ZZ-OBSOLETE-APO - Interfaces

APO> BW loadings are stopped from 7th of June

		CT	CH	PX	PY	no GBU	TOTAL
Dynamic							
APO - Polyamide Downstream (Dynamic)	DBAPO008	117819		836		152	**118807**
APO - Polyamide Upstream (Dynamic)	DBAPO010	108224		100339	45467		**254999**
APO - Special Chemicals / Rare Earth (Dynamic)	DBAPO002		24168				**24168**
APO - Special Chemicals (Dynamic)	DBAPO004		310450			1600	**312050**
To be removed due to CH Go-Live from 7th of July							
Can be removed as not used by Coatis (Kelly Bertucci's email 15-06-2020)							
Can be removed as not used in Segmentation Report (only BW report used by PAX)							
Can be removed as no GBU is determined, no reporting possible							
Conclusion							
APO Daily Dynamic loadings will be removed from scheduling since Tuesday 7th of July							
APO Dynamic cube will be emptied Tuesday 7th of July. Instead DynaSys Dynamic cube (CRDYN11) will be enhanced with Special Chem data							
Action 1 => chain PC_APO_17 which run daily at 1am CET will be removed from scheduling from 7th of July					DONE 07/07/2020 at 11am CET		
Action 2 => APO - Global (Dynamic) / CRAPO002 will be emptied					DONE 07/07/2020 at 11am CET		
Action 3 => BW APO model will be cleaned by end of year							
APO Monthly SnapShot loadings will be removed from scheduling after 6th of July run							
APO Snapshop cubes will be kept with their data							
Action 1 => chain PC_APO_18 which run monthly at 9am CET will be removed from scheduling					DONE 07/07/2020 at 11am CET		
Action 2 => BW APO model, below Cubes will be cleaned by end of year							

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  - Rules & Explanations
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    - 5 : Loading of attributes from MD for loading coming from SOLVAY (Only the DSO for Special Chemicals)
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General presentation

Objective of the application

This application extract the forecasts from the application APO. The data is loaded and aggregated in BW and made accessible through a multiprovider which regroups data from three application. APO, Dynasys and Logility. In time, application Logility will be terminated and the data coming from APO should be integrated in Dynasys.

Tool Leader + IT leader of the application: Celia Gonzales

Usage information

History

Golive In May 2017

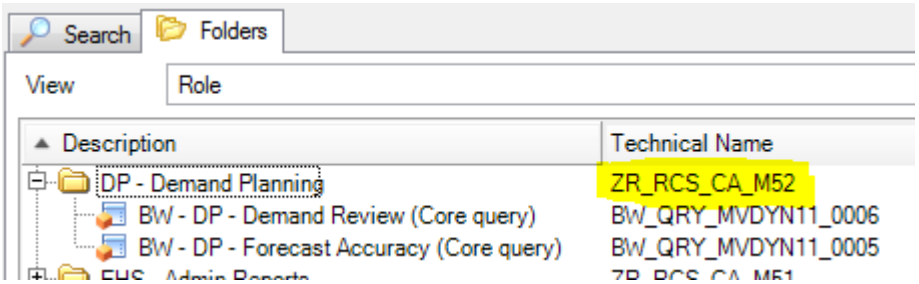
Roles & Access

Roles and access

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

This should be the same as what's done for Dynasys.

Role Code	Role Description	Explanation

ZR_RCS_CA_M52	DP - Demand Planning	Role Menu Dynasys (APO uses the same queries) Currently (Nov 2016), only 2 queries published in this role 
ZBI_RCS_DP_A02	Demand Planning - Dynasys	Role utilisateur Dynasys Authorization object **ZBI_DPS** • gives access to Application Area **IA_DPS_DYNASYS** • authorization limited on **GBU (CPFCTR1_2)** (in WBP since 14/03/2017)
ZBI_RCS_DP_A03	Demand Planning - Dynasys Keyuser	Authorization object **ZBI_DPS_K** • gives access to transaction ZMAINT_MATPLANT + ZMAINT_MATVENDOR • gives access to Application Area **IA_DPS_DYNASYS** • authorization limited on **GBU (CPFCTR1_2)** (in WBP since 14/03/2017)

Authorization objects

List of autorisation objects mandatory for the application.

This should be the same as what's done for Dynasys.

Authorization object	Explanation
GBU (CPFCTR1_2)	ZR_*_CA_P05

Dataflow overview

Reporting documentation drive folder:

https://drive.google.com/open?id=0BxkySrtHryoBeG05a0ljVWJpSmM

Functional and Technical rules on Workbench + Reporting

Rules & Explanations

1 : Cleaning of incoming data before propagation datastore objects

C_MATNR2: adjust the format of the material number to the right number of digit, adding/removing zeros in the process.

0LOGSYS : Determination of system source

C_SHIPTID & C_SOLDID (only for Special Chemical): Removing of source system extension and adjustment of the format

2 : Determination of previous period for C_FCSTMTH when loading the snapshots

It's usually the previous month. It can however be fixed to a specific value through the use of filters in masterdata C_GLBFILT

Characteristic C_GLBFILT - maintain master data: List

Data Records to be Edited

Strea...	Rule	Counter	Global Filter Descri	Sign	Option	Low	Hight	Acti...
APO	20_MAN_PER	1	APO - Manual Period for Novecare	I	EQ	201701		
APO	20_PHOTO_M	1	APO - Manual Photo for Novecare	I	EQ	201701		Y
APO	24_MAN_PER	1	APO - Manual Period for Specialty Chemicals / Rare Earth	I	EQ	201701		
APO	24_PHOTO_M	1	APO - Manual photo for Specialty Chemicals / Rare Earth	I	EQ	201701		Y
APO	30_MAN_PER	1	APO - Manual Period for Polyamide Downstream	I	EQ	201701		
APO	30_PHOTO_M	1	APO - Manual photo for Polyamide Downstream	I	EQ	201701		Y
APO	31_MAN_PER	1	APO - Manual Period for Polyamide Upstream	I	EQ	201701		
APO	31_PHOTO_M	1	APO - Manual photo for Polyamide Upstream	I	EQ	201701		Y
APO	F_MAN_PER	1	APO - Manual Period for Specialty Chemicals	I	EQ	201701		
APO	F_PHOTO_M	1	APO - Manual photo for Specialty Chemicals	I	EQ	201701		Y

*DSO Business layer has key figures as Summation not Overwrite, it is required to delete old data before reload.

3 : Loading of attributes from MD for all DSOs

- BFC Global Business Unit (CPFCTR1_2) is retrieved from the corresponding attribute of Material Plant (C_MATPNT2).

  C_MATPNT2 is determined through the coupling of material and plant and is used for business assignments (ERP or BFC). It contains multiple attributes mainly loaded through either the standard attributes from datasource 0mat_plant and the MD C_SUBACT2 (a mix of Profit center (WP1) and Business area (PF1, PI1 and RHO systems)).

