

SAP BW 7.5 SP1 powered by SAP HANA and Roadmap

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SAP

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SAP Business Warehouse Today

15000+

BW Customers

Vast majority: Central EDW,
harmonizing many source systems

7000+

BW 7.3 / 7.4 Customers

Embedded into mission critical
business processes

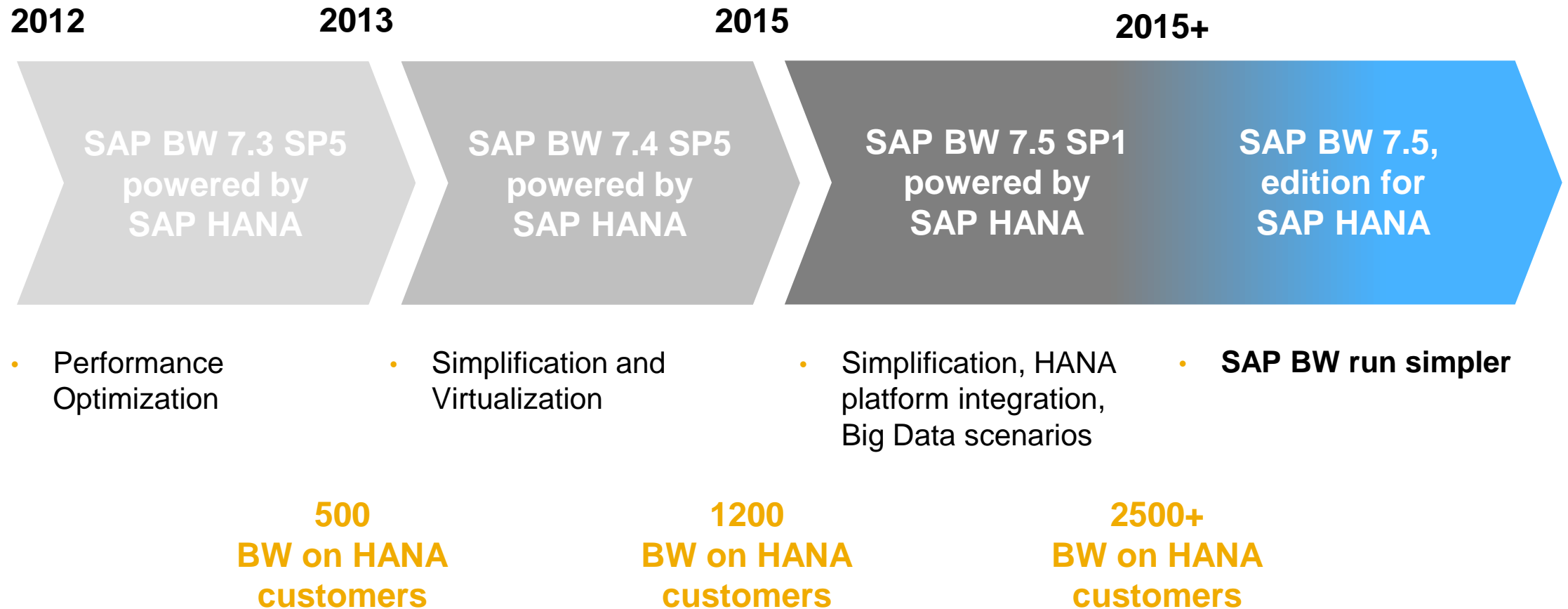
2500+

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

Agenda

Simplification

Platform Integration

Big Data

SAP BW 7.5, edition
for SAP HANA

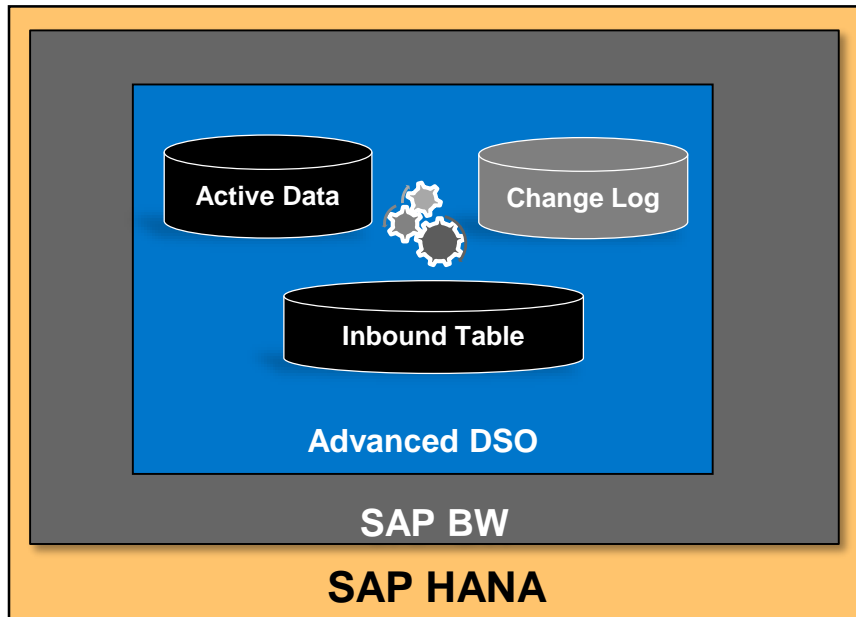
Planning

Miscellaneous

Roadmap

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

The screenshot shows the configuration interface for an Advanced DataStore Object (ADSO) named YEPMADS1. The 'General' tab is active, displaying the following information:

