

# SAP BW 7.5 SP1 powered by SAP HANA

## Overview & Roadmap

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Public

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# SAP Business Warehouse Today

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**15000+**

BW Customers

**Vast majority: Central EDW, harmonizing many source systems**

**7000+**

BW 7.3 / 7.4 Customers

**Embedded into mission critical business processes**

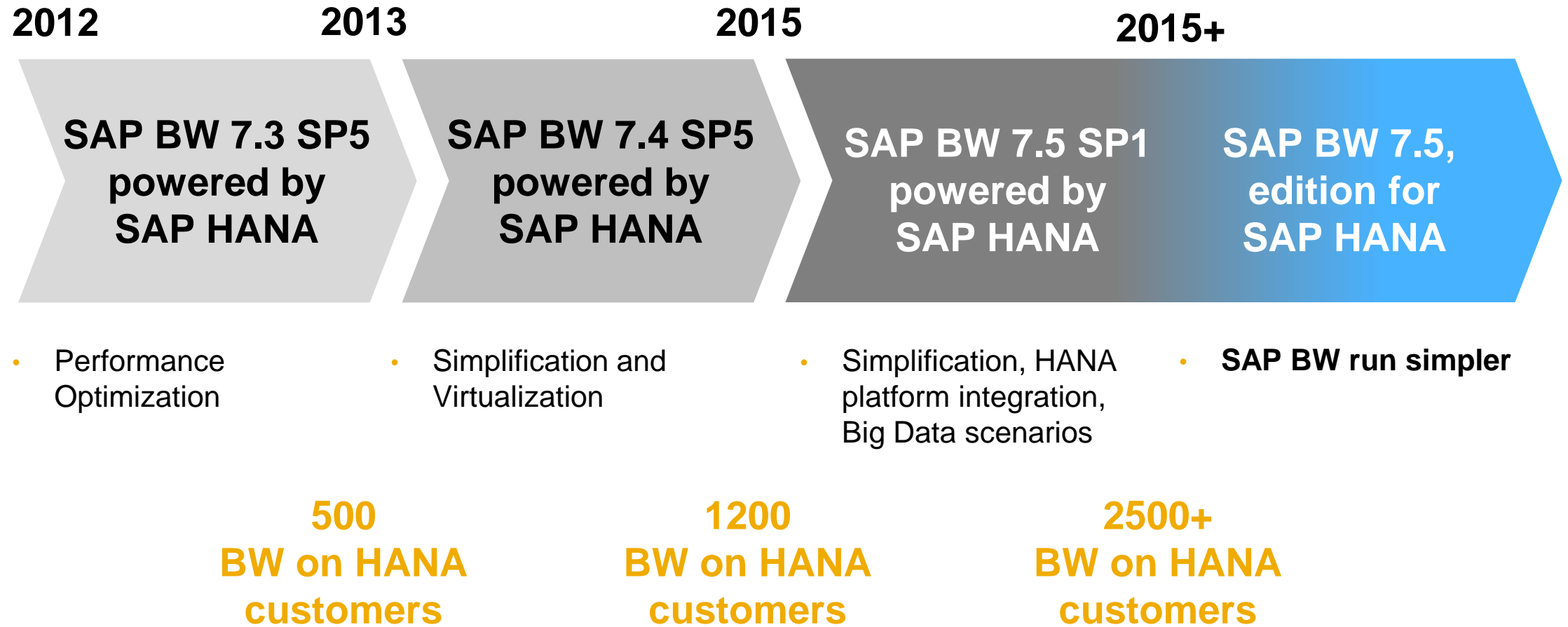
**3000+**

BW on HANA Customers

**Constant growing HANA adoption**

**Strategy to run simple with SAP BW**

# SAP BW Roadmap driven by SAP HANA



# Highlights of SAP BW 7.5

## Simplification

- Enhancements for Advanced DataStore Object and CompositeProvider
- Features complete Query Designer Eclipse
- Extended InfoObject maintenance in Eclipse
- BW Workspaces with local hierarchies
- New BW Workspace Query Designer

## Platform Integration

- Introduction of SAP HANA Smart Data Integration capabilities for SAP BW

## Big Data

- Enhanced support for SAP HANA Dynamic Tiering
- Extended near-line storage capabilities

## SAP BW 7.5, edition for SAP HANA

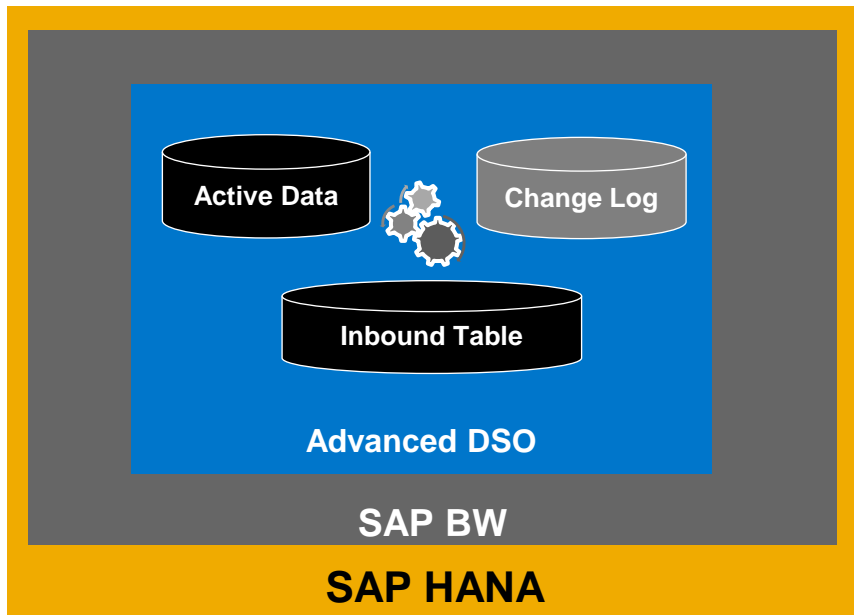
- Simplified governance and faster time to market
- Option to run SAP BW in a simplified mode only using HANA optimized objects



# Simplification

# Simplification – Advanced DataStore Object

Recap – New with SAP BW 7.4



## Next generation of Data Store Object simplifies data modeling in SAP BW

- Consolidate DataStore Objects and InfoCubes
  - Single type of BW object
  - Settings to manage properties for certain services
- Combine InfoObject and field based modeling
- New intuitive & modern modelling UI

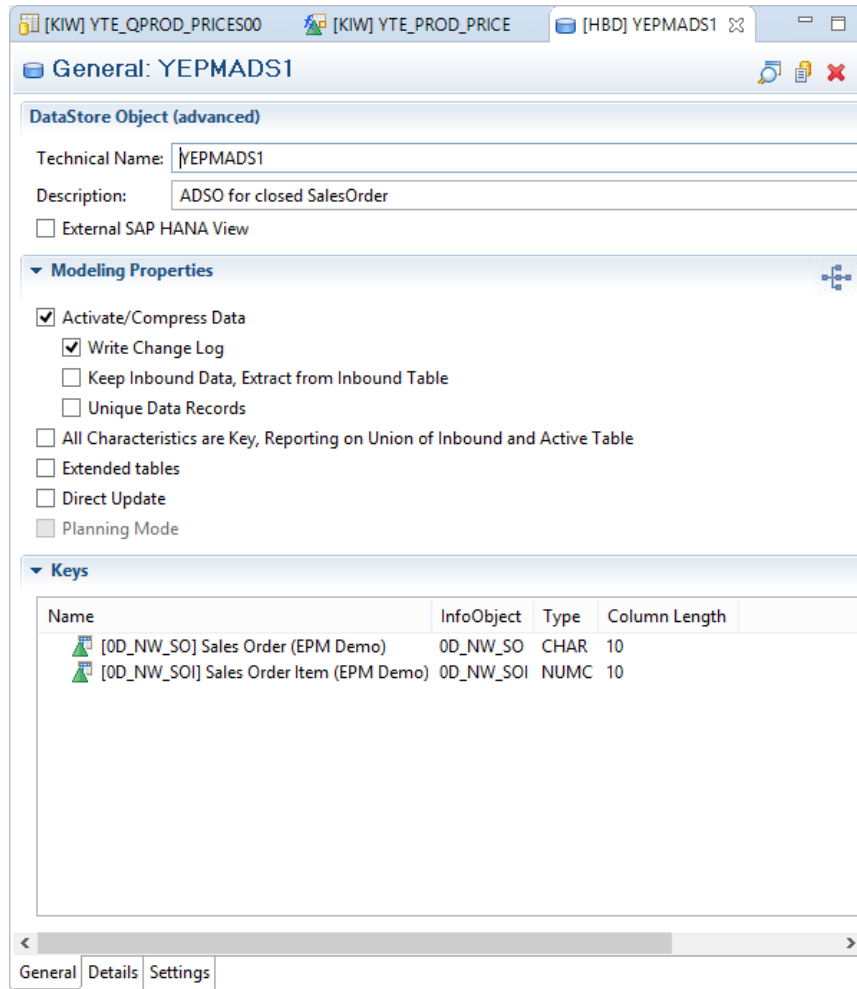
## Optimized services

- High frequent data loads - based on optimized request management
- Change of usage scenario without deletion of data
- Up to 120 key fields
- Optional SID entries for query performance optimization

[SAP Note 2070577](#)

# Simplification – Advanced DataStore Object

New with SAP BW 7.5 SP1



## New features for Advanced DataStore Objects

- Extended non cumulative handling for Advanced DataStore Objects with delta calculation
  - Inventory handling with less source dependency
- Additional HANA Dynamic Tiering support for Advanced DataStores with Activation and Change Log set
- Planning support for Advanced DataStore Objects with “all characteristics are key, reporting on union” property set
- Tool support for transfer existing objects to Advanced DataStore Objects
- Near-Line Storage support for various Advanced DataStore Object types