- Customer Group - Enterprise (C_CUSTGRP) is retrieved from the corresponding attribute of Customer - Enterprise Axis (C_CUSTENT).
- Company code (C_COMPCODE) is retrieved from the corresponding attribute of Main Shipping Plant (C_MPPLANT).
- Sales Office (C_SAL_OFF) and Sales Document type (C_DOCTYP2) have been initialised with value APO.

4 : Loading of attributes from MD for loading coming from RCS (Every DSO except the two for Special Chemicals)

- Division (0DIVISION) is retrieved from the corresponding attribute of Material (C_MATNR2).
- Sub-Activity (0G_CWWE01), also known as Iecra, is retrieved from the corresponding attribute of Technical GBR Deter CDSA Payer (C_CDSA).

  C_CDSA contains the distribution channel coupled with division. The IECRA can also be found in C_MATPNT2, but it's value is wrong.

5 : Loading of attributes from MD for loading coming from SOLVAY (Only the DSO for Special Chemicals)

- Material Group (C_MAT_GRP) is retrieved from the corresponding attribute of Material (C_MATNR2).
- Ship-To-Country (C_SHTCTRY) is retrieved from the corresponding attribute of Ship-To-Party (Core) (C_SHIPTID).
- Sub-Activity (0G_CWWE01) is retrieved from the corresponding attribute of Material Plant (C_MATPNT2).

  IECRA is specified in this dataflow as an information but is not reliable. IECRA is not an organizational structure used in Solvay.

- Commercial Product/Material Group (C_PROD) is retrieved from the corresponding attribute of Material (C_MATNR2).

  Commercial Product for RCS and Material Group for Solvay

6 : Keyfigures in summation when loading the business datastore objects

Data in APO can't really be aggregated in a DSO as every characteristic is key (like in an infocube). This means that the semantic keys which were determined for the propagation level is not absolute. Since the DSO are in write optimized, there is no loss of data thanks to the techical keys. It is necessary however to load the key figures in summation at business level.

7 : Determination of Concerned Period (C_FLGMTH) for dynamic dataflow

We are always loading data for current month M

8 : Determination of Concerned Period (C_FLGMTH) for snapshot dataflow

The month view is determined depending on the difference between the period 0CALMONTH of the forecast and the considered period C_FCSTMTH (date of the photo).

```
IF 0CALMONTH = C_FCSTMTH THEN C_FLGMTH = 'M'
```

ELSE IF 0CALMONTH > C_FCSTMTH THEN C_FLGMTH = 'M-2, M-3,...' (There is no M-1)

ELSE C_FLGMTH = 'N/A'

Examples:

Calendar Year/Month (0CALMONTH)	End of Month View (C_FCSTMTH)	Concerned Period (Flag) (C_FLGMTH)
07.2017	07.2017	M
02.2019	07.2017	M-20
08.2016	07.2017	N/A

9 : Determination of GH quantity and bias for snapshot dataflow

For each snapshot loaded in a business datastore object, we rework the entire datastore object. We update the Gross History quantity for past snapshots using the latest GH quantity depending on the keys of the DSO.

There is 4 bias which are calculated:

- The bias for the final forecast is calculated through the following: ABS (FF Quantity - GH quantity).
- The bias for the sales team forecast is calculated through the following: ABS (STF Quantity - GH quantity).
- The bias of the statistical forecast is calculated through the following: ABS (STATF Quantity - GH quantity).
- The bias of the demand review forecast (shifted forecast) is calculated through the following: ABS (DRF Quantity - GH quantity). *Only for special chem

Dependencies with other applications

This dataflow is using the same multiprovider than the dataflow for dynasys. Therefore when modifying multiprovider MVDYN11, beware of the impacts.

The loading of the snapshot part is done on the same day than dynasys.

Qlikview is also use query of APO QV_BW_QRY_MVDYN11_0005

Data loadings

Info providers and objects loaded

There is a high volume of data for the snapshot dataflow, which is why a clean-up was established during the loading in the PC. We keep only 36 months of history. The deletion process is done on every layer.

As the snapshot and dynamic dataflow use the same source, a decision tree was used to stop one loading if the other is already on-going.

Id	Description	Type	Frequency	Comments
PC_APO_17	META - D - APO - Current period and future periods	Master	Daily	Master Chain for dynamic forecasts
PC_APO_11	TD - D - APO - Propagation Layer - Current and future period	Master	Daily	Loading of the propagation layer for dynamic forecasts for every sources
PC_APO_01	TD - D - APO - PL - Sp & Ch / Rare Earth - Cur. and Fut. Per	Single	Daily	Loading of dynamic forecasts for Specialty Chemicals / Rare Earth
PC_APO_02	TD - D - APO - PL - Novecare - Current and Future Periods	Single	Daily	Loading of dynamic forecasts for Novecare
PC_APO_05	TD - D - APO - PL - Polyamide Downstream - Cur. and Fut. Per	Single	Daily	Loading of dynamic forecasts for Polyamide Downstream
PC_APO_07	TD - D - APO - PL - Polyamide Upstream - Cur. and Fut. Per	Single	Daily	Loading of dynamic forecasts for Polyamide Upstream
PC_APO_09	TD - D - APO - PL - Special Chemicals - Current and Fut. Per	Single	Daily	Loading of dynamic forecasts for Specialty Chemicals
PC_APO_23	TD - M - APO - Business Layer - Current and future periods	Master	Daily	Loading of the business layer for dynamic forecasts for every sources
PC_APO_25	TD - D - APO - BL Novecare - Current and future periods	Single	Daily	Loading of dynamic forecasts for Novecare

