integrated Freight with data from CPX (assigned in cost component 400 and 500 in loading of DSO ABDSOPCP1) (this calculation is not done in CPX side with prorgam ZBW_M_INT).



Reporting

Technical Documentation - RTR - Profit and Loss (P&L) + Integrated Margin (IM) (WBP)

Dependencies with other applications

Data Loading

Info Providers and objects loaded

Main Process Chain	Final Provider Loading	Frequency	Time start	Duration
RSP_COPCP_MONTHLY	DSO_PCP2 DSO_PCP1 / ODS_PCP1	Monthly (2nd working day)	11:30 pm	20 minutes
RPC_CCR_PCP1_MTHLY_CHAIN	DSO_PCP3 / ODS PCP3 / CUB_PCP1 /	Monthly (1st working day)	11:30 pm	45 minutes
PC_COPA_PL_46	ODS_PCP5	not executed since 2020		
PC_COPA_PL_21	DBCOPA24	Daily	arround 2:15 am	arround 15 minutes
PC_INT_MARGIN	ODS_PCP6 / ODS_PCP4	Monthly (3th working day) (after PC_CO_PC_MM_04 in CPX system)	arround 00:30 am	arround 3 hours
PC_CO_PC_MM_04 (CPX)	ABCOMM06	Monthly (3th working day) (after RSP_COPCP_MONTHLY)	arround 00:00 am	arround 20 mins

Data Quality Control

Data come from SAP system. To compare data between BW and sources systems, check propagation layers.

Operational Documentation

Procedures

<Describe the recurring procedures needed to operate the application (eg. start/pause/terminate/restart the app processes, data preparation, data ingestion, ETL, data visualization, data export, other manual activities)>

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)>