- Technical Name:** YEPMADS1
- Description:** ADSO for closed SalesOrder
- External SAP HANA View

The **Modeling Properties** section includes the following options:

- Activate/Compress Data
 - Write Change Log
 - Keep Inbound Data, Extract from Inbound Table
 - Unique Data Records
- All Characteristics are Key, Reporting on Union of Inbound and Active Table
- Extended tables
- Direct Update
- Planning Mode

The **Keys** section contains a table with the following data:

Name	InfoObject	Type	Column Length
[0D_NW_SO] Sales Order (EPM Demo)	0D_NW_SO	CHAR	10
[0D_NW_SOI] Sales Order Item (EPM Demo)	0D_NW_SOI	NUMC	10

New features for Advanced DataStore Objects

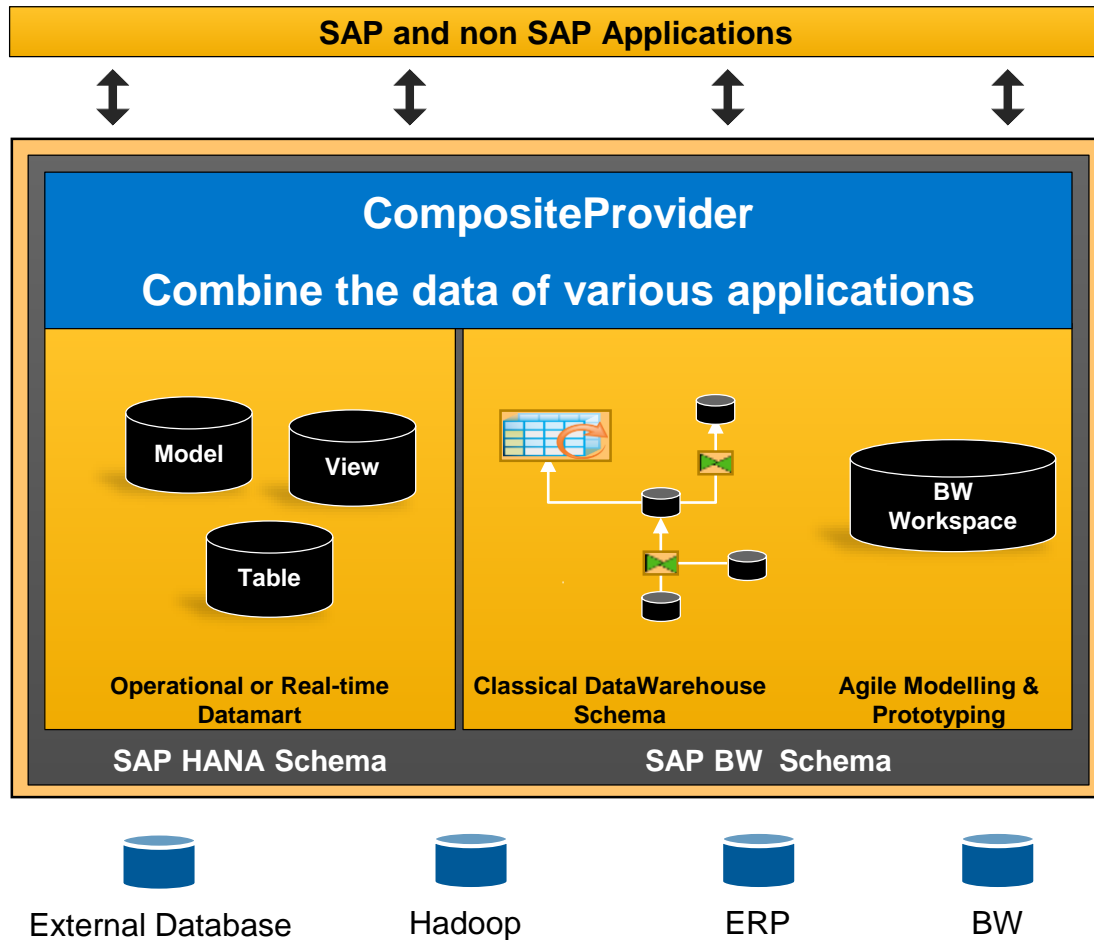
- Extended non cumulative handling for Advanced DataStore Objects with delta calculation
 - Inventory handling with less source dependency
- Additional HANA Dynamic Tiering support for Advanced DataStores with Activation and Change Log set
- Planning support for Advanced DataStore Objects with “all characteristics 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