PC_APO_26	TD - D - APO - BL Polya. Downst - Current and future periods	Single	Daily	Loading of dynamic forecasts for Polyamide Downstream
PC_APO_27	TD - D - APO - BL Polya. Upstr - Current and future periods	Single	Daily	Loading of dynamic forecasts for Polyamide Upstream
PC_APO_14	TD - D - APO - BL Sp & Ch / Rare Earth - Current and fut per	Single	Daily	Loading of dynamic forecasts for Specialty Chemicals
PC_APO_21	TD - D - APO - BL Special Chemicals - Current and future per	Single	Daily	Loading of dynamic forecasts for Specialty Chemicals
PC_APO_15	TD - D - APO - Reporting Layer - Current and future period	Single	Daily	Loading of the reporting layer for dynamic forecasts for every sources
PC_APO_40	MD - D - APO - Master Data	Single	Daily	Loading of APO master data
PC_APO_18	META - M - APO - Snapshots	Master	Monthly	Loading of APO Snapshots
PC_APO_12	TD - M - APO - Propagation Layer - Snapshot	Master	Monthly	Loading of snapshots for every sources in the propagation layer
PC_APO_03	TD - M - APO - PL - Special Chemical / Rare Earth - Snapshot	Single	Monthly	Loading of snapshots forecasts for Specialty Chemicals / Rare Earth
PC_APO_04	TD - M - APO - PL - Novecare - Snapshot	Single	Monthly	Loading of snapshots forecasts for Novecare
PC_APO_06	TD - M - APO - PL - Polyamide Downstream - Snapshot	Single	Monthly	Loading of snapshots forecasts for Polyamide Downstream
PC_APO_08	TD - M - APO - PL - Polyamide Upstream - Snapshot	Single	Monthly	Loading of snapshots forecasts for Polyamide Upstream
PC_APO_10	TD - M - APO - PL - Special Chemicals - Snapshot	Single	Monthly	Loading of snapshots forecasts for Specialty Chemicals
PC_APO_24	TD - M - APO - Business Layer - Snapshots	Master	Monthly	Loading of snapshots for every sources in the business layer
PC_APO_28	TD - M - APO - BL Novecare - Snapshots	Single	Monthly	Loading of snapshots forecasts for Novecare - Deletion of snpashots older than 36 months
PC_APO_29	TD - M - APO - BL Polyamide Downst - Snapshots	Single	Monthly	Loading of snapshots forecasts for Polyamide Downstream - Deletion of snpashots older than 36 months
PC_APO_30	TD - M - APO - BL Polyamide Upstream - Snapshots	Single	Monthly	Loading of snapshots forecasts for Polyamide Upstream - Deletion of snpashots older than 36 months
PC_APO_22	TD - M - APO - BL Special Chemicals - Snapshot	Single	Monthly	Loading of snapshots forecasts for Specialty Chemicals - Deletion of snpashots older than 36 months
PC_APO_13	TD - M - APO - BL Special Chemicals / Rare Earth - Snapshot	Single	Monthly	Loading of snapshots forecasts for Specialty Chemicals / Rare Earth - Deletion of snpashots older than 36 months
PC_APO_16	TD - M - APO - Reporting Layer - Snapshot	Master	Monthly	Loading of snapshots for every sources in the reporting layer
PC_APO_33	TD - M - APO - RL Novecare - Snapshot	Single	Monthly	Loading of snapshots forecasts for Novecare - ~~6 months of history~~ concerned periods m to m-6
~~PC_APO_34~~	~~TD - M - APO - RL Novecare - Snapshot History~~	~~Single~~	~~Monthly~~	~~Loading of snapshots forecasts for Novecare - 7th to 32 months~~
PC_APO_35	TD - M - APO - RL Polyamide Downstream - Snapshot	Single	Monthly	Loading of snapshots forecasts for Polyamide Downstream - ~~6 months of history~~ concerned periods m to m-6
~~PC_APO_36~~	~~TD - M - APO - RL Polyamide Downstream - Snapshot History~~	~~Single~~	~~Monthly~~	~~Loading of snapshots forecasts for Polyamide Downstream - 7th to 32 months~~
PC_APO_37	TD - M - APO - RL Polyamide Upstream - Snapshot	Single	Monthly	Loading of snapshots forecasts for Polyamide Upstream - ~~6 months of history~~ concerned periods m to m-6
~~PC_APO_38~~	~~TD - M - APO - RL Polyamide Upstream - Snapshot History~~	~~Single~~	~~Monthly~~	~~Loading of snapshots forecasts for Polyamide Upstream - 7th to 32 months~~
~~PC_APO_20~~	~~TD - M - APO - RL Spec Chem / Rare Earth - Snapshot History~~	~~Single~~	~~Monthly~~	~~Loading of snapshots forecasts for Specialty Chemicals / Rare Earth - 7th to 32 months~~
PC_APO_31	TD - M - APO - RL Special Chemicals - Snapshot	Single	Monthly	Loading of snapshots forecasts for Specialty Chemicals - ~~6 months of history~~ concerned periods m to m-6
~~PC_APO_32~~	~~TD - M - APO - RL Special Chemicals - Snapshot History~~	~~Single~~	~~Monthly~~	~~Loading of snapshots forecasts for Specialty Chemicals - 7th to 32 months~~
PC_APO_19	TD - M - APO - RL Special Chemicals / Rare Earth - Snapshot	Single	Monthly	Loading of snapshots forecasts for Specialty Chemicals / Rare Earth - ~~6 months of history~~ concerned periods m to m-6

PC_APO_39	TD - M - APO - Deletion of old photos from propagation dso	Single	Monthly	Deletions of snapshots older than 36 months

Loading frequency

There is two master PC:

- The loading of the dynamic data is done once a day
- The loading of the snapshot data is done on the 6th of each month

Average performance

Key Figure	Estimation Daily	Estimation Monthly
~ Average Process Chain Runtime	~1h30	5h

~ Average nb of rows loaded per load	▪ Propagation layer:
	  ○ 4 millions for novecare
	  ○ 1 million for polyamide Upstream
	  ○ 200000 for Specialty chemicals / rare earth
	  ○ 2.5 million for polyamide Downstream
	  ○ 400000 for Specialty chemicals
	▪ Reporting layer:
	  ▪ 800000 for novecare
	  ▪ 200000 for polyamide Upstream
	  ▪ 40000 for Specialty chemicals / rare earth
	  ▪ 500000 for polyamide Downstream
	  ▪ 280000 for Specialty chemicals
		• Propagation layer:
		  ○ 12 millions for novecare
		  ○ 3 million for polyamide Upstream
		  ○ 550000 for Specialty chemicals / rare earth
		  ○ 7 million for polyamide Downstream
		  ○ 700000 for Specialty chemicals
		• Reporting layer:
		  ○ 2.3 millions for novecare
		  ○ 600000 for polyamide Upstream
		  ○ 110000 for Specialty chemicals / rare earth
		  ○ 1.4 millions for polyamide Downstream
		  ○ 550000 for Specialty chemicals

Record Keeping

36 Months of history.

The cleanup is made in the process chains. Cleanup for business and reporting layers is made in the corresponding PC, but there is a specific PC for propagation level, which is launched when the whole dataflow's loading ended.

DSO Backup

The DSO DBAPO012 is available if necessary to backup the data of a dso on business layer. This is used especially when there is a need to change the structure of a core DSO. Data must be backed up DBAPO012 before modification of a dso structure, then reloaded from DBAPO012 to datastore after modification.

Kick-off of APO data in Dynasys

Ultimately, the data provided in APO will be delivered through Dynasys. When this happens, the loadings in APO must be stopped. If not, this will generates duplicate data at reporting level.

This happened for example for the APO flow Polyamide Downstream. Part of the data currently being loaded through APO was then being loaded through Dynasys. This means the previous loading at propagation layer needed to be modified. The rules were given by functional User. It entails using two infopackages to load two subsets of the data:

- The first subset is filtered on the hard coded enterprise code ENTRP00030 and a list of sales groups specified in Global filter
- The second subset is filtered on a list of given enterprise codes specified in the global filter

Of course for future needs the filters to be applied may be partly or completely different

Reporting

Queries End User Documentation

See Query definition under Dynasys.

Main queries

Main functionalities

Broadcast

Maintenance

Beware of the impacts when working on the multiprovider or the queries, as they are also used by Dynasys.