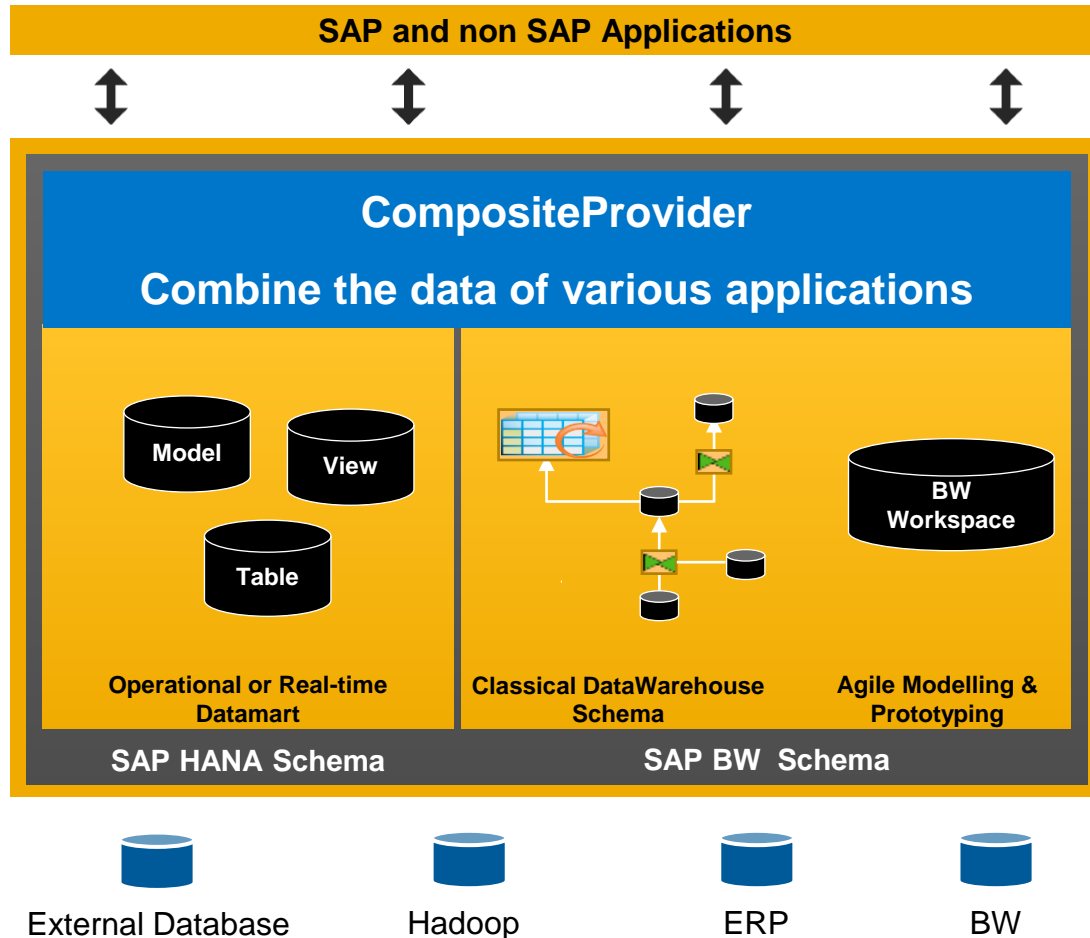
## Planned for future

- Real-time streaming capabilities



# Simplification – CompositeProvider

## Recap – CompositeProvider with SAP BW 7.4



### The new CompositeProvider with SAP BW 7.4 - virtualization and consolidation

- Combine BW InfoProviders and HANA artefacts via UNION or JOIN
- Consolidation of existing InfoProvider types by new CompositeProvider
  - Successor to BW MultiProvider, BW InfoSet, existing CompositeProvider, TransientProvider on HANA Models, VirtualProvider on HANA Models

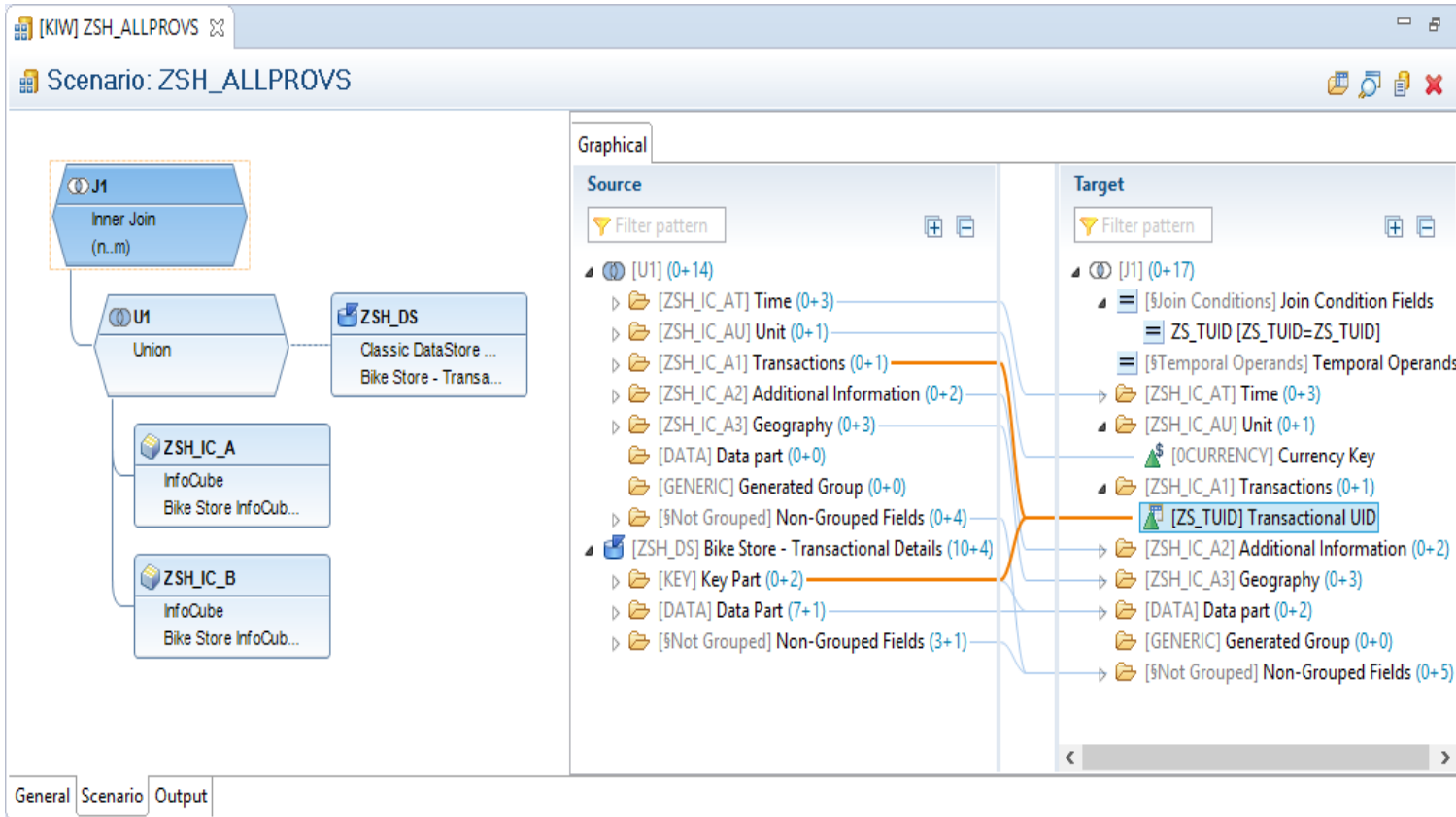
**Faster Implementations of data model**

**More flexibility – additional business insights**

**Completely processed on SAP HANA**

# Simplification – CompositeProvider

New with SAP BW 7.5 SP1



**Leveraging latest optimizations with SAP HANA SPS10**

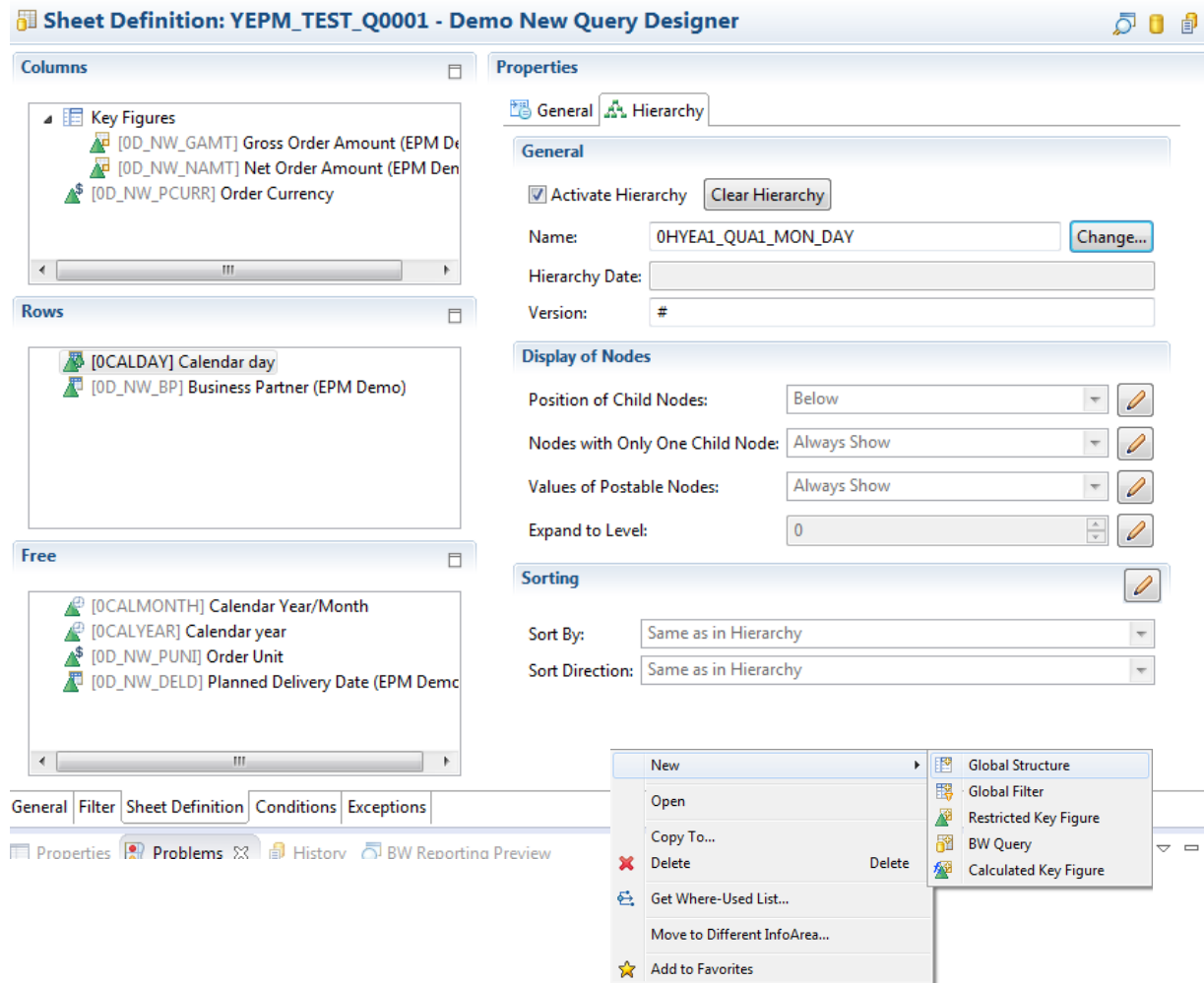
## Simplified User Experience

- Easy creation process
- Conversion of existing MultiProvider and “old” CompositeProvider
- InfoArea Assignment
- Semantic grouping of output structures