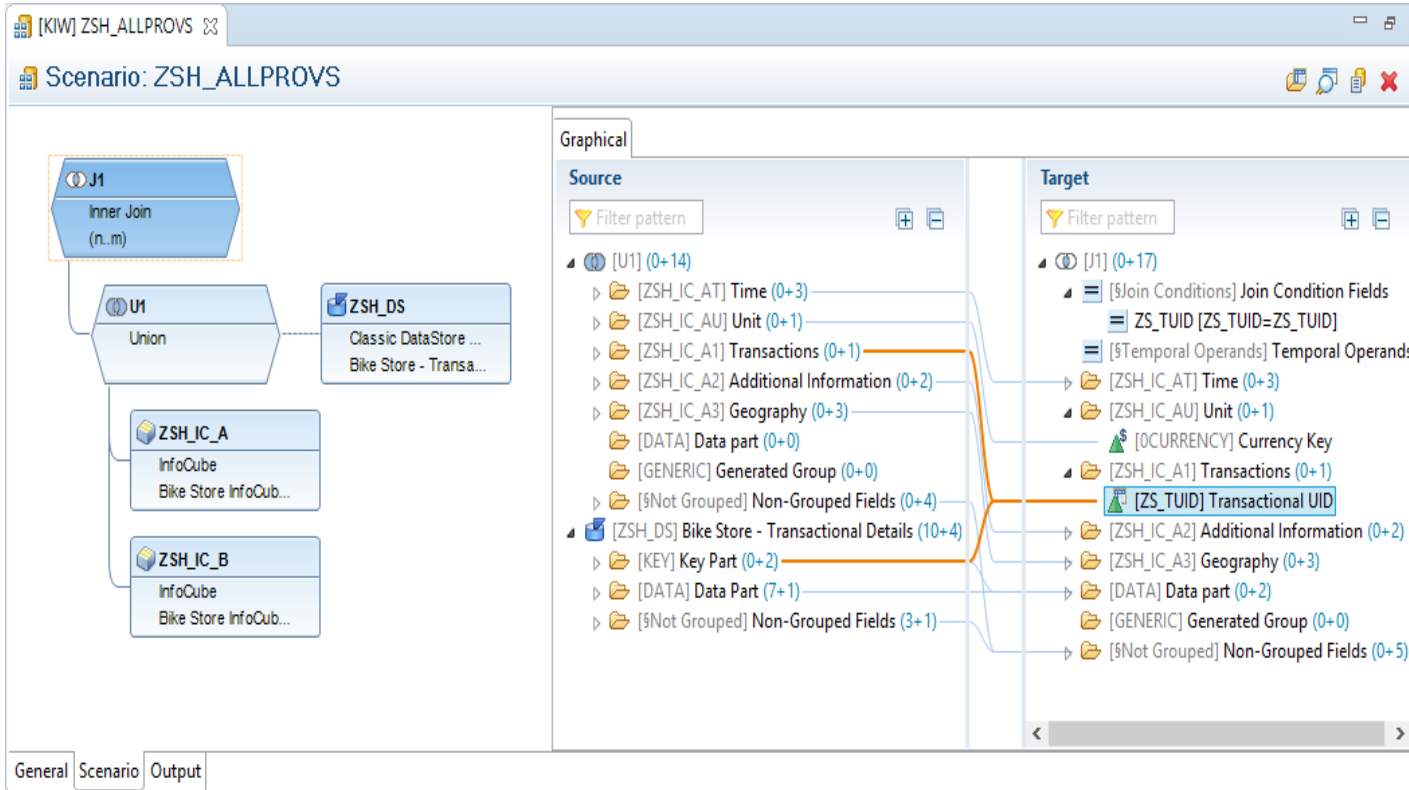
Faster Implementations of data model

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

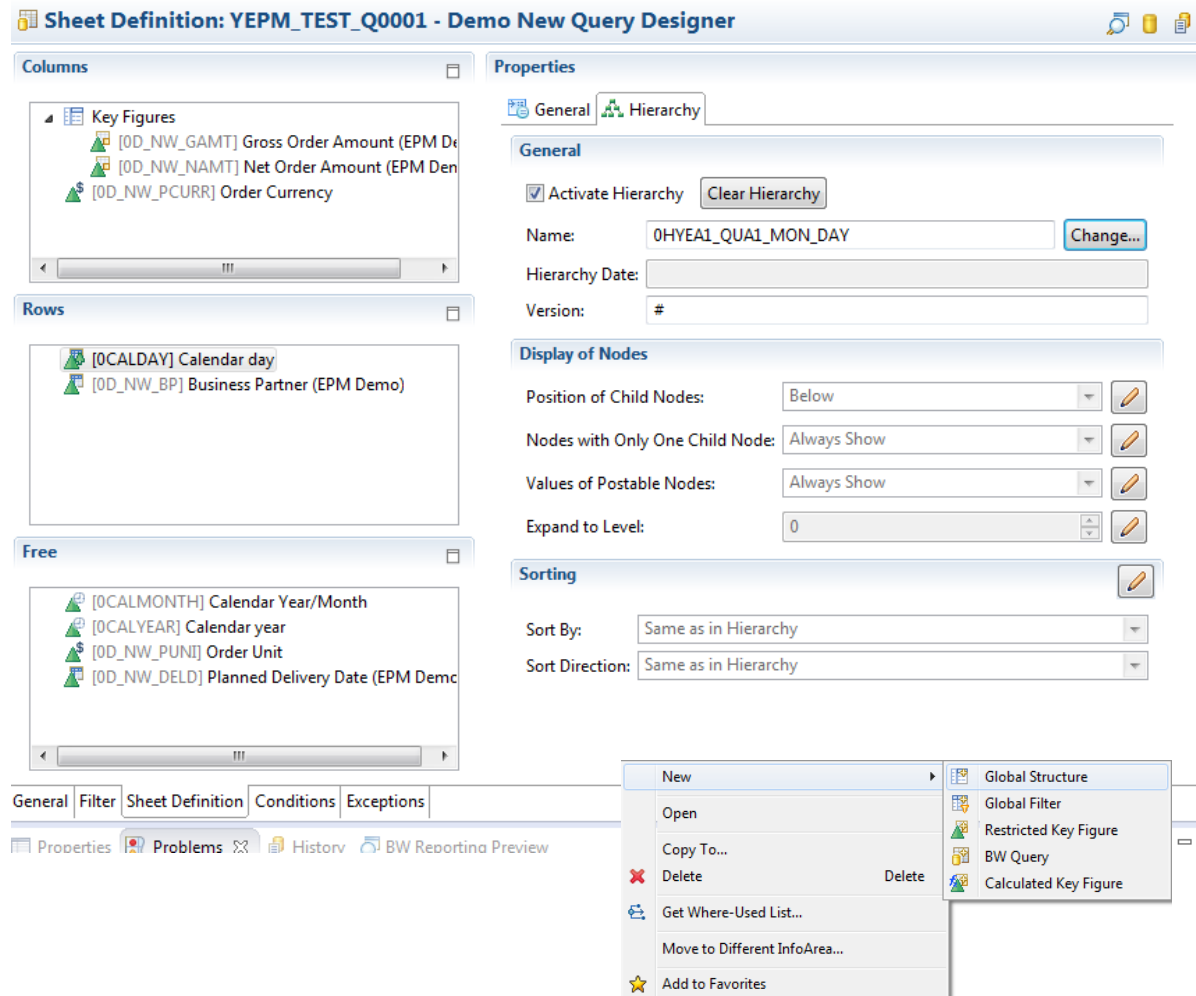
- Easy creation process
- Conversion of existing MultiProvider and “old” CompositeProvider
- InfoArea Assignment
- Semantic grouping of output structures

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 set to 'Standard'. Below it are checkboxes for 'Version-Dependent' and 'Time-Dependent', both of which are unchecked.
- Remote Hierarchy Properties:** Fields for 'Remote Hierarchy Class' and 'Remote Hierarchy Class Parameters', both currently empty. A 'Details...' button is next to the class field.