Known bugs

- The sommation for the key figures coming from special Chemicals is not done.
- Demand review forecast can't be reload. Therefore, it can be use from Apr 2018. Data before Apr 2018 will be incorrect since the first load has the rule "Over write" on the DSO level and it can't be fixed by reloading.

Recurring procedure

Procedure to reload manually APO Novecare during current month.

The normal APO snapshots loading takes place on the 6th of each month , but It may happen that the Business requires a new snapshot reload during the same month. The procedure below details how this is done :

The data flow for APO Novecare is as follows :

Z20_DP_PLAREA (Data Source) => DPAPO008 (DSO) ==> DBAPO007 (DSO) => CRAPO005 (InfoCube).

In order to be able to do data reloads in the WBP system, you need to log on as a Firefighter by using transaction /n/Virsa/VFAT .,See documentation on following link : https://wiki.solvay.com/pages/viewpage.action?spaceKey=TECHREP&title=How+to+use+Firefighter+on+WBP

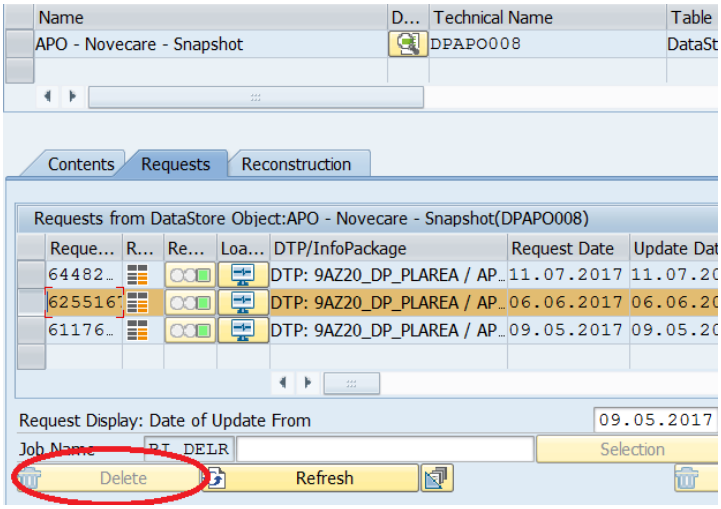
Please follow these steps :

1 - Deletion of the data loaded on the 6th of the month :

Highlight the data load that occurred on the 6th of the month and delete it manually in DSO DPAPO008.

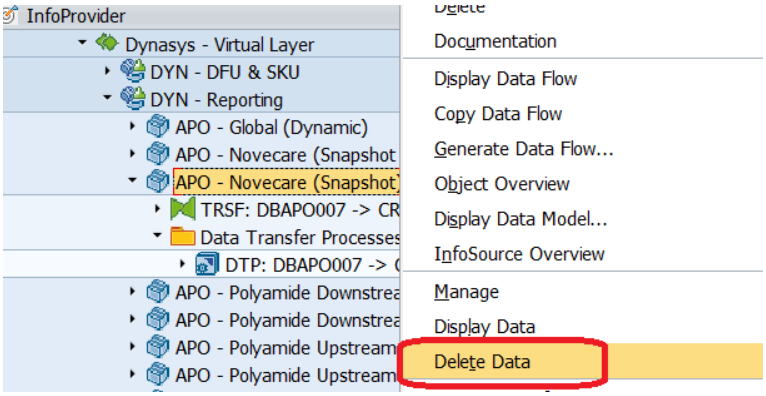
For DBAPO007 and CRAPO005 do a complete deletion of data .

Start by deleting the load in DBAPO007 to be able to delete the load of DPAPO008.

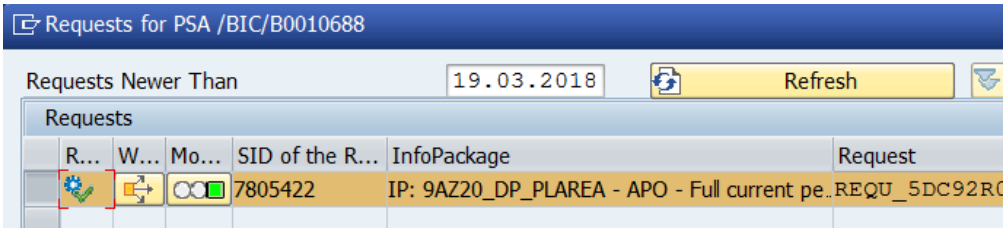


Then delete data completely in DSO DPAPO007 and InfoCube CRAPO005.

Highlight the Infoprovider , right-click, then Delete data



2 - Data reload from Data Source 9AZ20_DP_PLAREA. : Delete the data in PSA.



3 - Run InfoPackage IP: 9AZ20_DP_PLAREA - APO - Full

This IP is the most time consuming. It will take anything between 6 to 8 hours for about 15 million records .

4 - Then load DPAPO008 :

' Run DTP DTP: 9AZ20_DP_PLAREA / APO -> DPAPO008 - Full. This should take about 1h1/2

Then activate DSO.

5 - Load DSO DBAPO007.

Run DTP DTP: DPAPO008 - > DBAPO007 - Delta. This will take under 4 hours. Then activate DSO

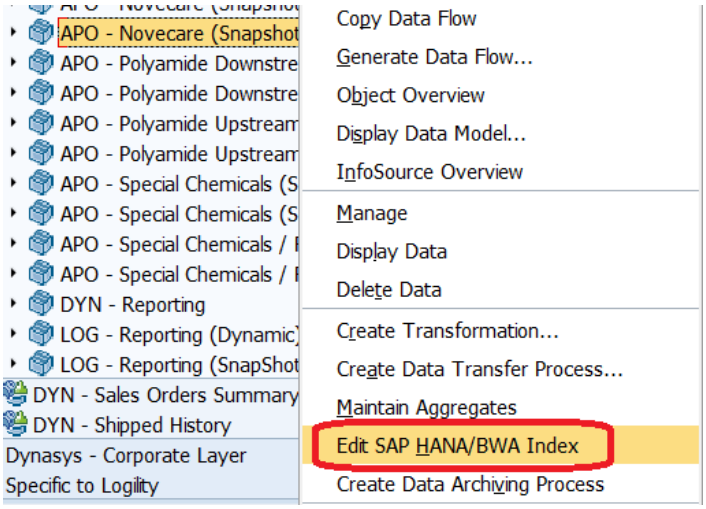
Then update again DPAPO007 on itself : Run DTP DTP: DBAPO007 -> DBAPO007 - Full - GH Value and Bias update

6 - Load InfoCube CRAPO005.