## Planned for future

- Support of CompositeProvider with temporal joins to fully replace InfoSets

# Simplification – BW Query Designer in Eclipse New with SAP BW 7.5 SP1



## Next generation BW Query Designer

- Modern, intuitive Eclipse based UI
- Compatible with existing BEx Queries – no migration/conversion required
- Covers all BEx Query Designer functionality – plus extensions

## Extended functionality

- HANA View Generation
- Integrated Query Preview
- New HANA Exit Variable via AMDP available
- New Simplified formula editor (IF Operator)

## Simplified Editors

- Separate editor for Restricted Key Figures, Calculated Key Figures, Global Structures and Global Filters (feature complete with BW 7.5 SP1)

# Simplification – InfoObject Maintenance in Eclipse

New with SAP BW 7.5 SP1

The screenshot shows the 'Hierarchies: Characteristic 0COSTCENTER' window in the Eclipse IDE. The interface is divided into several sections:

- Hierarchy Type:** A dropdown menu is set to 'Standard'. Below it are two checkboxes: 'Version-Dependent' and 'Time-Dependent', both of which are currently unchecked.
- Remote Hierarchy Properties:** Includes a 'Remote Hierarchy Class' text field with a 'Details...' button, and a 'Remote Hierarchy Class Parameters' text field.
- Time-dependent Properties:** Contains three radio buttons: 'Entire Hierarchy is Time-Dependent', 'Time-Dependent Hierarchy Structure', and 'Use Temporal Hierarchy Join'. The first two are selected.
- Miscellaneous:** Includes a checked checkbox for 'Intervals Permitted in Hierarchy' and an unchecked checkbox for 'Reverse +/- Sign for Nodes'.
- External Characteristics in Hierarchies (0):** A table with two columns: 'InfoObject' and 'Description'. The table is currently empty. To the right of the table are 'Add...' and 'Remove' buttons.

At the bottom of the window, there is a tabbed interface with the following tabs: 'General', 'Master Data/Texts', 'Hierarchies', 'Attributes', 'BI Clients', 'Extended', and 'Runtime Properties'. The 'Hierarchies' tab is currently active.

## Next generation InfoObject modeling

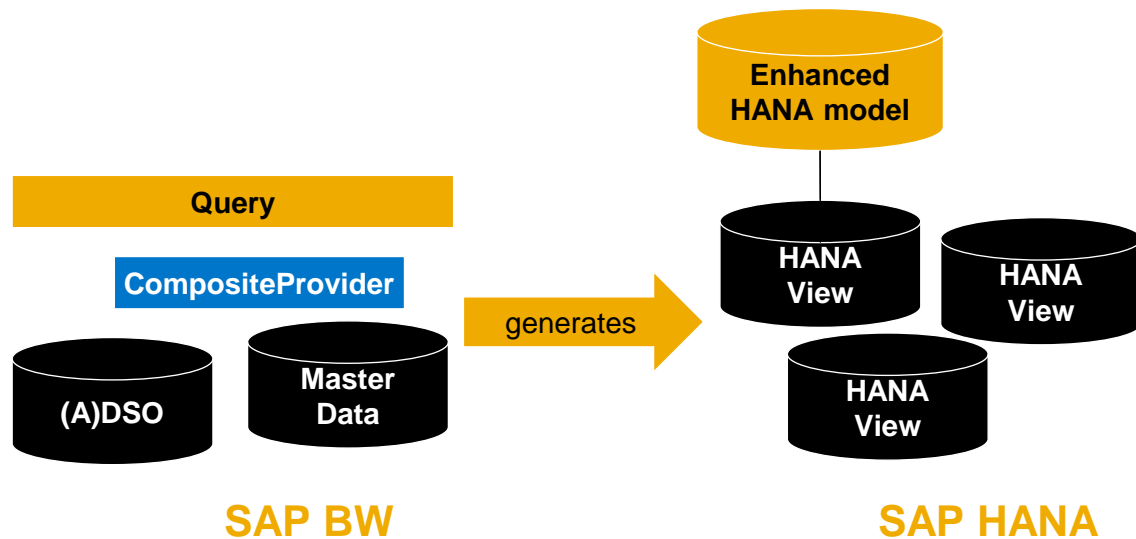
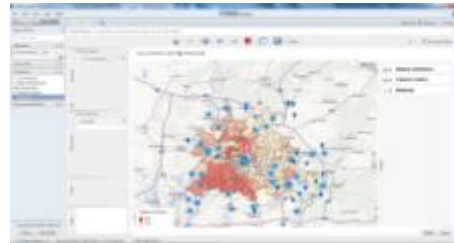
- Modern, intuitive Eclipse based UI
- Covers all InfoObject functionality in a simplified maintenance

## Extended functionality

- Support for INT8 Key Figures (overcome 2 billion limitation for integer values)
- Enhanced Master Data Preview
- Time characteristics as attributes for 0DATE, 0FISCPER, etc.
- Disable Display Attributes in reference InfoObject

# Simplification – Automated generation of HANA Models

## Recap – HANA view generation with SAP BW 7.4



### Automated HANA model generation for direct SQL consumption of BW Data

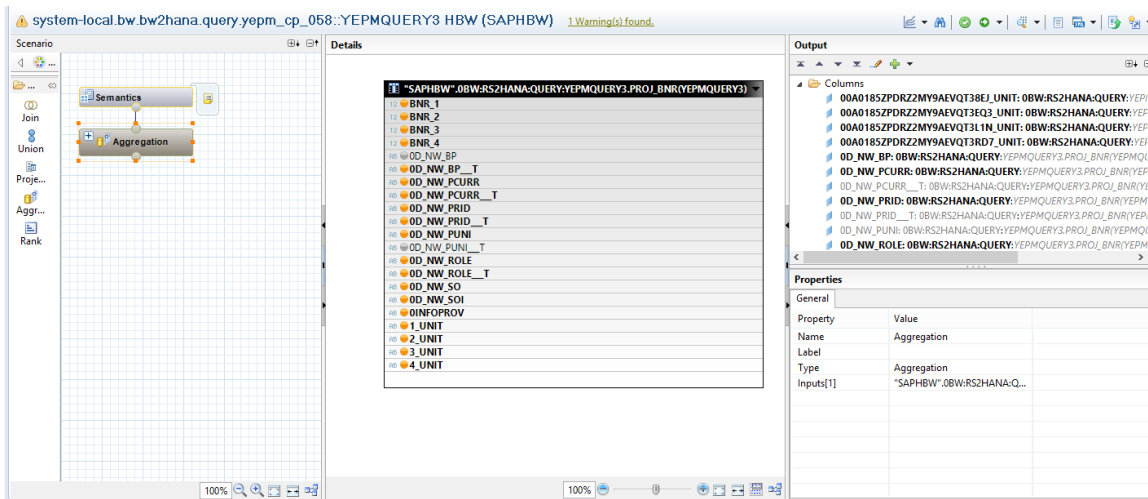
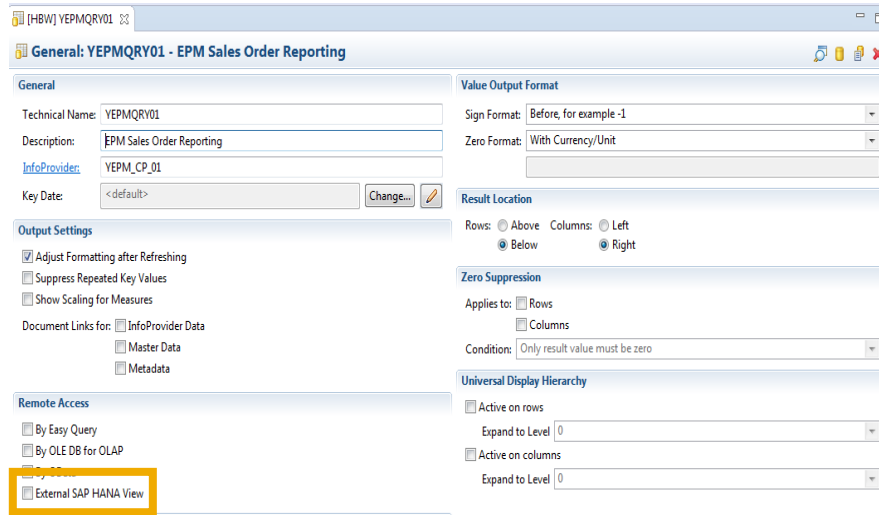
- Enhanced Metadata interoperability between BW and HANA
- Triggered automatically during BW InfoProvider activation

### HANA model generation for BW InfoProvider

- Direct consumption of BW data via generated HANA views for BI Tools or SQL
- Usage of generated view in HANA Studio to build own data models using BW data and HANA native algorithms
- Analysis Authorization: Automatic sync between HANA and BW

