

Automate Master Data Management in SAP BPC Embedded

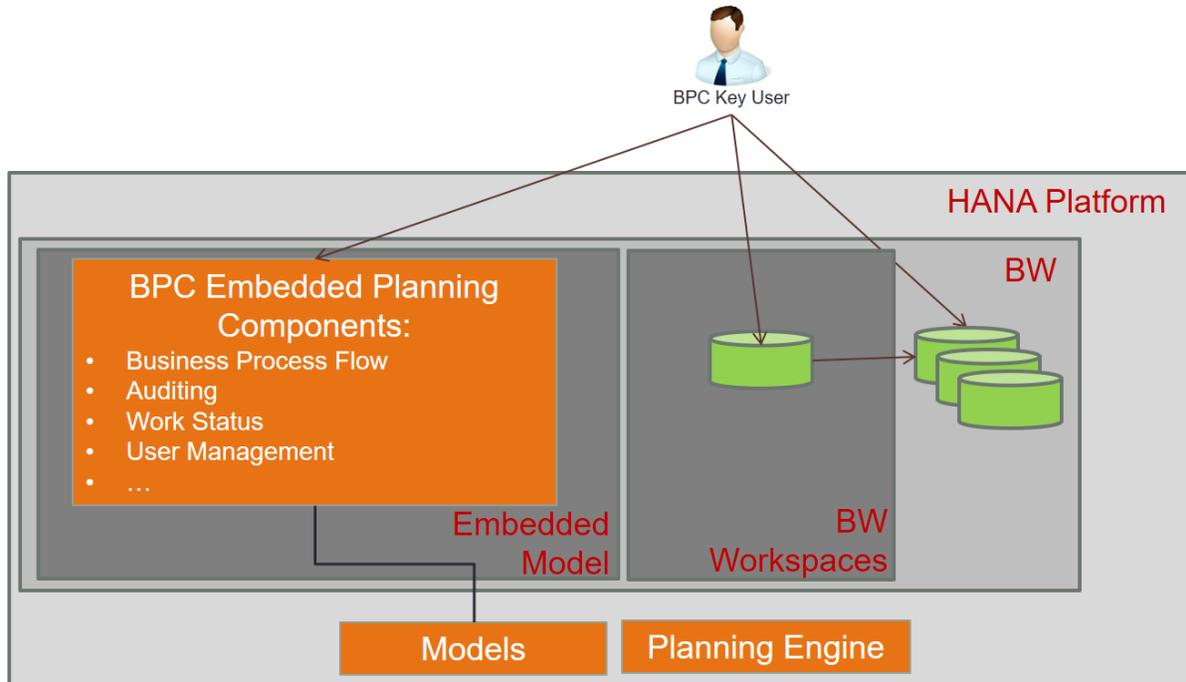
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Scenario

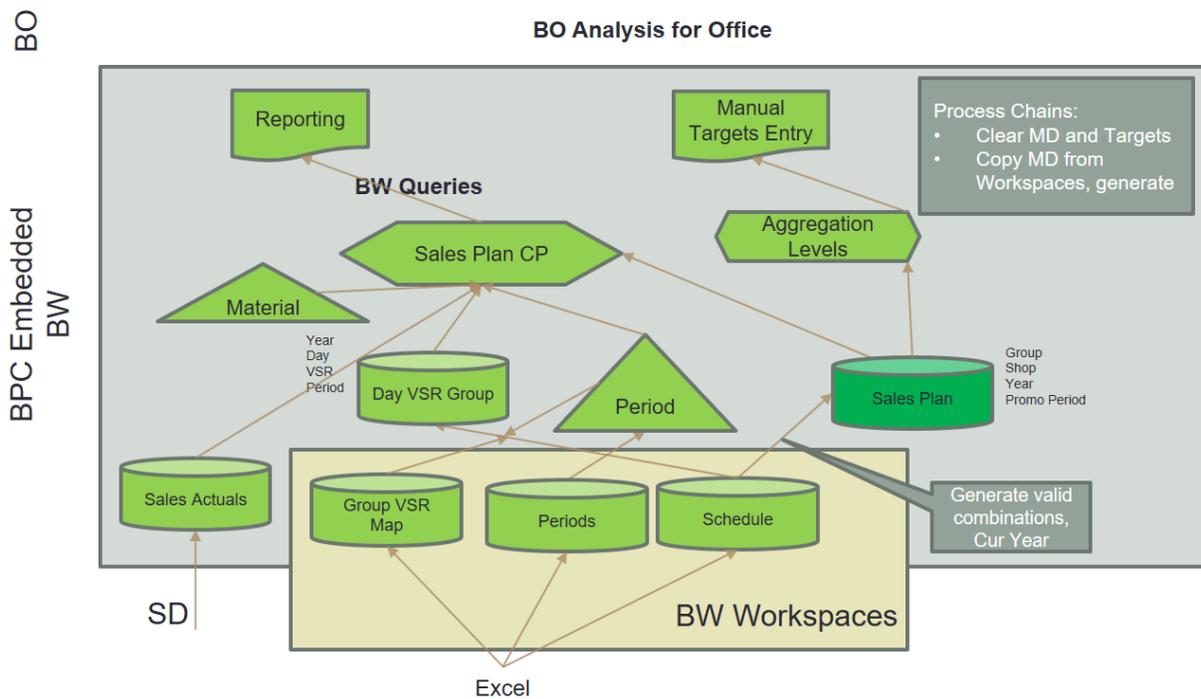
In order to automate Promotional Sales Planning process for a Retail organization we want to provide business users with a set of tools for uploading sales targets by product group (groupings of articles), promotional schedule, and promo periods. This master data is not always defined in advance, and is usually uploaded or corrected several times during the year. We want to automate the process from the business user's point of view where they take control over master data uploads, refreshes, sales target data entry and KPI analysis.