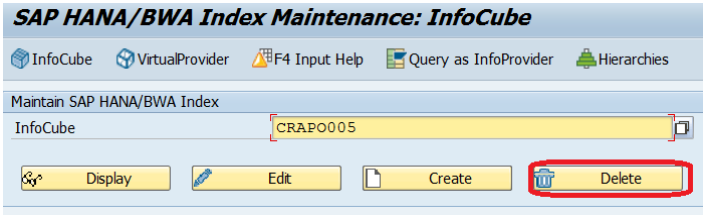
Delete indexes on InfoCube CRAPO005 in Manage => Performance tab

Then delete also indexes on InfoCube CRAPO005 on the BW Accelerator System :

Highlight the Cube, then right-click, then



Then on following screen delete BIA indexes on CRAPO005 :



Then Run DTP DTP: DBAPO007 -> CRAPO005 - Full M to M-6

Rebuild indexes on InfoCube CRAPO005 on the same fashion as described above for index deletion.

End of Procedure.

Planned Evolution

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Action 2 => APO - Global (Dynamic) / CRAPO002 will be emptied					DONE 07/07/2020 at 11am CET		
Action 3 => BW APO model will be cleaned by end of year							
APO Monthly SnapShot loadings will be removed from scheduling after 6th of July run							
APO Snapshop cubes will be kept with their data							
Action 1 => chain PC_APO_18 which run monthly at 9am CET will be removed from scheduling					DONE 07/07/2020 at 11am CET		
Action 2 => BW APO model, below Cubes will be cleaned by end of year							

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  - Queries End User Documentation
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General presentation

Objective of the application

This application extract the forecasts from the application APO. The data is loaded and aggregated in BW and made accessible through a multiprovider which regroups data from three application. APO, Dynasys and Logility. In time, application Logility will be terminated and the data coming from APO should be integrated in Dynasys.

Tool Leader + IT leader of the application: Celia Gonzales

Usage information

History

Golive In May 2017

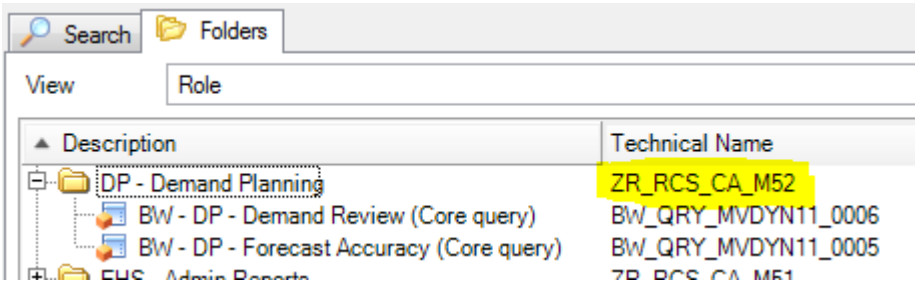
Roles & Access

Roles and access

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

This should be the same as what's done for Dynasys.

Role Code	Role Description	Explanation

ZR_RCS_CA_M52	DP - Demand Planning	Role Menu Dynasys (APO uses the same queries) Currently (Nov 2016), only 2 queries published in this role 
ZBI_RCS_DP_A02	Demand Planning - Dynasys	Role utilisateur Dynasys Authorization object **ZBI_DPS** • gives access to Application Area **IA_DPS_DYNASYS** • authorization limited on **GBU (CPFCTR1_2)** (in WBP since 14/03/2017)
ZBI_RCS_DP_A03	Demand Planning - Dynasys Keyuser	Authorization object **ZBI_DPS_K** • gives access to transaction ZMAINT_MATPLANT + ZMAINT_MATVENDOR • gives access to Application Area **IA_DPS_DYNASYS** • authorization limited on **GBU (CPFCTR1_2)** (in WBP since 14/03/2017)

Authorization objects

List of autorisation objects mandatory for the application.

This should be the same as what's done for Dynasys.

Authorization object	Explanation
GBU (CPFCTR1_2)	ZR_*_CA_P05

Dataflow overview

Reporting documentation drive folder:

https://drive.google.com/open?id=0BxkySrtHryoBeG05a0ljVWJpSmM

Functional and Technical rules on Workbench + Reporting

Rules & Explanations

1 : Cleaning of incoming data before propagation datastore objects

C_MATNR2: adjust the format of the material number to the right number of digit, adding/removing zeros in the process.

0LOGSYS : Determination of system source

C_SHIPTID & C_SOLDID (only for Special Chemical): Removing of source system extension and adjustment of the format

2 : Determination of previous period for C_FCSTMTH when loading the snapshots

It's usually the previous month. It can however be fixed to a specific value through the use of filters in masterdata C_GLBFILT

Characteristic C_GLBFILT - maintain master data: List

Data Records to be Edited

Strea...	Rule	Counter	Global Filter Descri	Sign	Option	Low	Hight	Acti...
APO	20_MAN_PER	1	APO - Manual Period for Novecare	I	EQ	201701		
APO	20_PHOTO_M	1	APO - Manual Photo for Novecare	I	EQ	201701		Y
APO	24_MAN_PER	1	APO - Manual Period for Specialty Chemicals / Rare Earth	I	EQ	201701		
APO	24_PHOTO_M	1	APO - Manual photo for Specialty Chemicals / Rare Earth	I	EQ	201701		Y
APO	30_MAN_PER	1	APO - Manual Period for Polyamide Downstream	I	EQ	201701		
APO	30_PHOTO_M	1	APO - Manual photo for Polyamide Downstream	I	EQ	201701		Y
APO	31_MAN_PER	1	APO - Manual Period for Polyamide Upstream	I	EQ	201701		
APO	31_PHOTO_M	1	APO - Manual photo for Polyamide Upstream	I	EQ	201701		Y
APO	F_MAN_PER	1	APO - Manual Period for Specialty Chemicals	I	EQ	201701		
APO	F_PHOTO_M	1	APO - Manual photo for Specialty Chemicals	I	EQ	201701		Y

*DSO Business layer has key figures as Summation not Overwrite, it is required to delete old data before reload.

3 : Loading of attributes from MD for all DSOs

- BFC Global Business Unit (CPFCTR1_2) is retrieved from the corresponding attribute of Material Plant (C_MATPNT2).

  C_MATPNT2 is determined through the coupling of material and plant and is used for business assignments (ERP or BFC). It contains multiple attributes mainly loaded through either the standard attributes from datasource 0mat_plant and the MD C_SUBACT2 (a mix of Profit center (WP1) and Business area (PF1, PI1 and RHO systems)).

- Customer Group - Enterprise (C_CUSTGRP) is retrieved from the corresponding attribute of Customer - Enterprise Axis (C_CUSTENT).
- Company code (C_COMPCODE) is retrieved from the corresponding attribute of Main Shipping Plant (C_MPPLANT).
- Sales Office (C_SAL_OFF) and Sales Document type (C_DOCTYP2) have been initialised with value APO.

4 : Loading of attributes from MD for loading coming from RCS (Every DSO except the two for Special Chemicals)

- Division (0DIVISION) is retrieved from the corresponding attribute of Material (C_MATNR2).
- Sub-Activity (0G_CWWE01), also known as Iecra, is retrieved from the corresponding attribute of Technical GBR Deter CDSA Payer (C_CDSA).