# Simplification – Automated generation of HANA Models

New with SAP BW 7.5 SP1

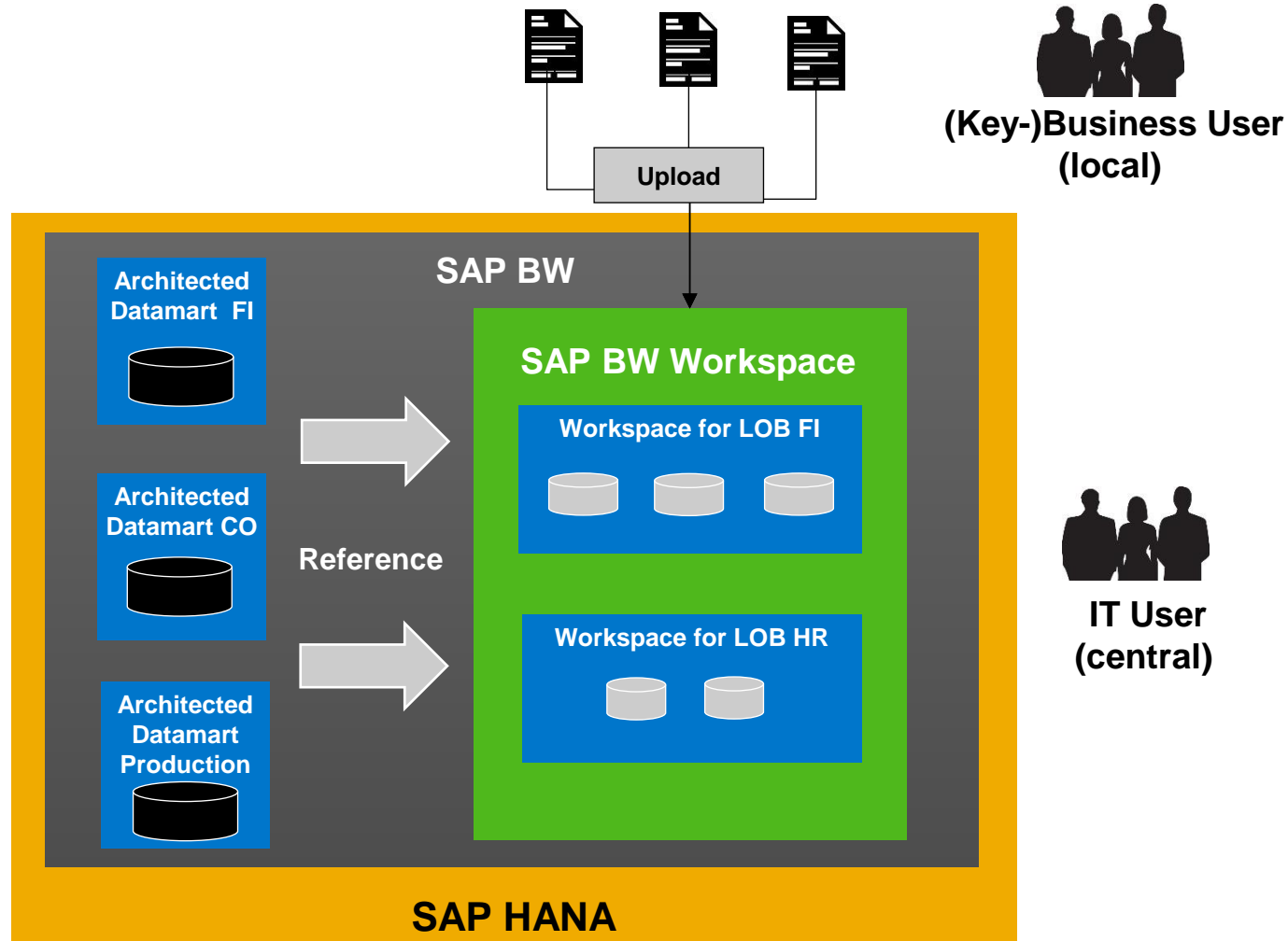


## Additional Features for HANA View Generation

- Enhancements for BW Queries
  - Support of Display Hierarchies (Pilot)
  - Availability of new HANA exit variable as AMDP
  - Support of IF THEN ELSE Formula Operator
  - Support of SAP Exit variables: 0CMONTH, 0CWEEK, 0CYEAR, 0CQUART, 0DAT
- Enhancements for InfoObjects
  - BW Hierarchies are now included for the master data and master data provider
  - HANA view the XXL Attributes included in generated master data view
- Enhancement for CompositeProvider / Advanced DSO
  - Usage of BW pruning information (meta data based) in generated views
  - Near-Line Storage access optimization for SAP IQ

# Simplification – SAP BW Workspaces

New with SAP BW 7.5 SP1



## SAP BW Workspaces – Recap

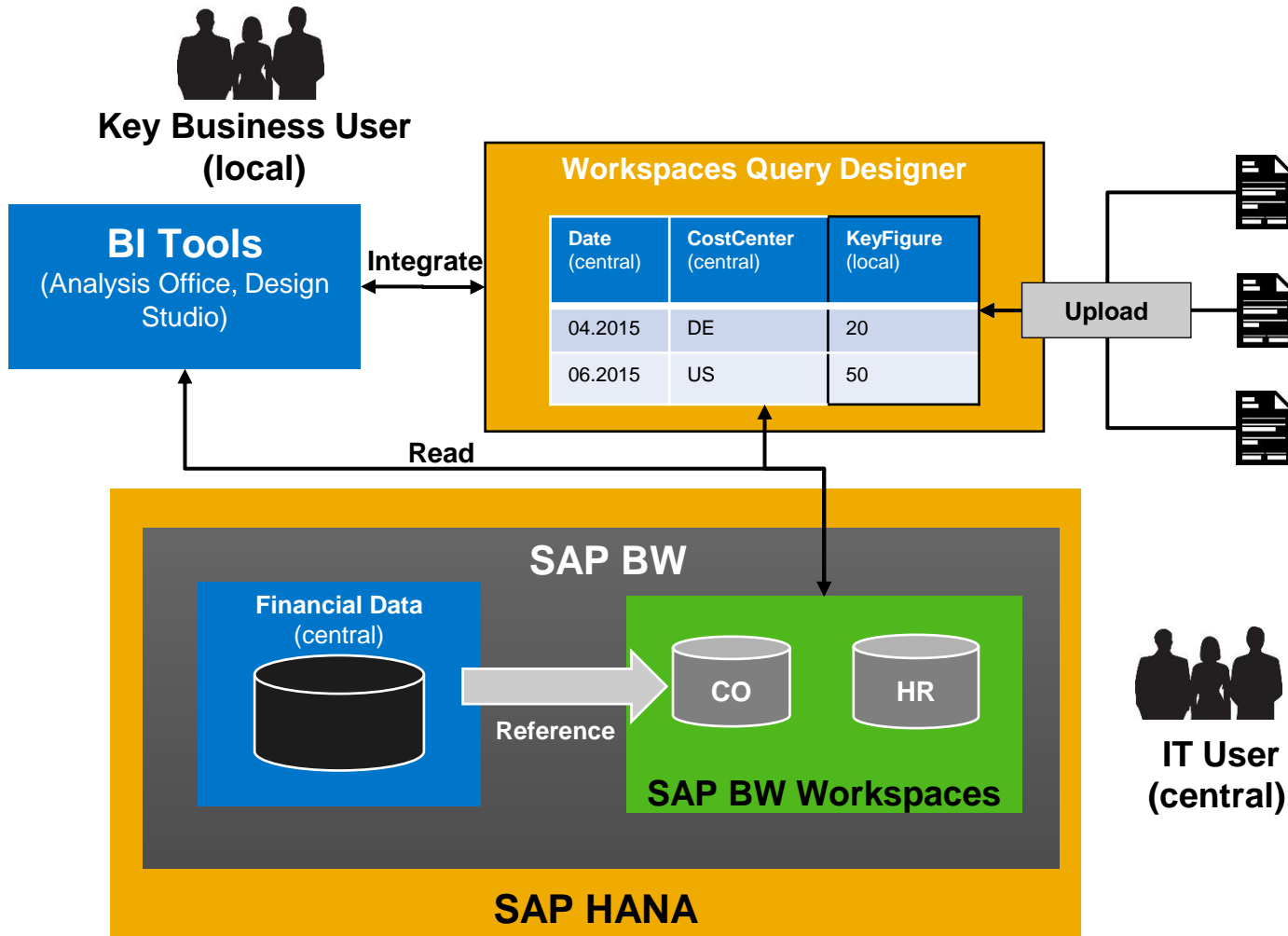
- Enables key business users to create ad-hoc scenarios
- Central data marts from the IT department can be combined, with local data to meet special requirements of the business department
- See [here](#) for more information

## New with SAP BW 7.5 SP1

- Use existing central hierarchy based on an InfoObject and upload with adjustments as local hierarchy
- Create local hierarchy from a flat file
- Create local hierarchy manually from scratch
- Use Advanced DSO as CentralProvider (available since BW 7.4 SP11)

# Simplification – SAP BW Workspace Query Designer

New with SAP BW 7.5 SP1



## Create Queries in a Workspace with uploaded local data

- Intuitive SAP UI5 application without any additional installation as part of SAP BW
- Leverage analytic services of BW
- Usage of up-to-date data / no offline data
- Reuse of data authorization
- Complementary to existing Workspace Designer

## Functionality

- Combine Central Data with local Data
- Create BW Queries as local object
- Enhance Central BW Queries with local data

## Planned for future

- Planned integration into SAP BI front ends (BI Design Studio Integration, Analysis Office)

