Data Extraction and Retraction in BPC-BI

SAP®

Applies to:

Document is applicable to all the BPC 7.0 NW version users and the users BI 7.0 integration with BPC. For more information, visit the [Enterprise Performance Management homepage](#).

Summary

This document provides an overview of data integration between BPC NW with BI 7.0. SAP Net weaver 7.0 BI is used as the backend server to hold BPC data. Since BPC tool is used for planning and reporting purposes, master and transactional data is stored in SAP NW BI objects and tables needs to be pushed to BPC for the reporting of planned and historical data and similarly planned data in BPC can be retracted as necessary.

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Author Bio

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Introduction

SAP BPC is web based collaborative solution that unifies the business planning and performance management process. It is a tool to accomplish the activities of Performance Management – Planning, Financial Consolidation, and Reporting.

BPC 7.0 is closely integrated with BI. Whenever an object is created in BPC, correspondingly a BI object is created at the back end BI. This close integration enables data movement from BI to BPC and vise versa. For example, for every new dimension created in BPC, a BW characteristic info object is generated in the BPC namespace.
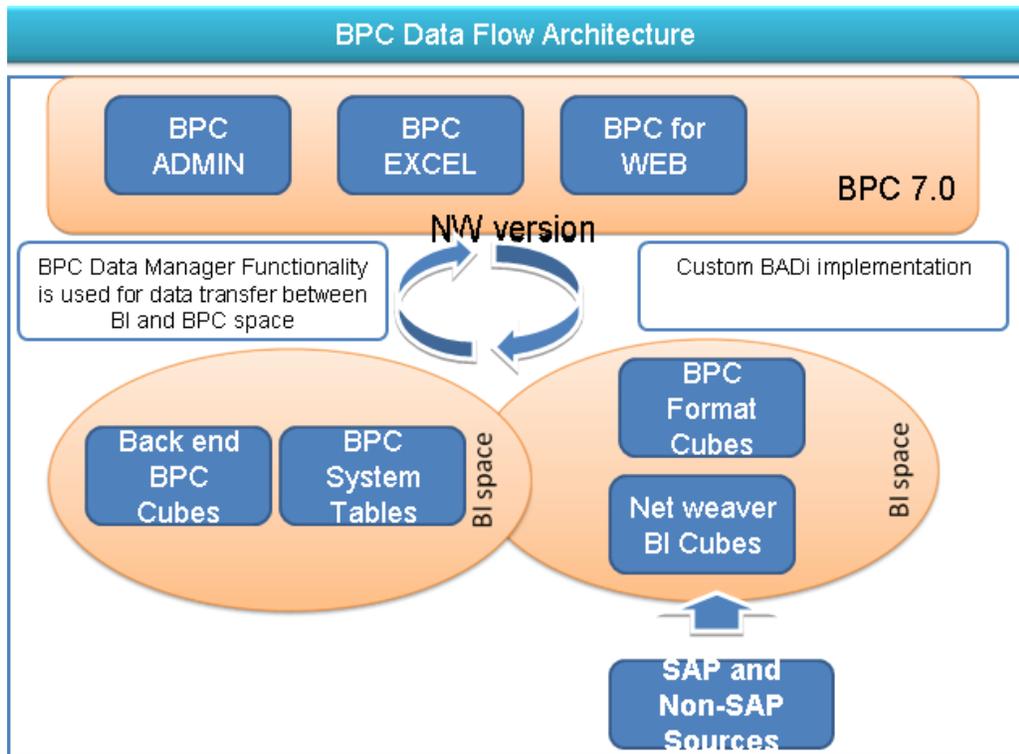

Objective

SAP BI is used for data warehousing and reporting of historical and transaction data. Hence actual data and historical data reside in BI. Consolidated view of planning data and actual data is required for planning and reporting purposes when a client is installing SAP BPC. This requires data integration between SAP BPC and SAP BI. This data integration can be achieved by extraction of BW data into BPC and building BPC reports showing both plan and extracted actual data.