- Time-dependent Properties:** Radio buttons for 'Entire Hierarchy is Time-Dependent' and 'Time-Dependent Hierarchy Structure', both unselected. A checkbox for 'Use Temporal Hierarchy Join' is also unchecked.
- Miscellaneous:** 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 selected.

Next generation InfoObject modeling

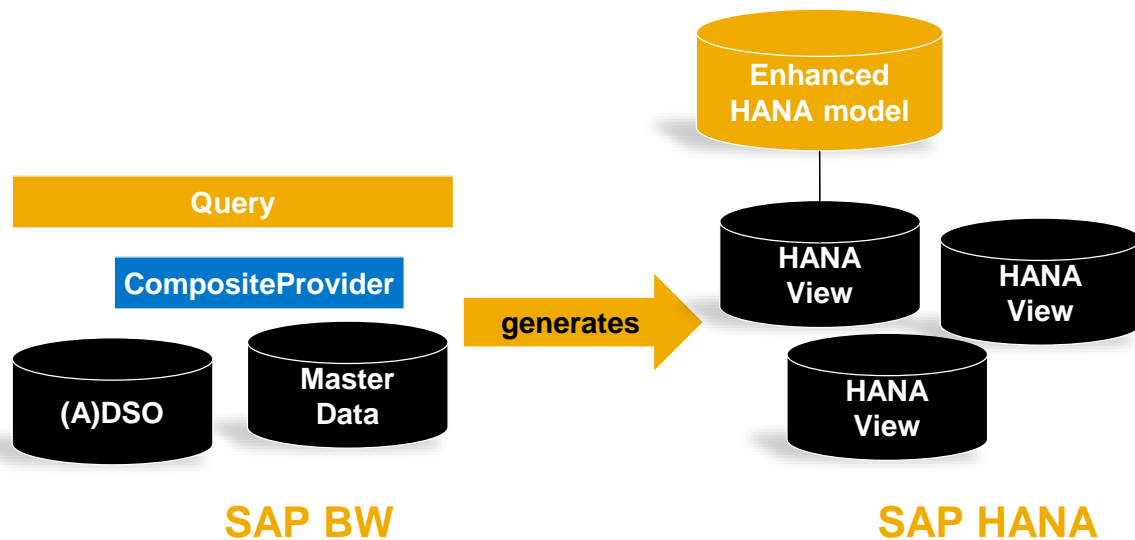
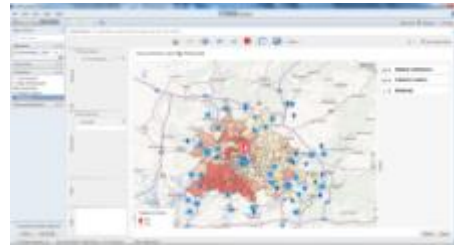
- Modern, intuitive Eclipse based UI
- Covers all InfoObject functionality in a simplified maintenance