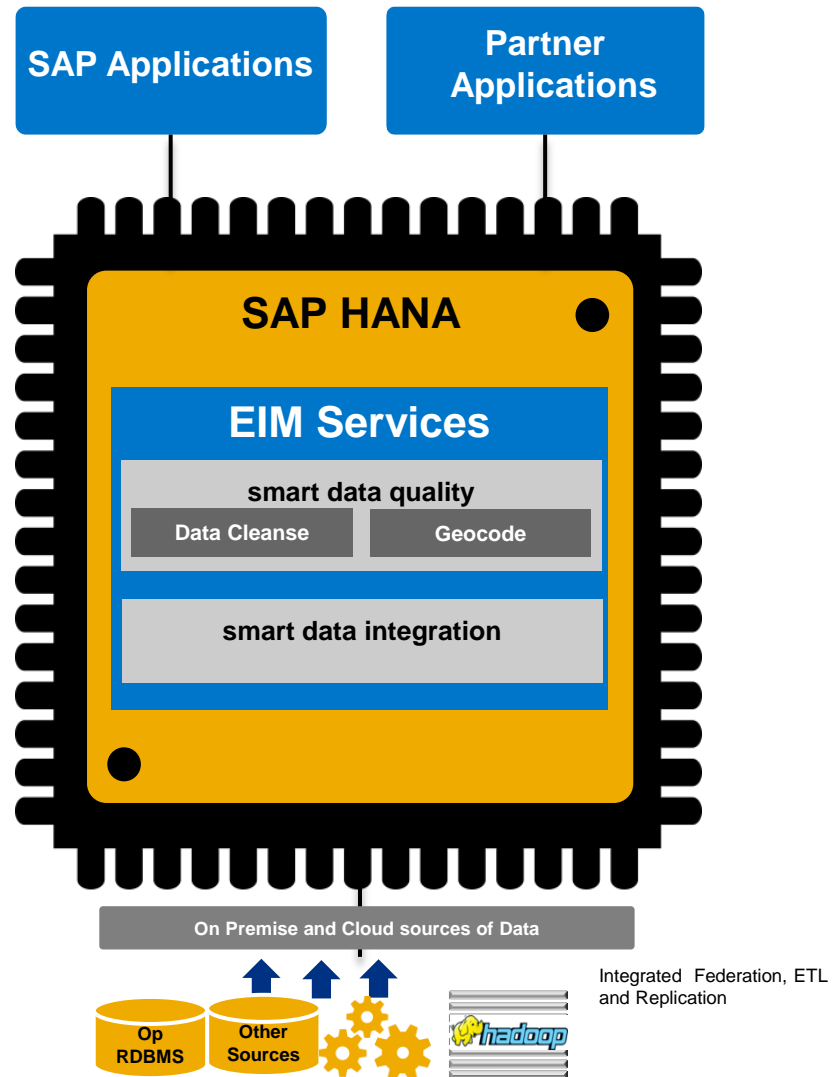




# Platform Integration

# Platform Integration – New with SAP HANA SPS9

## SAP HANA EIM Services



### HANA EIM Service: smart data integration (SDI)

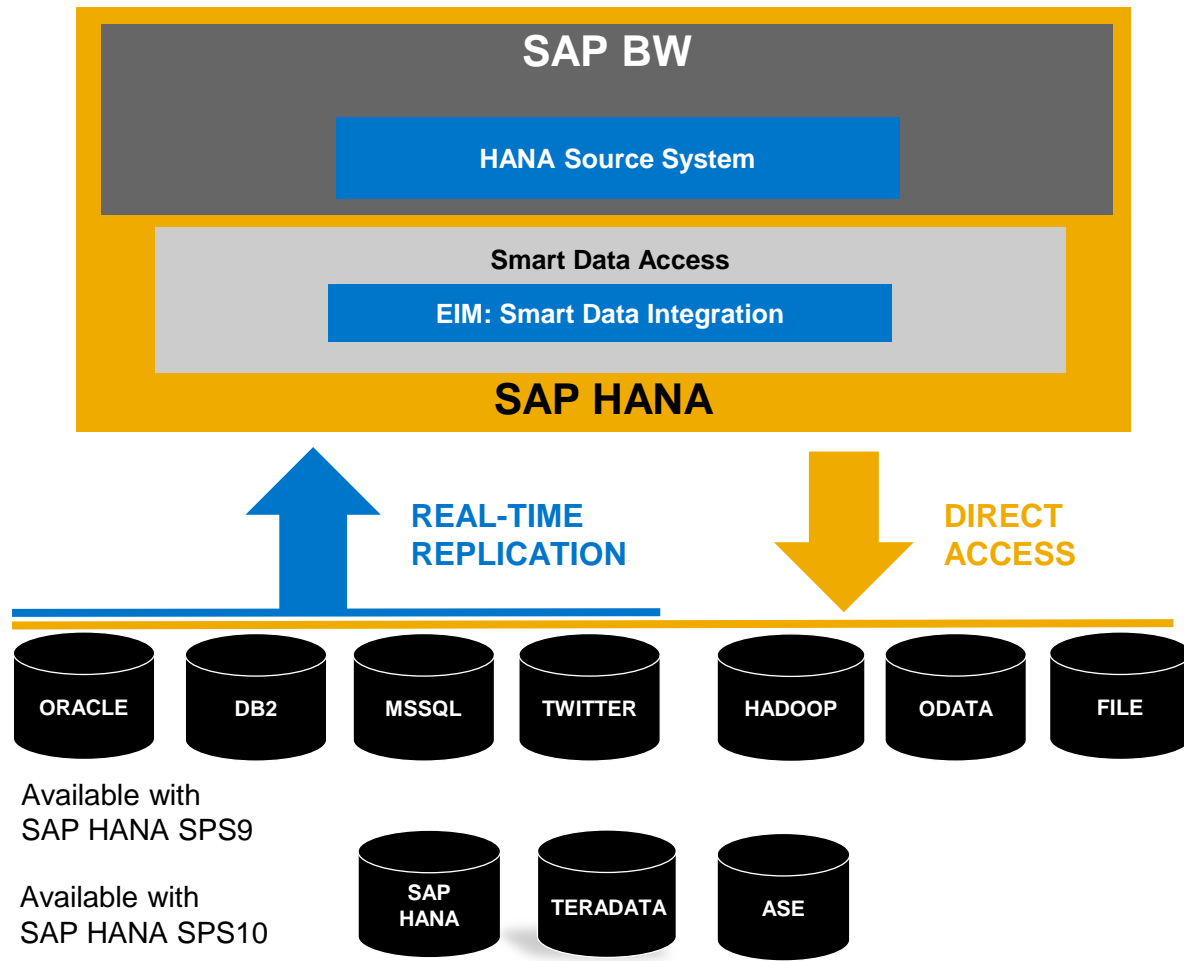
- Provides both data replication and data transformation services
- Is open and extensible, works on SAP and non-SAP data of any style, shape and size
- The modeling environment is part of HANA Studio and HANA Web-based Development Workbench
- Accelerates performance through a native HANA implementation

### HANA EIM Service: smart data quality (SDQ)

- Extends HANA's transformation capability by integrating ETL-type transformations natively in HANA
- Provides advanced transformations to support data quality functionality

# Platform Integration – HANA Smart Data Integration for SAP BW

New with SAP BW 7.5 SP1 for pilot customers



See [Documentation](#) for more information

## New BW Source System as pilot available

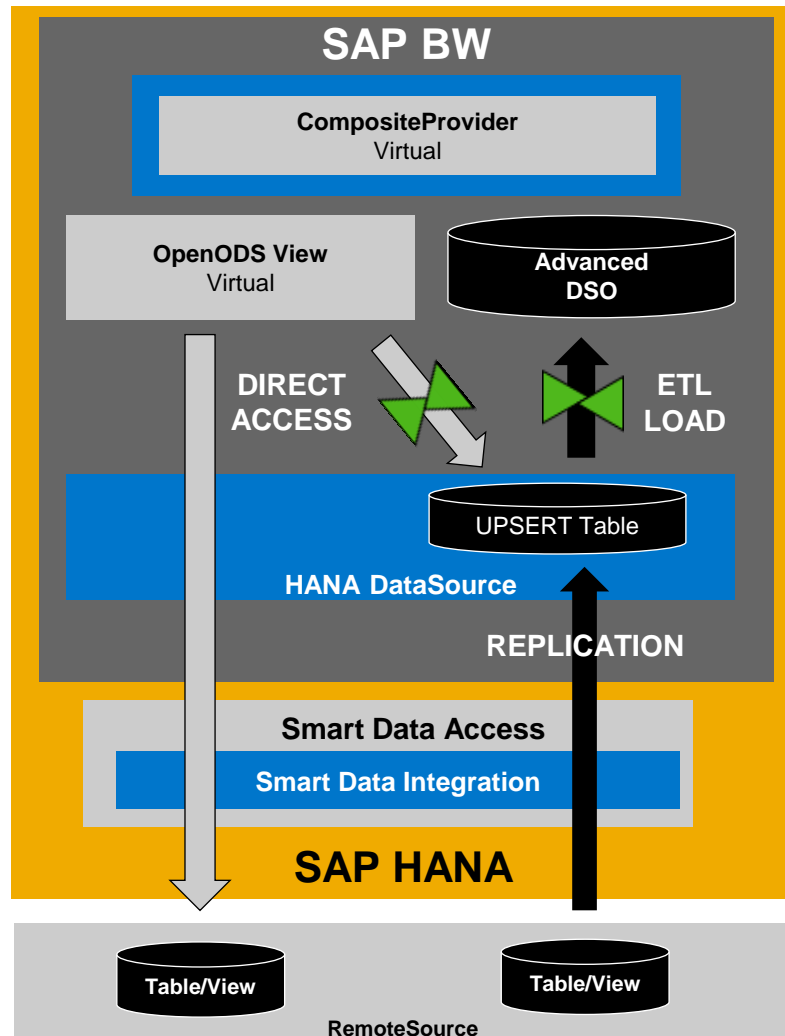
- New ability to leverage SAP HANA Smart Data Integration as provisioning technology
- Using SDI Adapter in SAP BW
- Simplified and unified source system connection to SDI, SDA and local HANA sources with the HANA Source system in BW
- See [SAP Note 2175904](#) for the pilot program

## SAP HANA Smart Data Integration for SAP BW

- Adding real-time streaming for various sources
- Extends SAP HANA's Smart Data Access capabilities with new source adapters (Twitter, OData, File)
- Supports direct access, (real time) replication and ETL for various sources – on Premise and Cloud

# Platform Integration – HANA SDI capabilities for SAP BW

New with SAP BW 7.5 SP1



## Integration Scenarios with SAP BW

- Direct Access to any SDI remote source via OpenODS View and CompositeProvider
- Realtime Replication into “UPSERT TABLE” managed by HANA DataSource
  - Replicate source data in original format to BW (using HANA data types)
  - Inbuilt mapping of source data types to ABAP data types when using HANA DataSource in reporting or ETL loads within BW
  - Direct access from OpenODS View to HANA DataSource (UPSERT Table)
  - Full / Delta Upload into Advanced DSOs