Data integration also involves planned data extraction from BPC to BI for the evaluation and comparison purposes.

1. Data Extraction (BI to BPC): To consolidate all the data from various modules into BPC cube (according to modules).

2. Data Retraction (BPC to BI): Push back the Planned and Budgeted Data from BPC Cubes to BI.

Data Extraction

SAP Netweaver 7.0 BI is used as the backend server to hold BPC data. The master and transactional data is stored in SAP NW BI objects and tables. This makes the BW data extraction and retraction feasible. BPC engine can access data only from the system generated cubes in BPC namespace. Actual data is needed for reporting and planning purposes which resides in BI Cubes. Hence there is a need to extract BI transaction data into BPC cubes for combined reporting of actual and planned data.
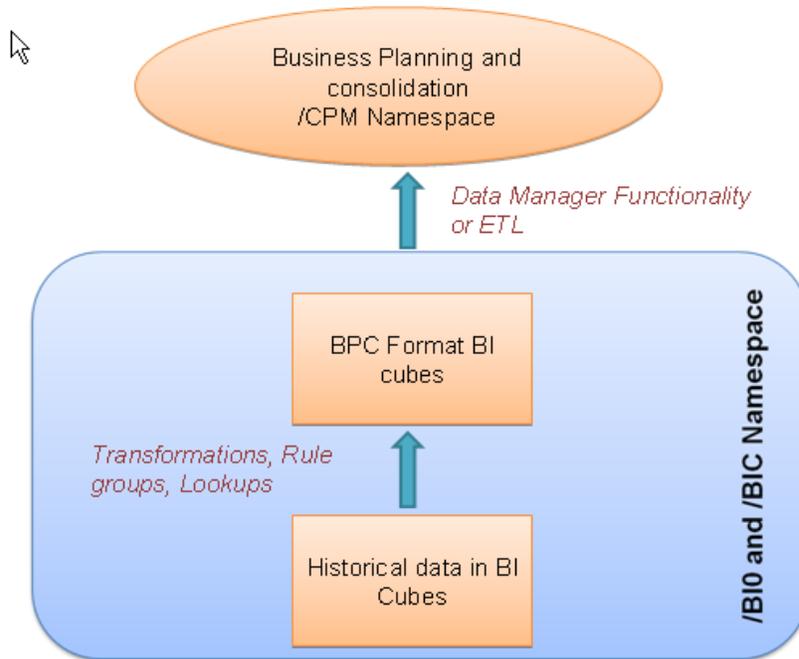
Methods of Data Extraction

Even though BPC also stores the data in SAP BI cubes, it is not recommended that we access the data stored in the cubes in /CPMB namespace using the Business explorer. Similarly, BPC engine can access data only from the system generated cubes in /CPMB namespace. Hence a combined reporting of actual and plan data can be achieved by extraction of BI transaction data into the BPC cubes. The figure below depicts the same.

We can have two different methods of loading data from BI to BPC. They are,
1. Using BW- ETL process

2. Using data manager functionality

Using BW- ETL process

Transaction Data from Net weaver BI info cube or Data Store Object (Non-BPC info providers) to an info cube generated in the BPC namespace, we can use ETL method to load the data by making the necessary transformations and master data look ups.