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

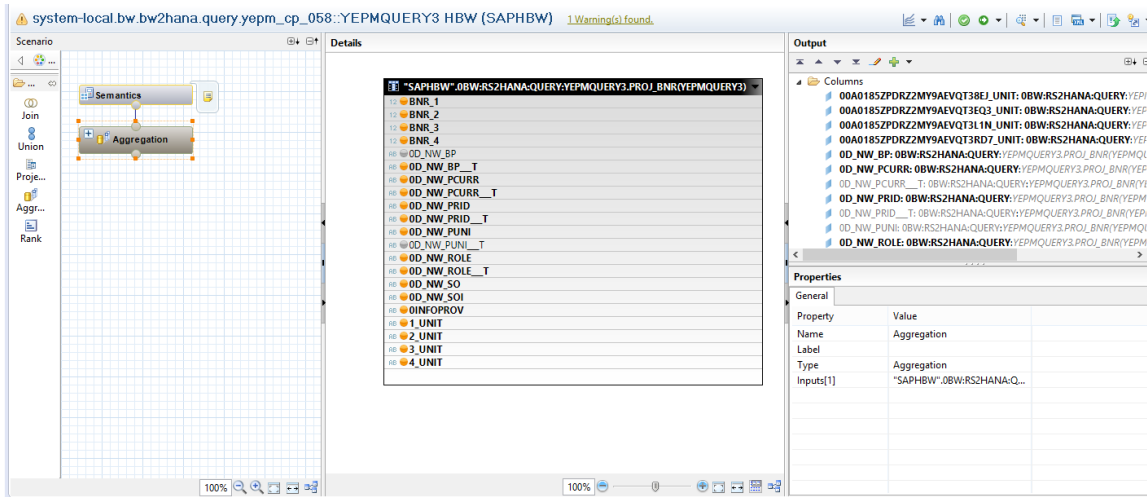
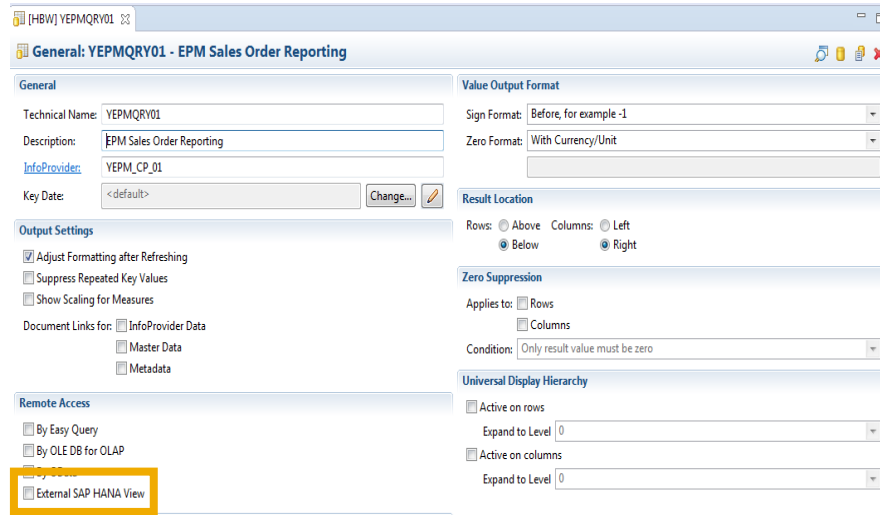
- Enhanced Metadata interoperability between BW and HANA
- Triggered automatically during BW InfoProvider activation

