

What the Embedded in BW on HANA Version Brings

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SAP has succeeded in moving towards a modern coherent planning suite with the release of BPC 10.1, version for SAP NetWeaver. The new product combines the advantages of BW Integrated Planning, SAP HANA and SAP BPC.

SAP BPC 10.1 NetWeaver version offers a Standard as well as a new Embedded model. While the Standard Model does not differ much from the BPC 10.0 for NetWeaver, the Embedded model provides a planning suite that is based technologically on SAP BW 7.4/7.5 on HANA and combines the planning components of SAP BW Integrated Planning and SAP BPC.

In the insights below you will find a high level technical overview of SAP BPC and its basic architecture components. The focus is on BPC Embedded, its advantages, weaknesses and differences with the BPC Standard. At the same time, we address a number of typical questions people ask about SAP BPC nowadays:

- What are the different versions of SAP BPC available?
- What is new in BPC embedded on HANA?
- What is the difference between BPC and BW IP?
- What is IBP (Integrated Business Planning) and its role?
- What are the pros and cons for different SAP Business Planning and Consolidation tools in relation to the latest releases of SAP HANA, Netweaver, S/4HANA and BPC?

Available BPC Versions

Today there are about 5 different versions of BPC available from SAP depending on how you count: BPC 10.1 Microsoft, BPC 10.1 NetWeaver Standard on traditional database (e.g. Oracle, db2), BPC 10.1 NetWeaver Standard on HANA, BPC 10.1 Embedded on HANA, and BPC Optimized for S/4 HANA. This may sound confusing and overwhelming. We will focus below on the BPC Embedded version and go through its specific features, advantages and weaknesses.

What is New in BPC Embedded vs. Standard?

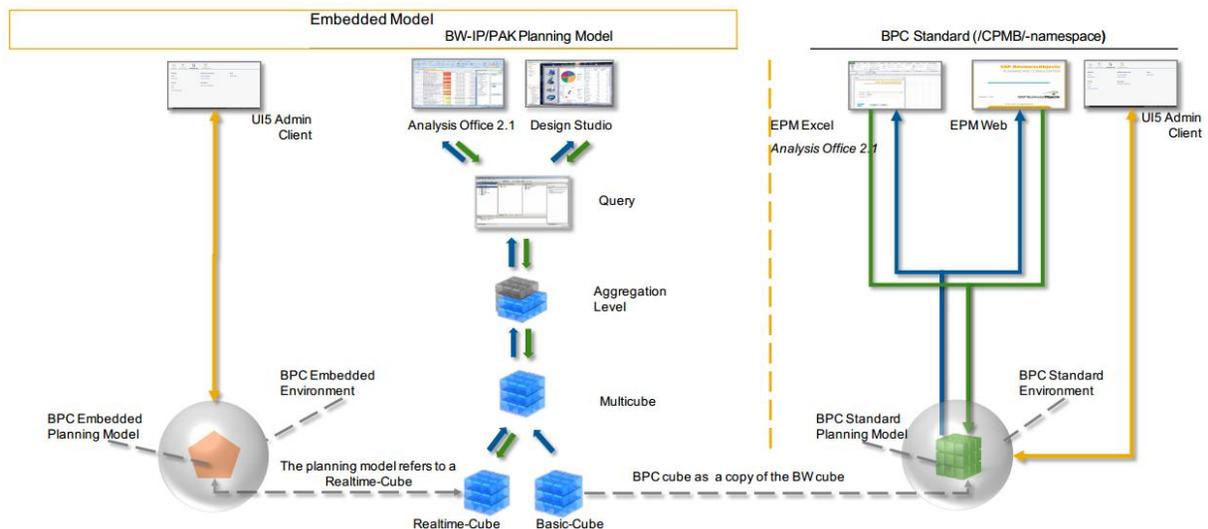
BPC Embedded (or in other words BPC Unified [old term]) is a one platform for Planning, Consolidation and Reporting leveraging the power of SAP HANA on large datasets together with the flexibility and appeal of BPC frontend modelling capabilities to business users (LOB). On the other hand BPC Embedded leverages the powerful BW on HANA datawarehousing capabilities, modern BO tools for reporting, dashboards and apps.

Figure 1: BPC Embedded, One platform for Reporting, Planning, Consolidation



A bulk of BPC Embedded modelling is performed using the BW and BI IP engine as opposed to BPC Standard, where a web based administration console is used as a frontend. Therefore, IT involvement in BPC Embedded modelling is crucial. Modelling objects for each product are shown in the high level chart below. BPC standard also uses an EPM add-in for reporting/Excel based data entry while BPC embedded uses Analysis for Office. To write data to the system, with BPC Standard the end-user can create an input form with the EPM add-in. To do this in BPC embedded, the user needs to first create an input enabled query (in BEx query designer or Eclipse/HANA Studio) and an Analysis for Office workbook.

