Embedded SAP BW

Definition and Positioning

Product Management SAP EDW (BW/HANA), SAP SE
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PUBLIC
**Embedded BW**

**Definition**

**What is Embedded BW:**
- SAP BW is automatically included in SAP ERP systems since SAP NetWeaver 7.0. The SAP BW technology that exists inside such an ERP system is called ‘Embedded BW’.
- This BW supports technically all BW native functionality incl. SAP BPC processes*
- The Embedded BW is used to support certain business processes in the SAP Business Suite and in SAP S/4HANA, e.g. Integrated Business Planning for Finance, using SAP Business Planning & Consolidation (BPC)
- From an outside perspective, the product that is sold to and installed at a customer is the SAP Business Suite / SAP S/4HANA
- The version of BW used in the embedded scenario is SAP BW 7.5 powered by SAP HANA – there are currently no plans to enable SAP BW/4HANA for Embedded BW.

*Note: BW native functionality includes all core functionalities of SAP BW, such as data warehousing, data management, and reporting, as well as integration with other SAP and non-SAP applications.
In general, SAP recommends to use Embedded BW only for the SAP standard scenarios. Beyond those cases particular rules and limitations apply, i.e.:

- SAP strongly recommends not to use Embedded BW for data warehousing (EDW) use cases!
- The amount of data persisted in the Embedded BW should not exceed 20% of the overall data volume of the system. This applies to:
  - Extraction from own Suite / S/4HANA system
  - Integration of data from external applications
  - Data from planning applications
- License implications
  - Use of BPC requires a separate license
- Security / Authorizations
  - Embedded BW relies on a separate authorization concept. Authorizations from Suite / S/4HANA do not apply but need to be mapped if required.
- Client Distribution
  - SAP recommends a separate client for Embedded BW
    - for organizational reasons (development, administration)
    - whenever data is physically replicated from another SAP application (on the same system) to the Embedded BW
  - For certain scenarios the Embedded BW can be installed on the same client (for additional details see slides 8, 9 in the appendix).
Embedded BW in SAP S/4HANA Finance: Sizing Options

**ERP based sizing**
“Simple Finance with Embedded BW”

- Both systems contain exactly the same software components
- They only differ with respect to sizing
- The Embedded BW which is shipped with SAP S/4HANA is a SAP BW 7.5 release.
- SAP BW/4HANA is available as a stand-alone EDW platform only

**Characteristics**
- Heavy transactional processing
- External data load via BW-ETL restricted
  
  Data volume < 20%

**Scenarios**
- Finance processes
- Central Finance with major transactional processing

**Sizing**
- ERP based sizing
- Scale-out not supported
- Scale-up supported

**BW based sizing**
“EDW with Embedded Finance”

**Characteristics**
- Little transactional processing
- Mainly external data load

**Scenarios**
- Central Finance with restricted transactional processing

**Sizing**
- BW based sizing
- Scale-out supported
- Fixed core to memory ratio
Embedded BW

Related Information

EDW Positioning

Positioning of SAP Business Warehouse Powered by SAP HANA und SAP HANA Live for SAP Business Suite

Positioning of SAP Business Warehouse Powered by SAP und SAP S/4HANA embedded analytics

System Landscape Recommendations for SAP NetWeaver BW 7.3

Support for Multiple Applications on SAP HANA
- https://service.sap.com/sap/support/notes/1661202

Additions BW Deployment Recommendations (multi-client ops)
- https://service.sap.com/sap/support/notes/1358744

Considerations with SAP HANA Multi-tenant Database Containers and SAP BW
- https://service.sap.com/sap/support/notes/2121768

SAP Enterprise Architecture Explorer
- https://eaexplorer.hana.ondemand.com/_item.html?id=10990#!/overview
Thank you.

Questions?

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Client Distribution – Use cases

SAP S/4HANA Transactions
SAP S/4HANA embedded analytics CDS (VDM)
SAP BW (embedded)

User Interfaces (BI, Mobile, SAP Fiori*)

Built-in applications

Analytical Engine

BPC

SAP

Non-SAP

other external systems

Internal staging

External staging

See next slide for details

*only SAP S/4HANA
# Client Distribution – Use Case detail

<table>
<thead>
<tr>
<th>Use Case</th>
<th>Add. Client required</th>
<th>Remarks/Explanations</th>
<th>BW Configuration</th>
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</thead>
<tbody>
<tr>
<td>1) SAP S/4HANA embedded analytics using ABAP-based CDS and the Analytical Engine (automatically generated transient BEx providers)</td>
<td>No</td>
<td>If the use case is enhanced, consider the usage of a separate BW client</td>
<td>Note 2289865</td>
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<td>2) SAP S/4HANA BPC Optimized using SAP BPC on PAK models</td>
<td>No</td>
<td>If you are planning to load external data or to combine the use case with other use cases, consider usage of a separate BW client</td>
<td>Note 1972819</td>
</tr>
<tr>
<td>3) Embedded BW usage creating small customer-specific data models for reporting and planning (incl. BPC on PAK), including external data sources to stage data into the Embedded BW (other SAP system, e.g. other SAP ERP/CRM/etc., stand-alone BW or non-SAP legacy system) – no usage as Enterprise Data Warehouse!</td>
<td>No</td>
<td>If the use case should be enhanced, consider usage of a separate BW client</td>
<td>Note 1972819</td>
</tr>
<tr>
<td>4) Embedded BW usage to stage data from the same SAP S/4HANA system</td>
<td>Yes</td>
<td>The logical source system is unique in the SAP Landscape for source and target systems. Various DataSources are checking for the logical source system prior to data extraction</td>
<td>Full BW setup in a separate client</td>
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