In Data Warehousing Workbench (Transaction code RSA1) define Data transfer process for BPC infocube using context menu of info provider tree.
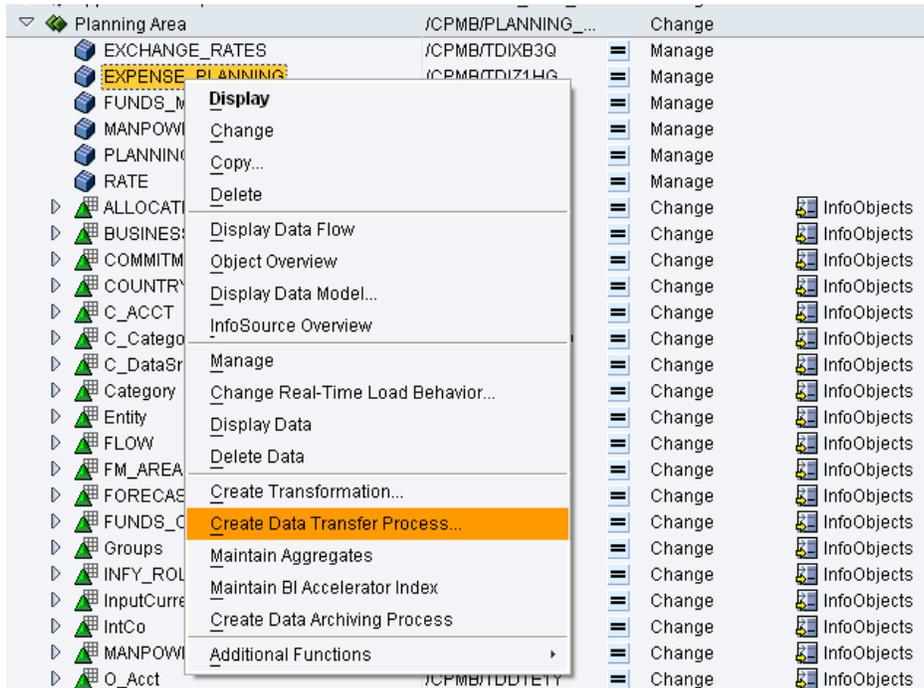
The BI cube/ DSO from which data has to be extracted should be given as Source of DTP. The DTP type should be selected as Standard. Please refer following link to learn more about DTP functionalities.

http://help.sap.com/erp2005_ehp_04/helpdata/EN/42/f98e07cc483255e10000000a1553f7/frameset.htm

Enter the details of DTP mentioning Description, source object type and source object technical names.

BPC generated info cube is a Real time info cube. Hence before executing the DTP, the info cube needs mode needs to switched to loading mode. Once the loading is done, it should be switched back to Planning mode as shown below.

Chose option Change Real-Time Load Behavior from the context menu of infocube. Switch to "Real-time data target can be loaded with Data ; Planning not allowed" Option.
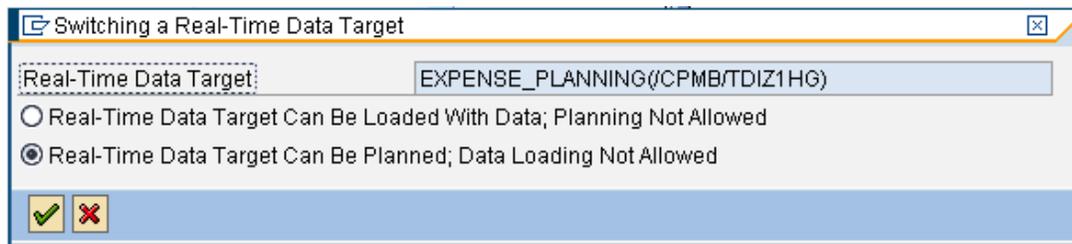
Once the real time load behavior is changed, the DTP can be executed. After loading, cube must be switched back to second option i.e. Real-Time data target can be planned; data loading not allowed following the same procedure. It is recommended to use process chain to define and schedule a data transfer process. The process type Data Transfer Process is available in the Load Process and Post processing process category which should be used while creating process chain using Transaction code RSPC. Process types for switching real time load behavior are also available.

Limitations of ETL process.

- Whenever the load is being done to BPC Cube, the same will not be available for Planning and vice versa.

- During ETL process, the validation mechanism in BPC7NW is skipped. This might lead to invalid records entry in BPC Cubes.