Figure 2: Modelling in BPC Embedded vs. BPC Standard

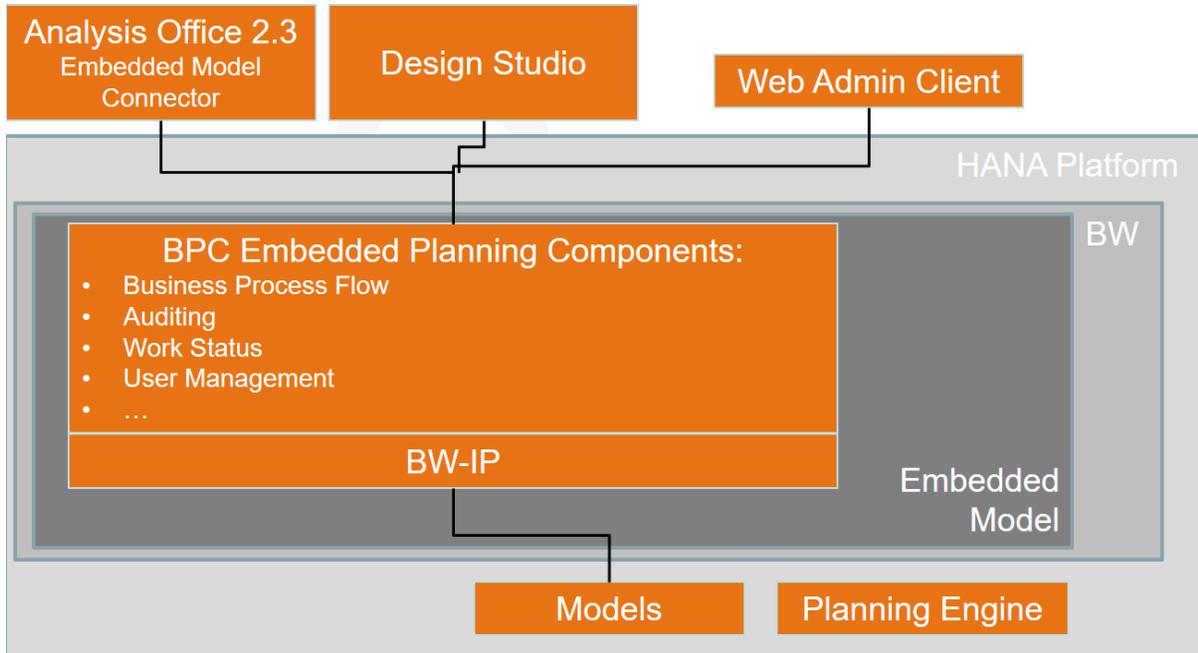


In BW 7.5 on HANA modelling in BPC Embedded can be based on ADSO objects (Planning, Direct Update) instead of InfoCubes/Multiproviders/DSO's. Using Direct Update ADSOs instead of

InfoCubes simplifies architecture and makes modelling a straight forward process as all relevant infoobjects can be collected in the ADSO and data slices can be defined in the aggregation levels.

High level BPC Embedded components and tools involved in modelling together with user frontend tools are described in the following chart.

Figure 3: BPC Embedded components in BW 7.5 on HANA



Modelling Approach

	BPC Standard	BPC Embedded
Dimensions	Account based model with the following mandatory dimensions: <ul style="list-style-type: none"> • Category (version) • Account (to model the measures) • Time (nothing to do with BW time characteristics) • Entity • plus optional generic dimensions 	Key Figure based model with the following Characteristics: <ul style="list-style-type: none"> • generic, except: <ul style="list-style-type: none"> • 13 time characteristics (calendar, fiscal) • currency/unit characteristics
Values	Measure: only one technical key figure in BPC generated BW InfoCube	Key Figures, of various types: <ul style="list-style-type: none"> • amounts with a currency

		<ul style="list-style-type: none"> quantities with UoM numbers of various types, date, time
Hierarchies	BPC hierarchies, correspond to BW hierarchies with postable nodes	BW hierarchies with different node types; also display hierarchies in BW queries
Modelling Slices	Each planning slice has to be modelled separately as a separate model	Slices can be created on top of a single InfoCude (ADSO) as aggregation levels
Data transfers	You may need to copy data between models, e.g. HR numbers to be copied to the P&L model	No need to copy data between models as different slices can be set up on top of the same dataset with automatic disaggregation
Copying Actuals	The planning model has to contain actuals copied from the actuals dataset	The planning model contains only forecasted/plan figures. The actuals are read from the actuals dataset

The fundamental difference in modelling is that BPC Embedded requires data modelling in BW/IP, while BPC Standard modelling is done by business users in the BPC frontend.