## Planned for future

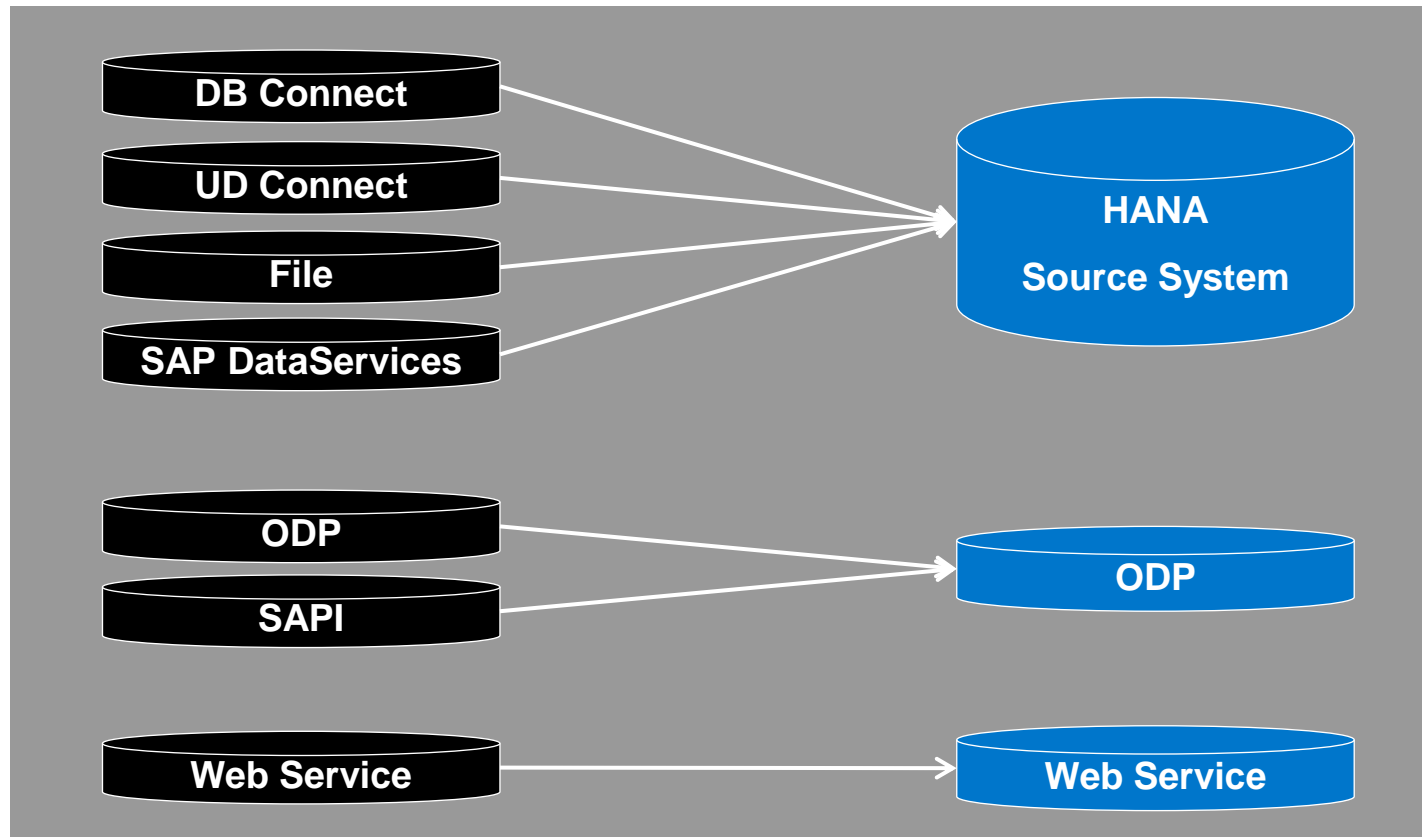
- Real-time Data Streaming to Advanced DataStore Objects

# Platform Integration – Consolidation of Source Connectivity Options

Future direction

## SAP BW on RDBMS

## SAP BW 7.5 on HANA



## SAP BW 7.5 on HANA consolidates existing source connectivity options

- HANA Source System for all database and file connectivity
- ODP Source System for SAP backend systems and SLT

**Traditional source systems still exist but future innovations are focusing the consolidated objects on SAP HANA**

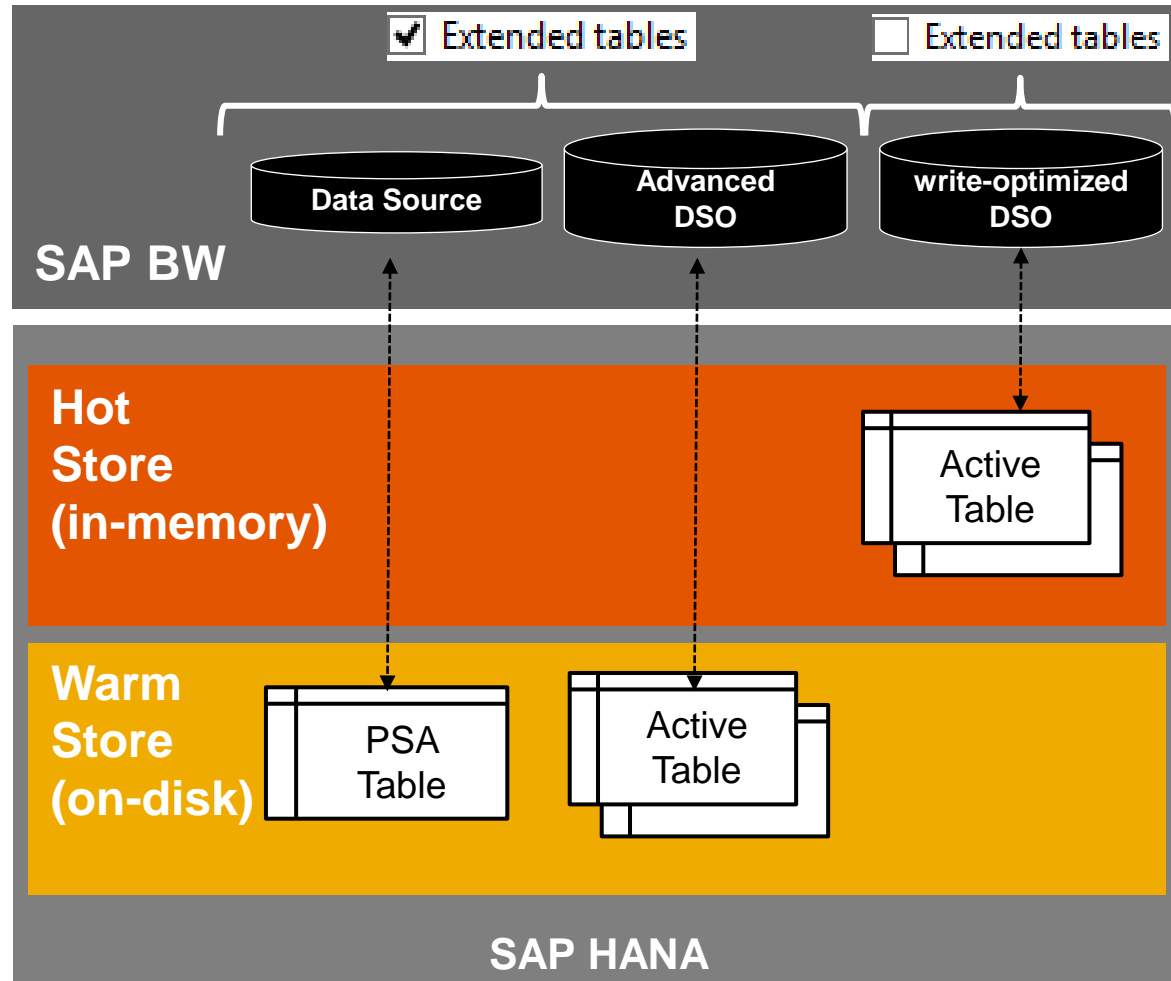


# Big Data



# Big Data – SAP HANA Dynamic Tiering (DT) for SAP BW

New with SAP BW 7.5 SP1 and SAP HANA SPS10



## Recap BW 7.4 SP8

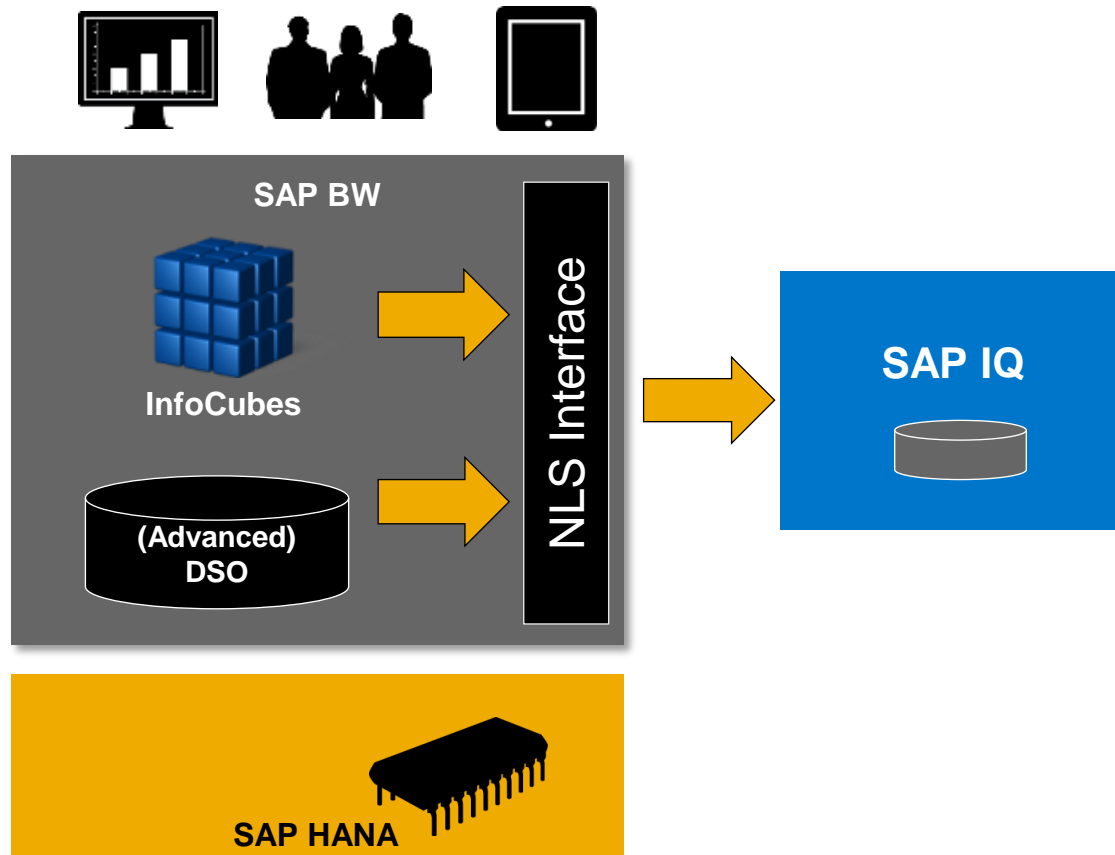
- Warm store as optional dynamic extension to hot store and integral part of the HANA platform
- Reduced in-memory footprint
- Highly efficient compression and performance
- Unified Installation & Update Management
- One Backup & Recovery process
- Support for DataSource (PSA) and w-o (A)DSO

## New with SAP BW 7.5 SP1

- Supports for Advanced DSOs in staging scenarios with Activation and Change Log set
- Automatic data movement to Dynamic Tiering as remodeling tasks

# Big Data – Near-Line Storage (NLS) with SAP IQ

New with SAP BW 7.5 SP1



## Recap BW 7.4 SP8


- NLS Support for BW Inventory InfoCubes
- Mass Maintenance Support
- Query optimizations for NLS

## New with SAP BW 7.5 SP1

- NLS support for Advanced DSOs with active tables\*
- Reporting value help (F4) can display posted values from near-line storage for Advanced DataStore Objects\*
- CompositeProvider can use Advanced DataStore Objects with NLS in specific join scenarios\*
- BW process type to create Database Statistics for NLS accesses (via Virtual Tables)