- If full optimization is done for the BPC Application, a new optimized cube is generated and all the ETL work that was done for the previous cube will be dropped from the new cube.

Using Data Manager Functionality

Data Manager is a BPC module that helps us move data in to BPC, as well as copy or move data within and across BPC applications. In addition to allowing us to move and copy data, Data Manager supports mapping and complex transformations of data. It requires a transformation file to be created for field mapping between BPC and BI. Data Manager is integrated with BPC for Excel. To start Data Manager, choose BPC Desktop icon BPC for Excel.
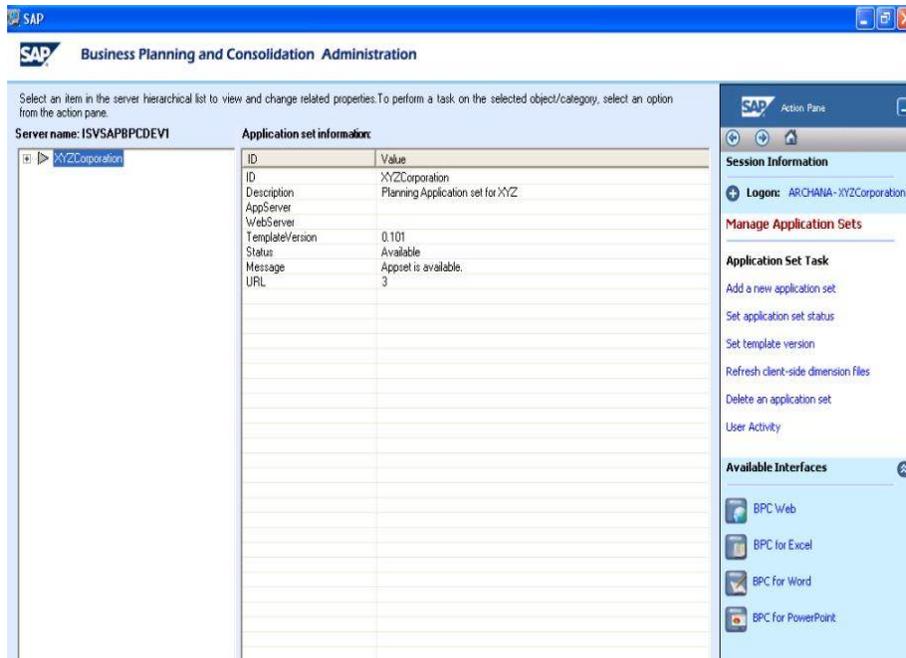

In the BPC for excel action pane, select Manage Data. For users who are familiar with menus instead of the action pane, BPC has an "eData" dropdown menu to choose all the actions available within Data Manager Action pane else BPC also has a Data Manager Toolbar through which data manager can be accessed.