Data Validation Rules

	BPC Standard	BPC Embedded
Constraints for persistence	BPC Rules; validations can also be implemented using Script Logic. BADI can be used as well.	Characteristic Relationships (methods CHECK, DERIVE, CREATE); validations can also be implemented using FOX or exit planning functions
Data protection	BPC Work Status	Data Slices, BPC Work Status (mapped to technical data slices at run time)

Advantages of BPC Embedded related to the platform (BW on HANA)

- SAP's strategic EDW platform
- Reduction in data size
- Improved performance (both data loading and query execution)
- Big Data platform
- Predictive Analytics capabilities

- Integration with SAP BusinessObjects reporting tools (especially BO Design Studio and BO Analysis for MS Office)

Advantages of BPC Embedded vs. Standard

- No need to replicate data and/or models between BW and BPC
- Less models will be needed as aggregation levels will be used.
- Many standard planning functions available (copy, disaggregation, formula...)
- Calculations pushed to HANA (including disaggregation) allowing very fast responsive times on large datasets. With BPC Standard, many calculations are still running the ABAP stack/application layer.
- Access to powerful data logic transformations with SQLScript and ABAP
- Virtual modelling capabilities (adding remote data sources)
- Integration with SAP BusinessObjects reporting tools (especially BO Design Studio and BO Analysis for MS Office)

Weaknesses of BPC Embedded vs. Standard

- BPC Embedded models cannot be owned purely by LOB, modelling requires more involvement of IT as data models are based on objects in BW, IP and BEx queries. It can be configured in a way that it is maintained by LOB at a later stage, but the initial setup requires involvement of IT/consultants.
- Consolidation module in BPC Embedded is quite new, not proven on the market yet.

Terminology

- BPC Embedded
The BPC environment where BW-IP objects are directly exposed in BPC. With BPC Embedded SAP delivers an infrastructure for design and implementation of planning and consolidation scenarios. This solution comprises the complete integration of planning, consolidation, datawarehousing and BI features with a uniform user interface and design environments
- BPC Standard (Netweaver version)
The BPC environment type used when no BW objects are exposed directly; all BW objects are generated and controlled by BPC
- Planning Application Kit (PAK) [old term]
The technology used to run BW-IP algorithms directly on SAP HANA
- SAP Business Warehouse Integrated Planning (BW IP) [old term] = BPC Embedded (BPC Embedded requires HANA. BW-IP still exists and is used by customers not running HANA underneath).
- S/4HANA Integrated Business Planning (IBP) [old term] = BPC Optimized for S/4HANA

- SAP BPC for S/4HANA = BPC Optimized for S/4 HANA
- BPC Optimized for S/4HANA

The Integrated Business Planning for S/4 HANA provide a consistent view of the planning process. From the UI perspective, all planning applications can be accessed by a Microsoft Excel frontend to provide a homogeneous look and feel (Analysis for office). There are no longer silos for the planning data since all planning data is contained in a real-time info cube of the embedded Business Warehouse (BW) in S/4HANA. (SAP is planning to store plan data in a later phase directly in S/4HANA, thus eliminating the need of a BW InfoCubes). Actual data and master data are accessed directly in real time without any replication that would be necessary in a standalone BW.
- Integrated Business Planning (IBP for Supply Chain)
 - This product is not used in the same context as SAP BPC
 - SAP Integrated Business planning is a platform for real-time, integrated supply chain planning built on SAP HANA, for Cloud deployment. SAP IBP is being developed to deliver integrated, unified planning across sales and operations, demand, inventory, supply and response planning, as well as the supply chain control tower for dashboard analytics and monitoring.
 - Previously known as Sales & Operational Planning tool has transitioned to IBP.
 - IBP is a new family of applications in SCM under HANA whereas BPC belongs to the Business Analytics and the Finance family.
 - IBP uses source system tables and HANA views as a source data whereas BPC Netweaver version uses BW objects for storing data.
 - IBP is more of a bottom up planning solution focused on the inventory and its movements through sales etc.

Contact us for help with SAP BPC Embedded



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

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