  C_CDSA contains the distribution channel coupled with division. The IECRA can also be found in C_MATPNT2, but it's value is wrong.

5 : Loading of attributes from MD for loading coming from SOLVAY (Only the DSO for Special Chemicals)

- Material Group (C_MAT_GRP) is retrieved from the corresponding attribute of Material (C_MATNR2).
- Ship-To-Country (C_SHTCTRY) is retrieved from the corresponding attribute of Ship-To-Party (Core) (C_SHIPTID).
- Sub-Activity (0G_CWWE01) is retrieved from the corresponding attribute of Material Plant (C_MATPNT2).

  IECRA is specified in this dataflow as an information but is not reliable. IECRA is not an organizational structure used in Solvay.

- Commercial Product/Material Group (C_PROD) is retrieved from the corresponding attribute of Material (C_MATNR2).

  Commercial Product for RCS and Material Group for Solvay

6 : Keyfigures in summation when loading the business datastore objects

Data in APO can't really be aggregated in a DSO as every characteristic is key (like in an infocube). This means that the semantic keys which were determined for the propagation level is not absolute. Since the DSO are in write optimized, there is no loss of data thanks to the techical keys. It is necessary however to load the key figures in summation at business level.

7 : Determination of Concerned Period (C_FLGMTH) for dynamic dataflow

We are always loading data for current month M

8 : Determination of Concerned Period (C_FLGMTH) for snapshot dataflow

The month view is determined depending on the difference between the period 0CALMONTH of the forecast and the considered period C_FCSTMTH (date of the photo).

```
IF 0CALMONTH = C_FCSTMTH THEN C_FLGMTH = 'M'
```

ELSE IF 0CALMONTH > C_FCSTMTH THEN C_FLGMTH = 'M-2, M-3,...' (There is no M-1)

ELSE C_FLGMTH = 'N/A'

Examples:

Calendar Year/Month (0CALMONTH)	End of Month View (C_FCSTMTH)	Concerned Period (Flag) (C_FLGMTH)
07.2017	07.2017	M
02.2019	07.2017	M-20
08.2016	07.2017	N/A

9 : Determination of GH quantity and bias for snapshot dataflow

For each snapshot loaded in a business datastore object, we rework the entire datastore object. We update the Gross History quantity for past snapshots using the latest GH quantity depending on the keys of the DSO.

There is 4 bias which are calculated:

- The bias for the final forecast is calculated through the following: ABS (FF Quantity - GH quantity).
- The bias for the sales team forecast is calculated through the following: ABS (STF Quantity - GH quantity).
- The bias of the statistical forecast is calculated through the following: ABS (STATF Quantity - GH quantity).
- The bias of the demand review forecast (shifted forecast) is calculated through the following: ABS (DRF Quantity - GH quantity). *Only for special chem

Dependencies with other applications

This dataflow is using the same multiprovider than the dataflow for dynasys. Therefore when modifying multiprovider MVDYN11, beware of the impacts.

The loading of the snapshot part is done on the same day than dynasys.

Qlikview is also use query of APO QV_BW_QRY_MVDYN11_0005

Data loadings

Info providers and objects loaded

There is a high volume of data for the snapshot dataflow, which is why a clean-up was established during the loading in the PC. We keep only 36 months of history. The deletion process is done on every layer.

As the snapshot and dynamic dataflow use the same source, a decision tree was used to stop one loading if the other is already on-going.

Id	Description	Type	Frequency	Comments
PC_APO_17	META - D - APO - Current period and future periods	Master	Daily	Master Chain for dynamic forecasts
PC_APO_11	TD - D - APO - Propagation Layer - Current and future period	Master	Daily	Loading of the propagation layer for dynamic forecasts for every sources
PC_APO_01	TD - D - APO - PL - Sp & Ch / Rare Earth - Cur. and Fut. Per	Single	Daily	Loading of dynamic forecasts for Specialty Chemicals / Rare Earth
PC_APO_02	TD - D - APO - PL - Novecare - Current and Future Periods	Single	Daily	Loading of dynamic forecasts for Novecare
PC_APO_05	TD - D - APO - PL - Polyamide Downstream - Cur. and Fut. Per	Single	Daily	Loading of dynamic forecasts for Polyamide Downstream
PC_APO_07	TD - D - APO - PL - Polyamide Upstream - Cur. and Fut. Per	Single	Daily	Loading of dynamic forecasts for Polyamide Upstream
PC_APO_09	TD - D - APO - PL - Special Chemicals - Current and Fut. Per	Single	Daily	Loading of dynamic forecasts for Specialty Chemicals
PC_APO_23	TD - M - APO - Business Layer - Current and future periods	Master	Daily	Loading of the business layer for dynamic forecasts for every sources
PC_APO_25	TD - D - APO - BL Novecare - Current and future periods	Single	Daily	Loading of dynamic forecasts for Novecare