Select the Data Management folder listed under the application name. From the packages listed in the right pane, select 'Load Data' package and click 'Run'.
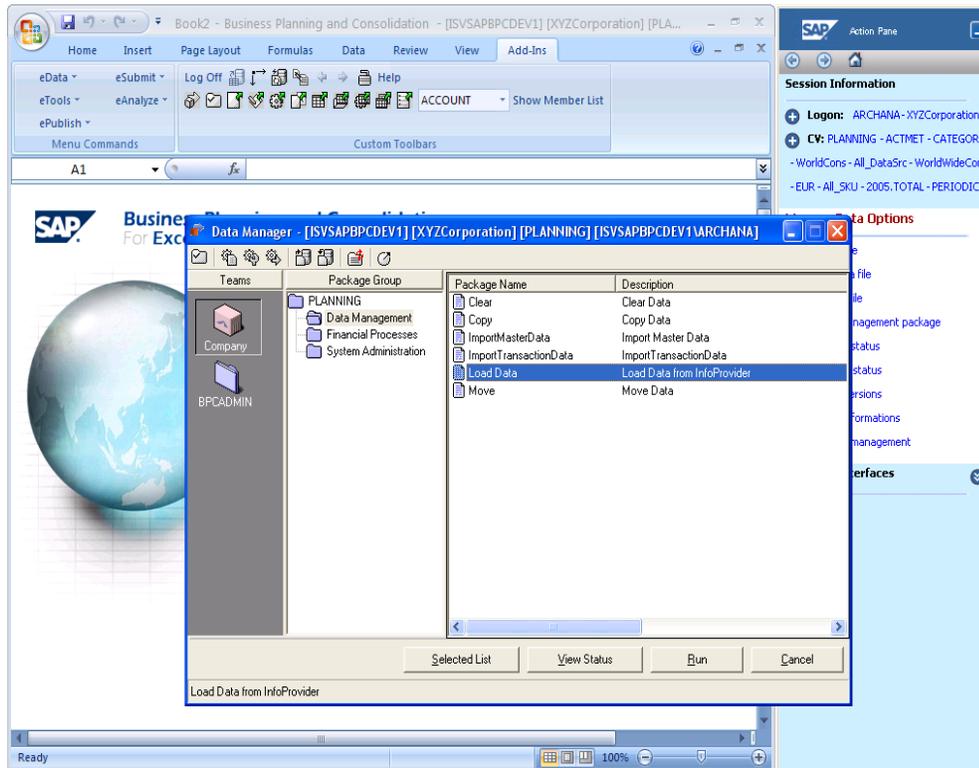
The BI Info provider (Cube or DSO) name whose data has to be extracted has to be entered in the dialog box and a transformation file needs to be selected. The status of the package can be checked using view status option shown below.

1. The package also gives the following options

2. Import method : Merge – Imports all records, leaving all remaining records in destination intact; Replace and clear – clears data for any existing records that mirror each entity/category/time combination defined in the source and then imports source records

3. Default logic to be run or not

4. Work status to be checked or not when importing data as shown in below screenshot

5. Run now/ Schedule.
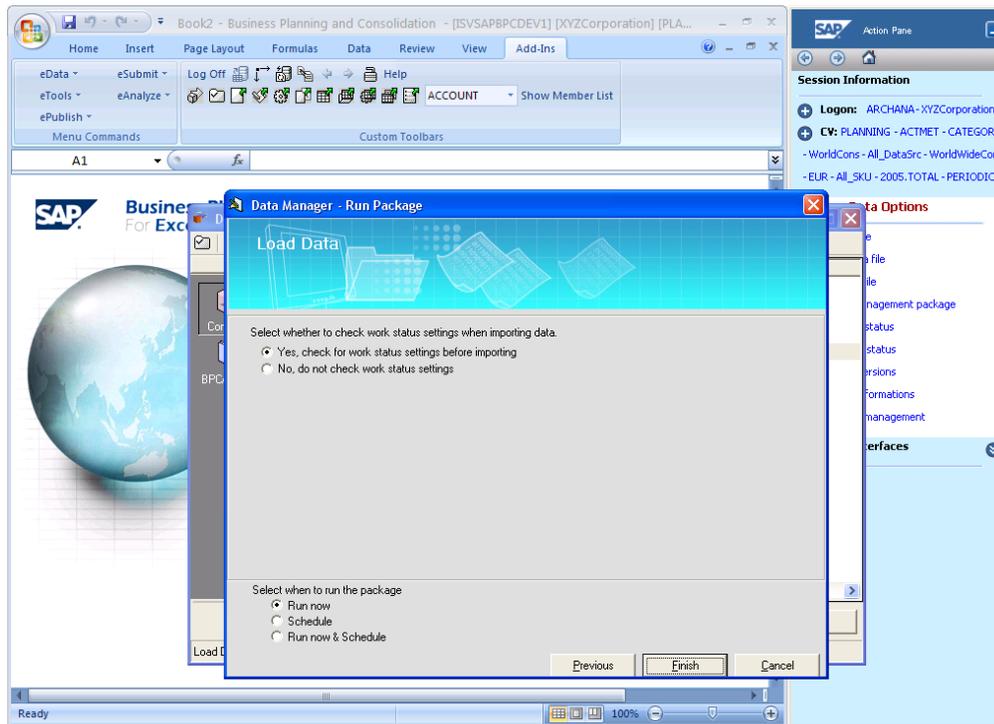
The status of the package can be checked using view status option available in Data manager.