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

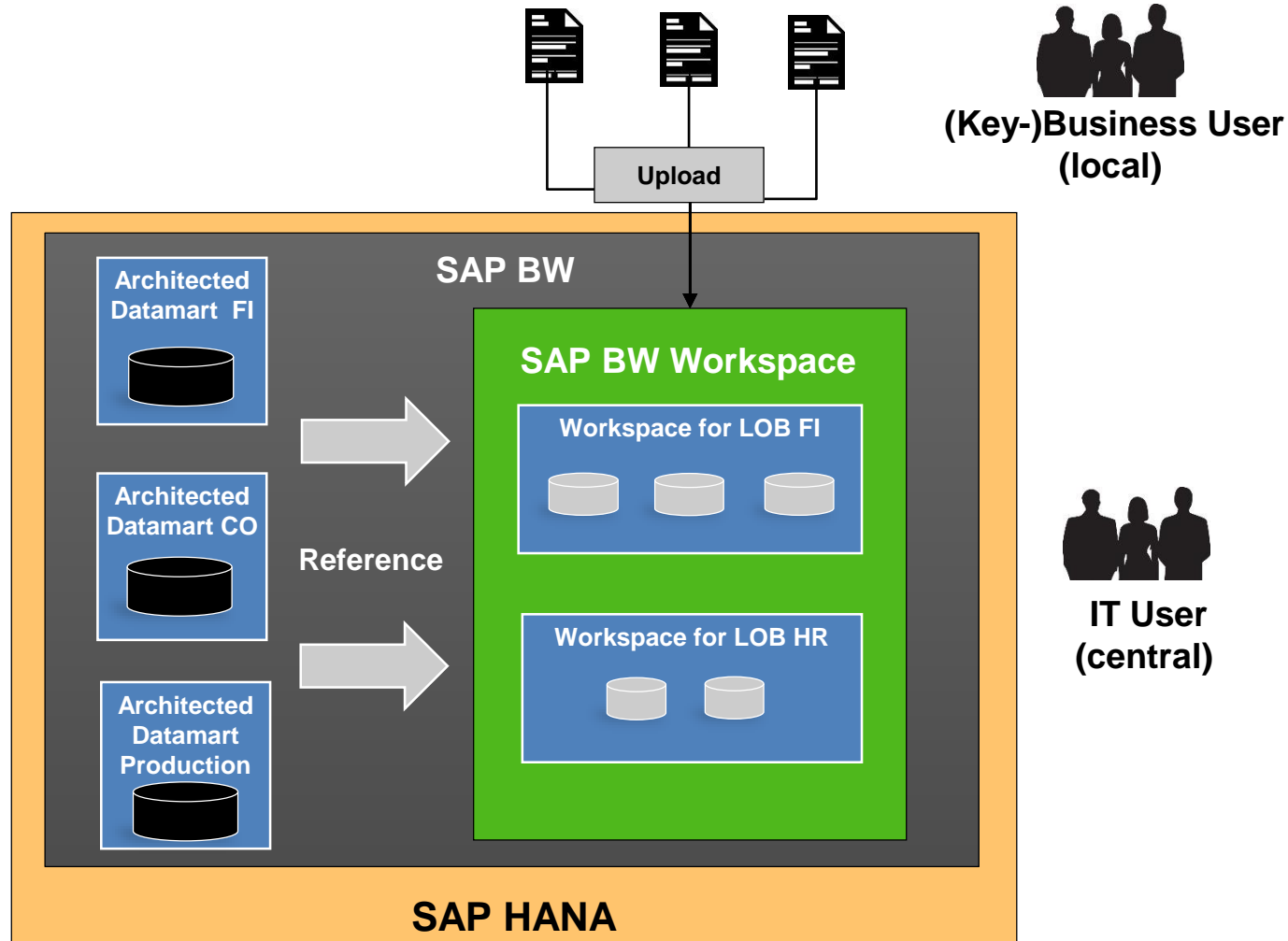


Additional Features for HANA View Generation

- 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

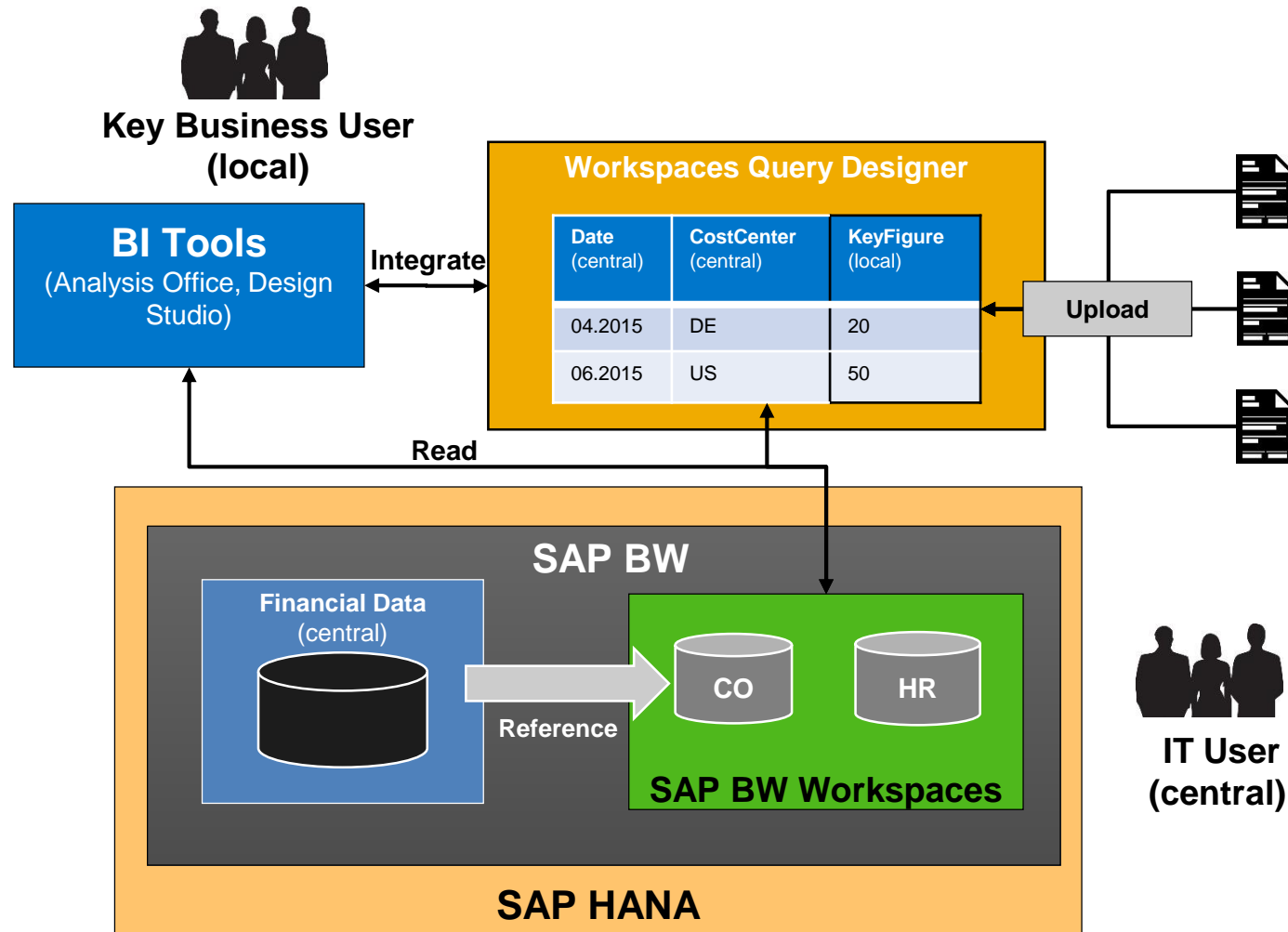
- Enables key business users to create ad-hoc scenarios
- Central data marts from the IT department can be combined, with local data to meet special requirements of the business department
- See [here](#) for more information

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)

Simplification – SAP BW Workspaces

Workspace Designer & Workspace Query Designer

Workspace Designer

- Focus on data modelling with local data
- Advanced modelling for key user in LOB
 - Upload of Local Data
 - Combine Central Data with Local Data
 - Join analysis and mapping proposals
 - Enhanced data cleansing for Local Data
- Using Workspace Query Designer or Query Designer as additional step for query creation

Workspace Query Designer

- Focus on query modelling with local data
- Lite weight modelling for key user in LOB
 - Upload of Local Data
 - Combine Central Data with Local Data
 - Create Local BW Queries
 - Enhance Central BW Queries
- One process from definition to query
- Integrated with BI Tools