PC_APO_26	TD - D - APO - BL Polya. Downst - Current and future periods	Single	Daily	Loading of dynamic forecasts for Polyamide Downstream
PC_APO_27	TD - D - APO - BL Polya. Upstr - Current and future periods	Single	Daily	Loading of dynamic forecasts for Polyamide Upstream
PC_APO_14	TD - D - APO - BL Sp & Ch / Rare Earth - Current and fut per	Single	Daily	Loading of dynamic forecasts for Specialty Chemicals
PC_APO_21	TD - D - APO - BL Special Chemicals - Current and future per	Single	Daily	Loading of dynamic forecasts for Specialty Chemicals
PC_APO_15	TD - D - APO - Reporting Layer - Current and future period	Single	Daily	Loading of the reporting layer for dynamic forecasts for every sources
PC_APO_40	MD - D - APO - Master Data	Single	Daily	Loading of APO master data
PC_APO_18	META - M - APO - Snapshots	Master	Monthly	Loading of APO Snapshots
PC_APO_12	TD - M - APO - Propagation Layer - Snapshot	Master	Monthly	Loading of snapshots for every sources in the propagation layer
PC_APO_03	TD - M - APO - PL - Special Chemical / Rare Earth - Snapshot	Single	Monthly	Loading of snapshots forecasts for Specialty Chemicals / Rare Earth
PC_APO_04	TD - M - APO - PL - Novecare - Snapshot	Single	Monthly	Loading of snapshots forecasts for Novecare
PC_APO_06	TD - M - APO - PL - Polyamide Downstream - Snapshot	Single	Monthly	Loading of snapshots forecasts for Polyamide Downstream
PC_APO_08	TD - M - APO - PL - Polyamide Upstream - Snapshot	Single	Monthly	Loading of snapshots forecasts for Polyamide Upstream
PC_APO_10	TD - M - APO - PL - Special Chemicals - Snapshot	Single	Monthly	Loading of snapshots forecasts for Specialty Chemicals
PC_APO_24	TD - M - APO - Business Layer - Snapshots	Master	Monthly	Loading of snapshots for every sources in the business layer
PC_APO_28	TD - M - APO - BL Novecare - Snapshots	Single	Monthly	Loading of snapshots forecasts for Novecare - Deletion of snpashots older than 36 months
PC_APO_29	TD - M - APO - BL Polyamide Downst - Snapshots	Single	Monthly	Loading of snapshots forecasts for Polyamide Downstream - Deletion of snpashots older than 36 months
PC_APO_30	TD - M - APO - BL Polyamide Upstream - Snapshots	Single	Monthly	Loading of snapshots forecasts for Polyamide Upstream - Deletion of snpashots older than 36 months
PC_APO_22	TD - M - APO - BL Special Chemicals - Snapshot	Single	Monthly	Loading of snapshots forecasts for Specialty Chemicals - Deletion of snpashots older than 36 months
PC_APO_13	TD - M - APO - BL Special Chemicals / Rare Earth - Snapshot	Single	Monthly	Loading of snapshots forecasts for Specialty Chemicals / Rare Earth - Deletion of snpashots older than 36 months
PC_APO_16	TD - M - APO - Reporting Layer - Snapshot	Master	Monthly	Loading of snapshots for every sources in the reporting layer
PC_APO_33	TD - M - APO - RL Novecare - Snapshot	Single	Monthly	Loading of snapshots forecasts for Novecare - ~~6 months of history~~ concerned periods m to m-6
~~PC_APO_34~~	~~TD - M - APO - RL Novecare - Snapshot History~~	~~Single~~	~~Monthly~~	~~Loading of snapshots forecasts for Novecare - 7th to 32 months~~
PC_APO_35	TD - M - APO - RL Polyamide Downstream - Snapshot	Single	Monthly	Loading of snapshots forecasts for Polyamide Downstream - ~~6 months of history~~ concerned periods m to m-6
~~PC_APO_36~~	~~TD - M - APO - RL Polyamide Downstream - Snapshot History~~	~~Single~~	~~Monthly~~	~~Loading of snapshots forecasts for Polyamide Downstream - 7th to 32 months~~
PC_APO_37	TD - M - APO - RL Polyamide Upstream - Snapshot	Single	Monthly	Loading of snapshots forecasts for Polyamide Upstream - ~~6 months of history~~ concerned periods m to m-6
~~PC_APO_38~~	~~TD - M - APO - RL Polyamide Upstream - Snapshot History~~	~~Single~~	~~Monthly~~	~~Loading of snapshots forecasts for Polyamide Upstream - 7th to 32 months~~
~~PC_APO_20~~	~~TD - M - APO - RL Spec Chem / Rare Earth - Snapshot History~~	~~Single~~	~~Monthly~~	~~Loading of snapshots forecasts for Specialty Chemicals / Rare Earth - 7th to 32 months~~
PC_APO_31	TD - M - APO - RL Special Chemicals - Snapshot	Single	Monthly	Loading of snapshots forecasts for Specialty Chemicals - ~~6 months of history~~ concerned periods m to m-6
~~PC_APO_32~~	~~TD - M - APO - RL Special Chemicals - Snapshot History~~	~~Single~~	~~Monthly~~	~~Loading of snapshots forecasts for Specialty Chemicals - 7th to 32 months~~
PC_APO_19	TD - M - APO - RL Special Chemicals / Rare Earth - Snapshot	Single	Monthly	Loading of snapshots forecasts for Specialty Chemicals / Rare Earth - ~~6 months of history~~ concerned periods m to m-6

PC_APO_39	TD - M - APO - Deletion of old photos from propagation dso	Single	Monthly	Deletions of snapshots older than 36 months

Loading frequency

There is two master PC:

- The loading of the dynamic data is done once a day
- The loading of the snapshot data is done on the 6th of each month

Average performance

Key Figure	Estimation Daily	Estimation Monthly
~ Average Process Chain Runtime	~1h30	5h

~ Average nb of rows loaded per load	▪ Propagation layer:
	  ○ 4 millions for novecare
	  ○ 1 million for polyamide Upstream
	  ○ 200000 for Specialty chemicals / rare earth
	  ○ 2.5 million for polyamide Downstream
	  ○ 400000 for Specialty chemicals
	▪ Reporting layer:
	  ▪ 800000 for novecare
	  ▪ 200000 for polyamide Upstream
	  ▪ 40000 for Specialty chemicals / rare earth
	  ▪ 500000 for polyamide Downstream
	  ▪ 280000 for Specialty chemicals
		• Propagation layer:
		  ○ 12 millions for novecare
		  ○ 3 million for polyamide Upstream
		  ○ 550000 for Specialty chemicals / rare earth
		  ○ 7 million for polyamide Downstream
		  ○ 700000 for Specialty chemicals
		• Reporting layer:
		  ○ 2.3 millions for novecare
		  ○ 600000 for polyamide Upstream
		  ○ 110000 for Specialty chemicals / rare earth
		  ○ 1.4 millions for polyamide Downstream
		  ○ 550000 for Specialty chemicals

Record Keeping

36 Months of history.

The cleanup is made in the process chains. Cleanup for business and reporting layers is made in the corresponding PC, but there is a specific PC for propagation level, which is launched when the whole dataflow's loading ended.

DSO Backup

The DSO DBAPO012 is available if necessary to backup the data of a dso on business layer. This is used especially when there is a need to change the structure of a core DSO. Data must be backed up DBAPO012 before modification of a dso structure, then reloaded from DBAPO012 to datastore after modification.

Kick-off of APO data in Dynasys

Ultimately, the data provided in APO will be delivered through Dynasys. When this happens, the loadings in APO must be stopped. If not, this will generates duplicate data at reporting level.

This happened for example for the APO flow Polyamide Downstream. Part of the data currently being loaded through APO was then being loaded through Dynasys. This means the previous loading at propagation layer needed to be modified. The rules were given by functional User. It entails using two infopackages to load two subsets of the data:

- The first subset is filtered on the hard coded enterprise code ENTRP00030 and a list of sales groups specified in Global filter
- The second subset is filtered on a list of given enterprise codes specified in the global filter

Of course for future needs the filters to be applied may be partly or completely different

Reporting

Queries End User Documentation

See Query definition under Dynasys.

Main queries

Main functionalities

Broadcast

Maintenance

Beware of the impacts when working on the multiprovider or the queries, as they are also used by Dynasys.

Known bugs

- The sommation for the key figures coming from special Chemicals is not done.
- Demand review forecast can't be reload. Therefore, it can be use from Apr 2018. Data before Apr 2018 will be incorrect since the first load has the rule "Over write" on the DSO level and it can't be fixed by reloading.

Recurring procedure

Procedure to reload manually APO Novecare during current month.

The normal APO snapshots loading takes place on the 6th of each month , but It may happen that the Business requires a new snapshot reload during the same month. The procedure below details how this is done :

The data flow for APO Novecare is as follows :

Z20_DP_PLAREA (Data Source) => DPAPO008 (DSO) ==> DBAPO007 (DSO) => CRAPO005 (InfoCube).