Data Retraction
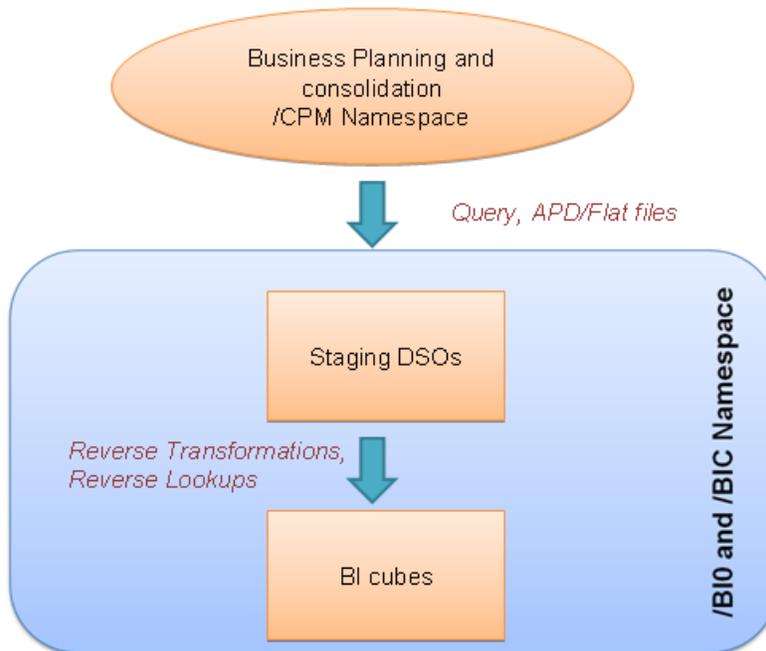
Data Retraction (BPC to BI) is a method to move the Planned and Budgeted Data from BPC Cubes to BI. There is no standard functionality provided by SAP to achieve retraction. Data manager can only be used for extraction purposes (Moving data from BI to BPC namespace).

This can be achieved using below methods.

1. Flat file method
2. BEX Query, APD

Flat File Method

In this method, entire BPC data is downloaded to a flat file using data downloader functionality available in BPC cubes or using data manager functionality of BPC front end. The data from this flat file is extracted into a flat file data source and further loaded to info providers in BI. Necessary reverse transformations and reverse lookups are maintained while loading data from flat file data source to data targets in BI flat files has to be maintained in Application server.

Using Query, APD

Simple BEX Query is built on BPC cubes to extract entire data with all the fields Query designer. A direct update DSO is built with the fields similar to BPC Cube fields. Analysis process designer is created for the movement of Query results to direct update DSO. From this stage, data can be further moved to another Standard DSO or Cube based on the requirement with necessary reverse transformations logic

Note: It is not recommended that we access the data stored in the cubes in BPC namespace using the Business explorer

Conclusion

The data in BI Cubes can be converted into data available in BPC Cubes by using functionalities in Transformations - Rule Groups and LookUps.

As of now for Retraction, the Data from BPC Cubes is first moved to a Flat file and then loaded to BI cubes with the help of flat file data sources. The reverse lookups are carried out in transformations between data sources and cube. (Another way of taking out data from BPC cubes – by using APD – pulling out the data using a query and loading into a DSO in BI- This is in progress. Not sure if it is recommended method).

Related Contents

https://www.sdn.sap.com

http://help.sap.com

For more information, visit the Enterprise Performance Management homepage.

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