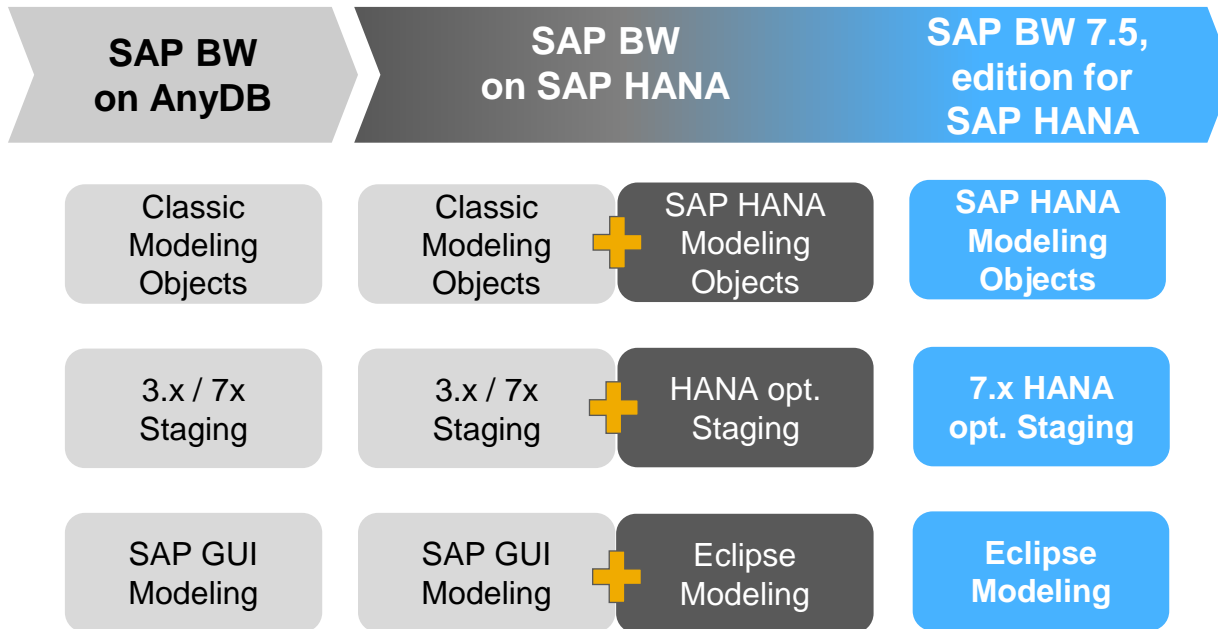
\* See [SAP Note 2215265](#)





# **SAP BW 7.5, edition for SAP HANA**

# What's SAP BW 7.5, edition for SAP HANA ?



## SAP BW run simpler

- Simplified governance
- Faster time to market with new agile and flexible data modelling patterns

## Option to run SAP BW 7.5 (SP1) only with new and optimized SAP HANA objects

- Simplified modelling with SAP HANA only objects and renewed intuitive UIs in Eclipse and SAP UI5

## Non-disruptive transition and switch into the edition for SAP HANA

- Restricted usage of classic / non-HANA functionality

# What's SAP BW 7.5, edition for SAP HANA ?

SAP BW on AnyDB	SAP BW on SAP HANA	SAP BW 7.5, edition for SAP HANA
InfoObject	<b>InfoObject</b>	
DataStore Object		
MultiProvider	<b>CompositeProvider</b>	
InfoCube		
3.x DataFlow	<b>Advanced DataStore Object</b>	
SAP GUI Modelling		
HybridProvider	<b>OpenODS View</b>	
7.x DataFlow		
TransientProvider	<b>7.x Data Flow</b>	
VirtualProvider		
InfoSet	<b>Eclipse Modeling</b>	
.....		
	<b>SAP UI5 Administration</b>	

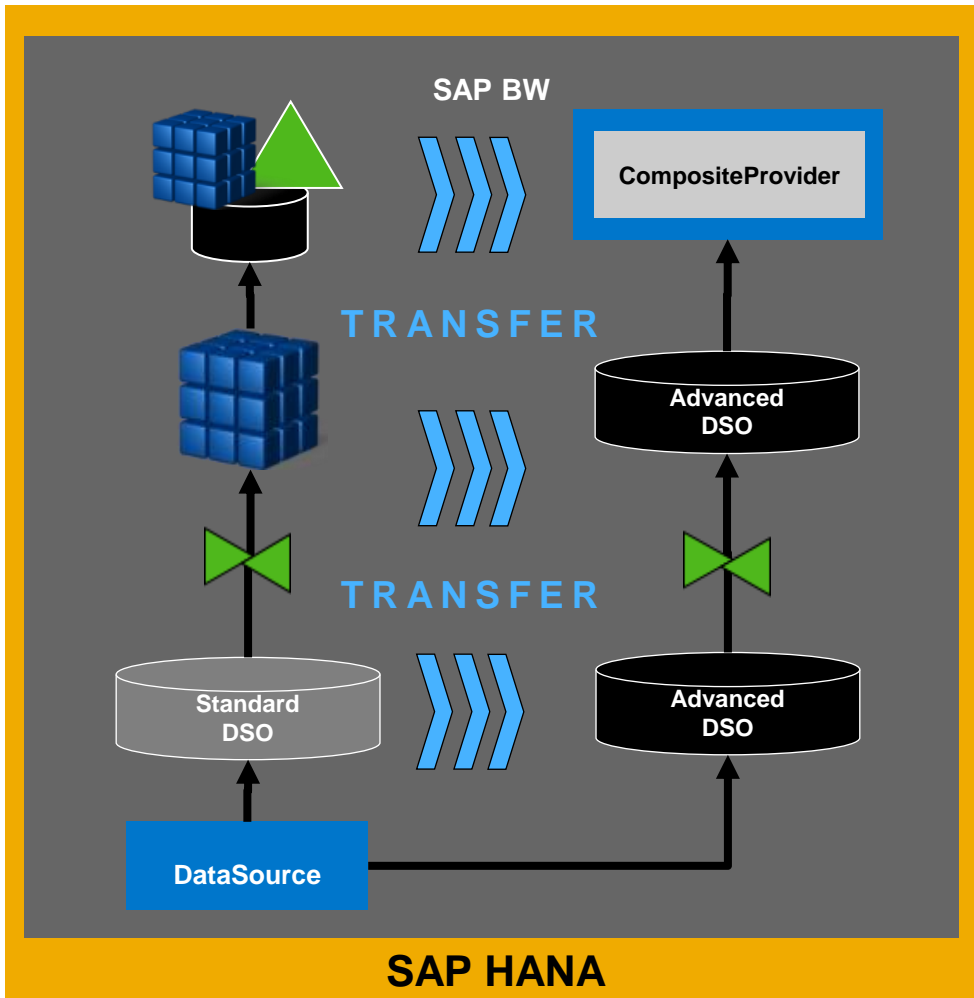
## Run SAP BW 7.5 in future ready and recommended way

- Use only new SAP HANA specific modelling and data flow objects
- No overhead by legacy objects
- Optimized data loads with high flexibility and agile administration
- Intuitive Eclipse based modelling environment for main objects and query
- All administration tools based on SAPUI5
- New BW on HANA-optimized Business Content

## Helps to adopt the latest best practices in a simplified mode

# Transition to new BW on HANA objects

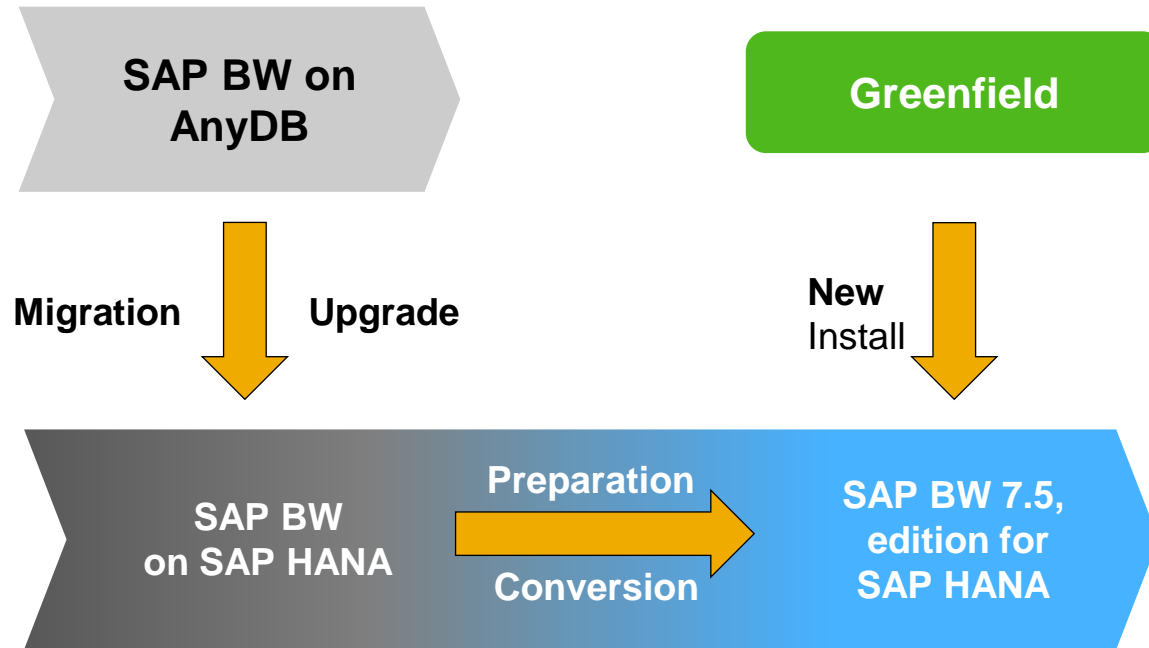
Planned with SAP BW 7.5 SP1



## Tool support for automated transfer towards CompositeProvider and Advanced DataStore Objects

- Transfer existing data flows with traditional models into new BW on HANA optimized objects
- Object copy (1:1, no data) of MultiProvider, InfoCubes and DataStore Objects into Advanced DataStore Objects and CompositeProvider
- Generating copies of data flow objects, DTPs and Transformations
- Collecting all necessary objects to rebuild the data flow downwards from a starting object

# Choose the right path towards SAP BW 7.5, edition for SAP HANA



**Dedicated ramp-up program  
starting Q4/2015 BW 7.5 SP01**

## Existing SAP BW on AnyDB

- Non-disruptive Upgrade to BW on HANA as starting point towards SAP BW 7.5, edition for SAP HANA

## Existing SAP BW on HANA

- Upgrade to SAP BW 7.5 on HANA (or higher)
- Switch to SAP BW 7.5, edition for SAP HANA prepare mode
  - Use the new tools to convert existing classic objects
  - Check tool for prerequisites fulfillment
  - Restricted usage of classic object

## New Installation / Greenfield

- Install SAP BW 7.5 on HANA (or higher)
- Default SAP BW 7.5, edition for SAP HANA



# Roadmap

# Planned Roadmap SAP BW powered by SAP HANA

## Key Themes and Capabilities

SAP will continue to support RDBMS platforms

### Today

#### Integration with the SAP HANA Platform

- Leverage SAP HANA Smart Data Integration capabilities for BW for pilot customers
- Further pushdown of data intensive functions

#### User Experience

- Eclipse Query Designer feature complete to BEx Query Designer
- InfoObject modelling in Eclipse

#### Simplification

- Enhanced Advanced DSO (ADSO) features (planning support, inventory handling, etc.)