In order to be able to do data reloads in the WBP system, you need to log on as a Firefighter by using transaction /n/Virsa/VFAT .,See documentation on following link : https://wiki.solvay.com/pages/viewpage.action?spaceKey=TECHREP&title=How+to+use+Firefighter+on+WBP

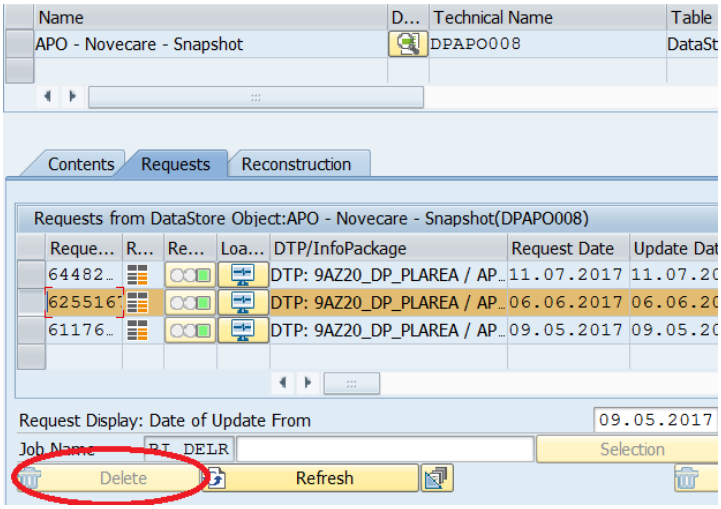
Please follow these steps :

1 - Deletion of the data loaded on the 6th of the month :

Highlight the data load that occurred on the 6th of the month and delete it manually in DSO DPAPO008.

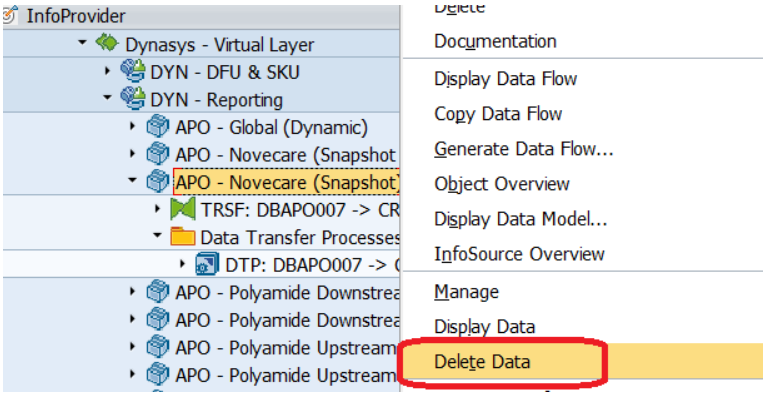
For DBAPO007 and CRAPO005 do a complete deletion of data .

Start by deleting the load in DBAPO007 to be able to delete the load of DPAPO008.

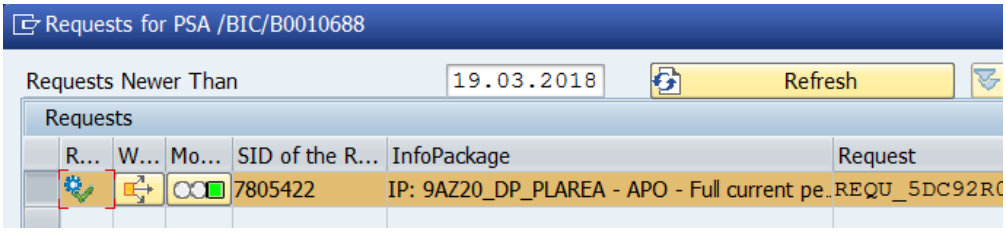


Then delete data completely in DSO DPAPO007 and InfoCube CRAPO005.

Highlight the Infoprovider , right-click, then Delete data



2 - Data reload from Data Source 9AZ20_DP_PLAREA. : Delete the data in PSA.



3 - Run InfoPackage IP: 9AZ20_DP_PLAREA - APO - Full

This IP is the most time consuming. It will take anything between 6 to 8 hours for about 15 million records .

4 - Then load DPAPO008 :

' Run DTP DTP: 9AZ20_DP_PLAREA / APO -> DPAPO008 - Full. This should take about 1h1/2

Then activate DSO.

5 - Load DSO DBAPO007.

Run DTP DTP: DPAPO008 - > DBAPO007 - Delta. This will take under 4 hours. Then activate DSO

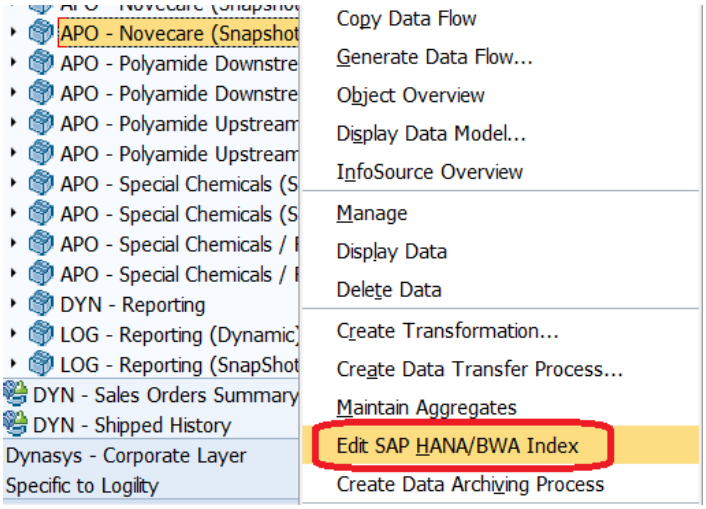
Then update again DPAPO007 on itself : Run DTP DTP: DBAPO007 -> DBAPO007 - Full - GH Value and Bias update

6 - Load InfoCube CRAPO005.

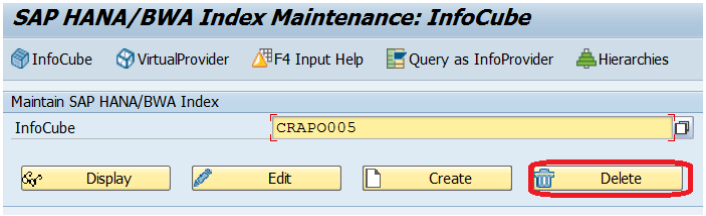
Delete indexes on InfoCube CRAPO005 in Manage => Performance tab

Then delete also indexes on InfoCube CRAPO005 on the BW Accelerator System :

Highlight the Cube, then right-click, then



Then on following screen delete BIA indexes on CRAPO005 :



Then Run DTP DTP: DBAPO007 -> CRAPO005 - Full M to M-6

Rebuild indexes on InfoCube CRAPO005 on the same fashion as described above for index deletion.

End of Procedure.

Planned Evolution

+