From a technical point of view we want to leverage SAP BPC Embedded and benefit from the existing master data in BW and models for actuals. We also want to use BW Workspaces to refresh and upload user managed master data. For more information on how to set up and use BW Workspaces with BPC Embedded please see the white paper: [SAP BPC Embedded and BW Workspaces](#).



Proposed Architecture

The following data flow can be used combining design components in BW, BW Workspaces, and BPC Embedded. It leverages objects for actuals without requiring data or model duplications, and fully automating plan data uploads and refreshes.



Input Form Design

Input form for Sales Plan targets should be defined in the BO Analysis for Office, and it may look as outlined below. Three buttons on the top of the screen correspond to the 3 step process that BPC Key Users have to follow in order to reload master data and update sales targets.

Product Group	AZZARO - CLARINS - MUGLER	CHANEL	ESTEE LAUDER							
Profit Center	Distr Manager	Sales Target 1	Sales Target 2	Sales Target 3						
2001	STROOPER	JILIANE	122.00	129.32	0.00	0.00	0.00	0.00	0.00	0.00
2002	FINE	LILIANE	1,344.00	1,424.64	0.00	0.00	0.00	0.00	0.00	0.00
2003	ERE	LINDA	1,244.00	1,318.64	0.00	0.00	0.00	0.00	0.00	0.00
2004		LINDA	123.00	130.38	0.00	0.00	0.00	0.00	0.00	0.00
2006		LINDA	234.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
2007	DO	SOPHIE	2,355.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2008		TIM	1,256.00	1,424.64	0.00	0.00	0.00	0.00	0.00	0.00
2009		VALERIE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1. Technically speaking “Clear All Targets” button launches a process chain in BW via the Planning Function defined in the FOX formula:

```

CALL FUNCTION 'RSPC_API_CHAIN_START'
EXPORTING
I_CHAIN = '...'
    
```

The chain switches Planning ADSO into a data load mode and clears all relevant targets for the current

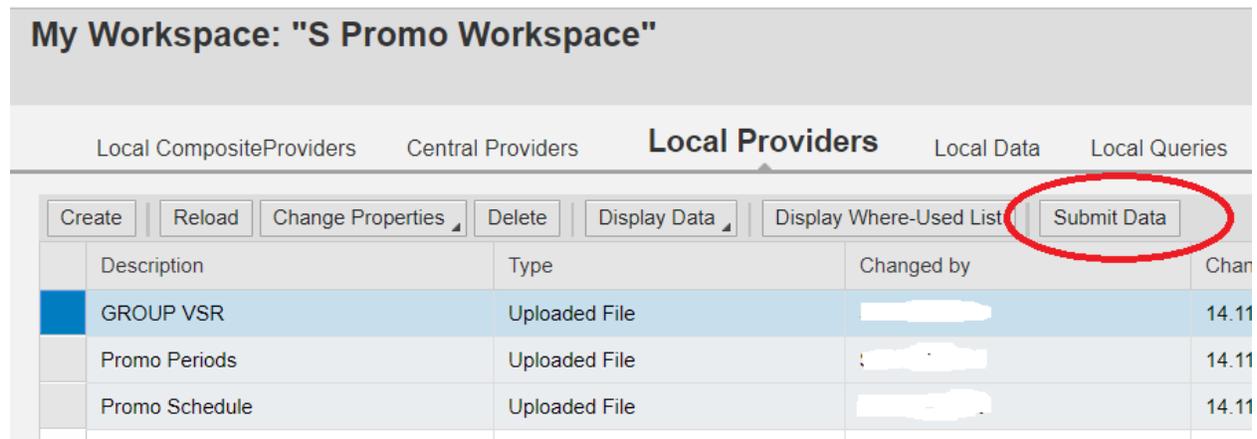
year.

The following VBA Macro behind the button calls the Planning Sequence and relevant Planning Function with the Process Chain:

```
Sub FlowchartAlternateProcess1_Click()  
    Dim IResult As Long  
    IResult = Application.Run("SAPExecuteCommand", "PlanDataSave")  
    IResult = Application.Run("SAPExecuteCommand", "PlanDataToDisplayMode")  
    IResult = Application.Run("SAPExecutePlanningSequence", "PS_1")  
    If IResult = 1 Then  
        MsgBox "Executed Successfully. Result = " & IResult  
    Else  
        MsgBox "Sorry, connection to the server has been Lost. Result = " & IResult  
    End If  
    IResult = Application.Run("SAPExecuteCommand", "RefreshData")  
End Sub
```

By clicking “Clear All Targets” user prepares infoproviders for loading new Master Data values: Planning Periods, Promotional Schedule, and Product Group to Vendor Sub-Range mappings.