#### BIG Data Scenarios

- HANA Dynamic Tiering & NLS support for ADSO

#### Exposing BW data models for SQL consumption

- Enhanced feature support of HANA generation (pruning support, enablement of hierarchies)

#### SAP BW 7.5, edition for SAP HANA

- Preparation mode for Ramp-Up customers
- Transition support for Data Flows and InfoProvider

### Planned Innovations

#### Integration with the SAP HANA Platform

- Integration of SAP HANA Smart Data Quality
- Extended usage of HANA SDI adapters

#### User Experience

- Eclipse based Modeling for complete Data Flows
- SAPUI5 based Data Flow Monitor

#### Simplification

- Semantic Groups for Data Flows and ADSOs
- Transitive Attributes
- Cross-tenant analytics for HANA MDC

#### BIG Data Scenarios

- Consumption of SAP HANA Vora (Spark) models
- Real-time streaming for BW objects
- Support of HADOOP as NLS
- Extended usage of HANA Dynamic Tiering

#### SAP BW 7.5, edition for SAP HANA

- Default for greenfield and new installations
- Enhanced tool support for transition

### Future Direction

#### Integration with SAP HANA Platform

- Unified external source access via HANA Source system

#### User Experience

- SAPUI5 based Monitoring and Administration Tools
- End2End Eclipse-based BW modeling replacing SAPGUI

#### Simplification

- Enhanced integration with S/4HANA

#### BW as part of the SAP HANA Data Warehouse

- Common Scheduling Tool for HANA / BW Data Warehouses
- SAP Power Designer integration with SAP BW for logical data modelling

Feature Pack SAP BW 7.5 SP1

Feature Pack 2016

SAP HANA Data Warehouse Strategy

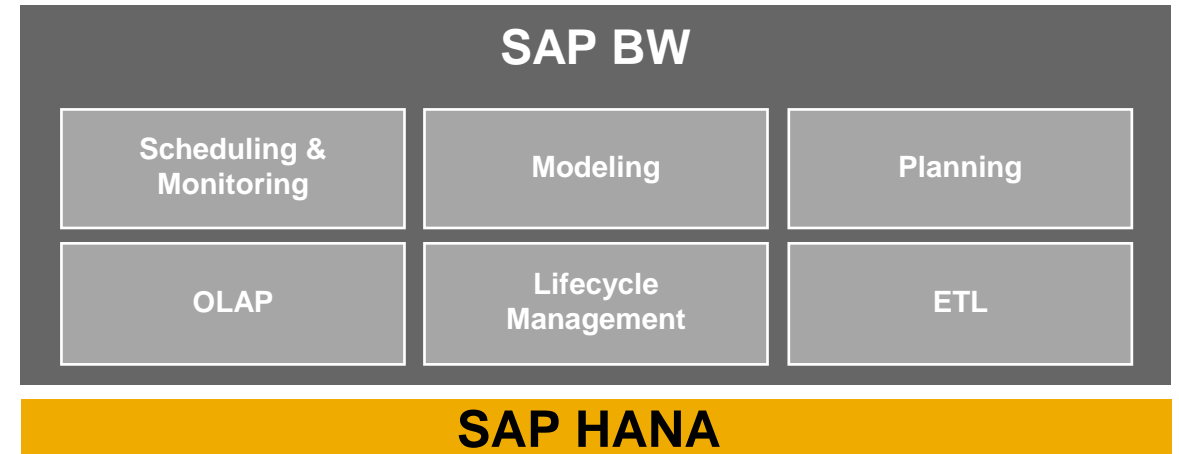
This is the current state of planning and may be changed by SAP at any time.

# SAP – Data Warehousing approaches

## Two approaches

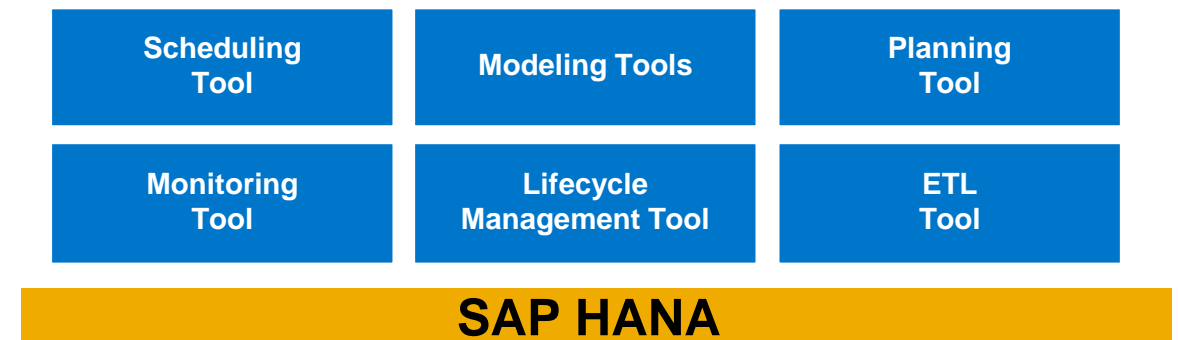
### Application driven approach, SAP BW as EDW application with integrated services

- **SAP BW as an application** serves as a platform offering all required data warehousing services via one integrated repository
- No additional tools for modelling, monitoring and managing the data warehouse required, but can be integrated



### SQL driven approach, SAP HANA with loosely coupled tools and platform services, logically combined

- **Database** approaches require several loosely coupled tools to fulfill the necessary tasks with separate repositories
- A combination of tools (such as best of breed) used to build the data warehouse

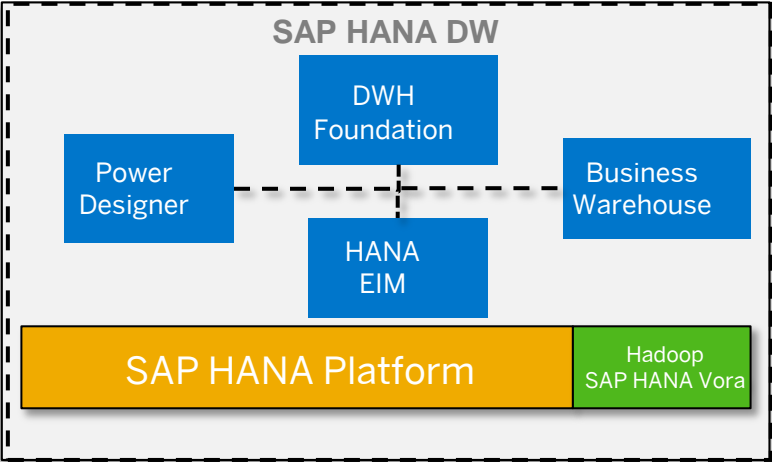




# Statement of Direction – Current DW Portfolio

## Planning and Definition 2015

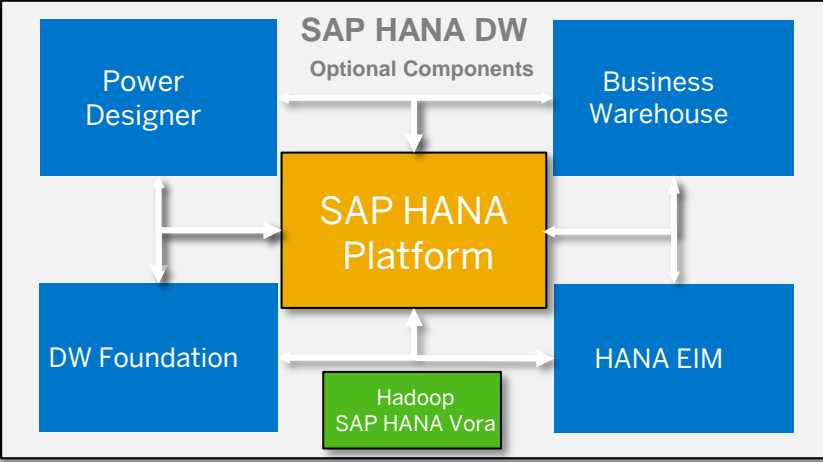
Analytics , BI Suite, Predictive



Market presence in Data Warehousing with a clear roadmap

## Execution and delivery 2016 - 2018

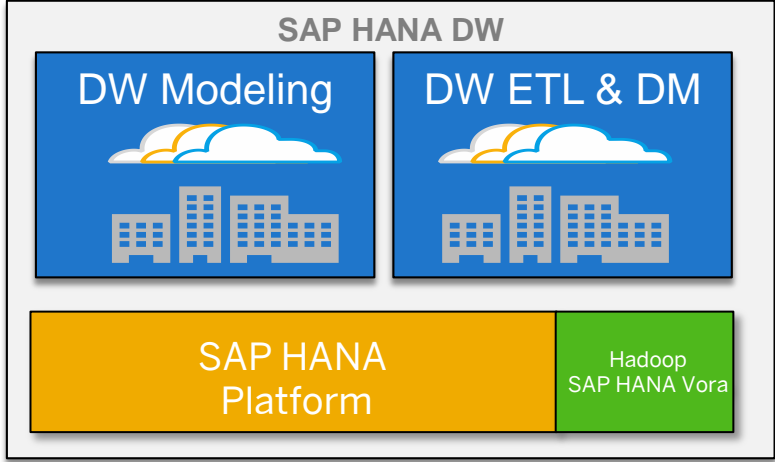
Analytics , BI Suite, Predictive



Strong and simplified offering with tight integration

## Vision

Analytics , BI Suite, Predictive



Convergence into one technology stack addressing BW and SQL based DW needs



# Thank you

Contact information:

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