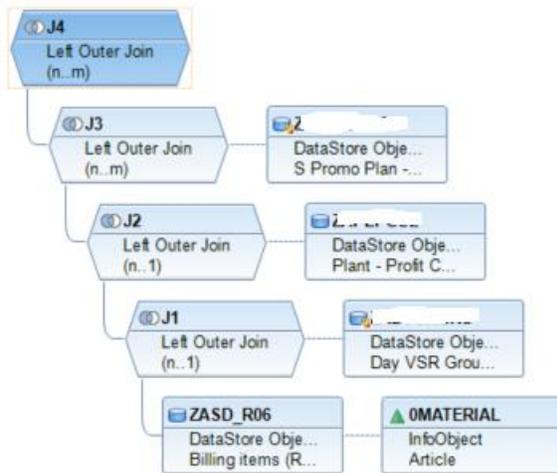
2. “Submit MD” button is launching a BW workspace management screen where users submit master data uploaded in BW Workspaces to relevant BW ADSOs:



3. “Generate MD” button uses a process chain in BW to activate all relevant Master Data ADSOs with the newly submitted requests from BW Workspaces. After that new Sales Plan Promotion combinations are been generated in the Direct Update ADSO used for planning, and the ADSO gets switched back to the planning mode.

Dashboards and KPIs

The main challenge in connecting Plan and Actuals data together and generating a bunch of KPIs on top of them is related to different levels of granularity. For example, Sales Actuals may be available by day, article, shop; and Targets are maintained by Promo Period, Product Group, Profit Center. Composite Provider can be used to connect Sales Actuals with Plan data using master data connecting objects maintained by business users:



With a BW Query on top of the Composite Provider we can produce various KPIs and dashboards comparing Sales vs. Targets. This dashboard can be analyzed by shop, profit center, brand, and period helping to track effectiveness of Sales Promotions:

Trade Brand Dashboard								
Brand								
Segment								
Calendar Year	2017							
Promo Period	T15: :							
Brand	BRANDS	Net Sales	Sales Target 1	% Actual vs Target 1	Still To Do 1	Sales Target 2	% Actual vs Target 2	
	ALAJA - BURBER - DOLCE - ELIESA - ISSEYM	251,453 EUR	273,185 EUR	92.04 %	21,732 EUR	231,840 EUR	108.46 %	
	ARMANI - LANCOME - YSL	883,419 EUR	963,715 EUR	91.67 %	80,296 EUR	992,375 EUR	89.02 %	
	CHLOE - MARCJA - BOSS - GUCCI - LACOST	364,182 EUR	521,770 EUR	69.80 %	157,588 EUR	547,310 EUR	66.54 %	
	COURREGES	3,570 EUR	20,510 EUR	17.41 %	16,940 EUR		X	
	FERRAG - MISSON - MOSCHI - REMINI - ROC	50,008 EUR	137,390 EUR	36.40 %	87,382 EUR	151,635 EUR	32.98 %	
	GIVENCHY - KENZO	228,794 EUR	264,513 EUR	86.50 %	35,719 EUR	285,863 EUR	80.04 %	
	GUERLAIN	330,950 EUR	302,695 EUR	109.33 %	-28,255 EUR	321,950 EUR	102.80 %	
	IOMA	31,258 EUR	42,800 EUR	73.03 %	11,542 EUR		X	
	SENSAI	26,087 EUR	46,000 EUR	56.71 %	19,913 EUR	55,200 EUR	47.26 %	

Good query performance is achieved by leveraging HANA-optimized modelling and architecture with Composite Providers and BW queries. When tested on large data sets of 100s of millions of sales records the dashboard navigation response time was less than a few seconds.

Conclusion

With the latest set of tools from SAP (BPC Embedded, BW7.5 on HANA or BW/4HANA) we can automate master data and plan targets management for business users in complex business planning scenarios.

Substantial degree of flexibility and automation can be achieved by using BW Workspaces together with intelligent BW/BPC models and VBA scripts embedded in AFO workbooks.

While SAP BW Workspaces is a good tool for user-managed master data entry and refreshes, planning functions together with process chains give opportunities to business users applying specific business rules and implementing complex planning data transformations. And finally, built-in HANA-optimized BPC data entry capabilities should be leveraged for efficient plan data entry and disaggregations in the Analysis for Office input forms.



Sergei Peleshuk has over 15 years of experience implementing BI technologies for global clients in retail, distribution, fast-moving consumer goods (FMCG), oil, and gas industries. He has helped clients to design robust BI reporting and planning capabilities, leading them through all project phases: from analysis of requirements to building BI roadmaps, technical architecture, and efficient BI teams. Sergei is an expert in SAP Business Warehouse (SAP BW), SAP HANA, BPC, BusinessObjects, BO Cloud, and SAP Lumira. You may contact Sergei at peleshuk@biportal.org