Agenda

Simplification

Platform Integration

Big Data

SAP BW 7.5, edition
for SAP HANA

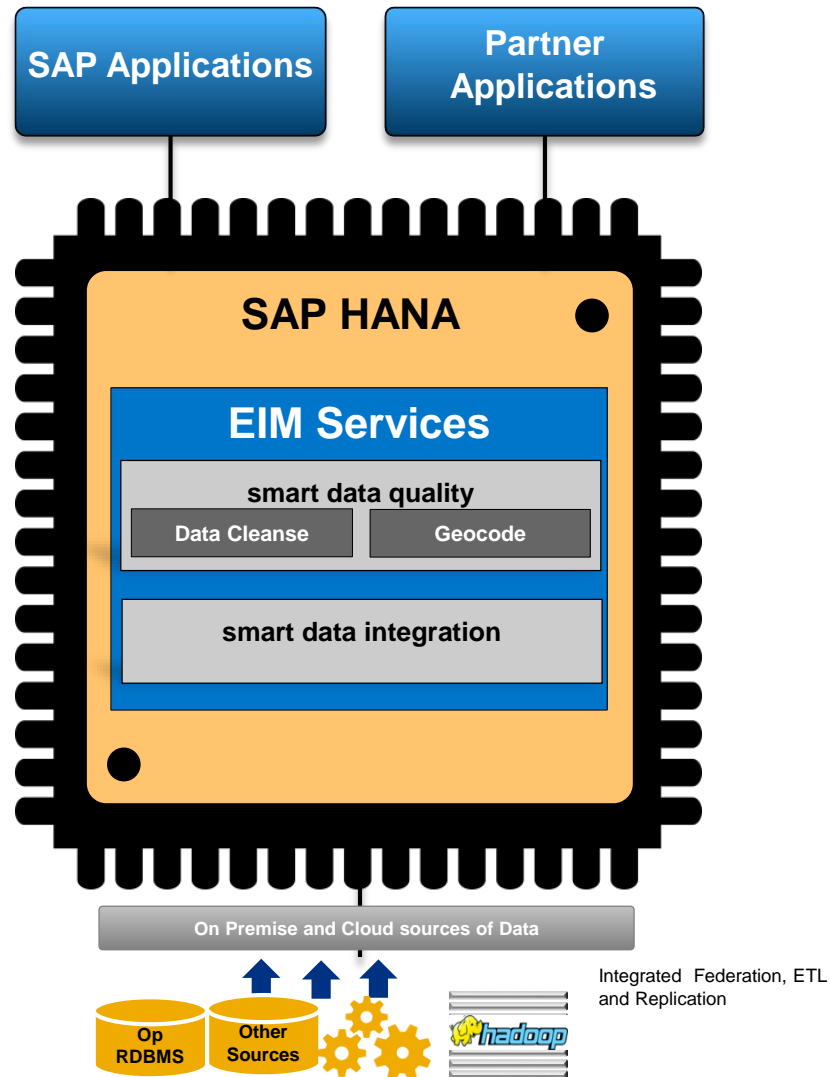
Planning

Miscellaneous

Roadmap

Platform Integration – New with SAP HANA SPS9

SAP HANA EIM Services



HANA EIM Service: smart data integration (SDI)

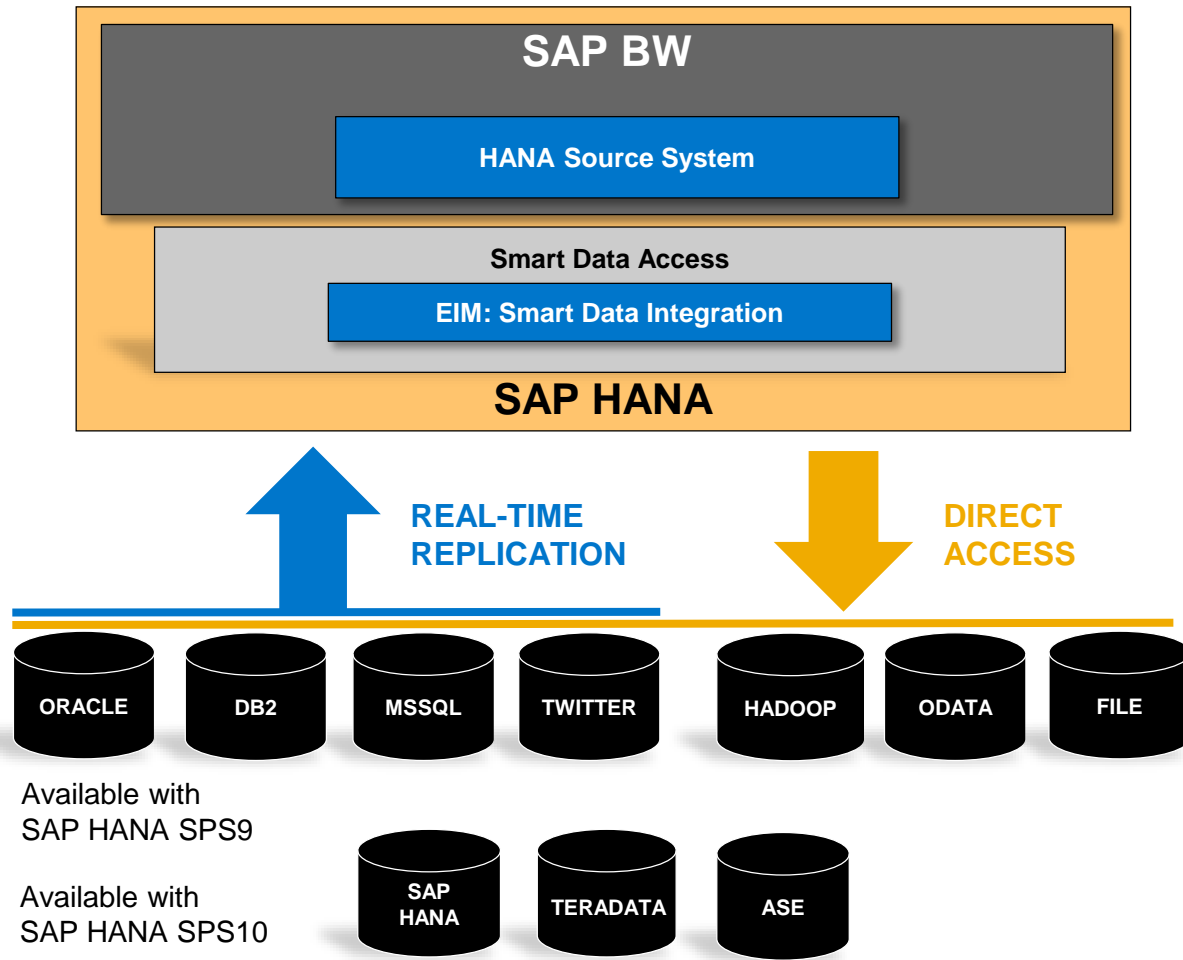
- Provides both data replication and data transformation services
- Is open and extensible, works on SAP and non-SAP data of any style, shape and size
- The modeling environment is part of HANA Studio and HANA Web-based Development Workbench
- Accelerates performance through a native HANA implementation

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



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

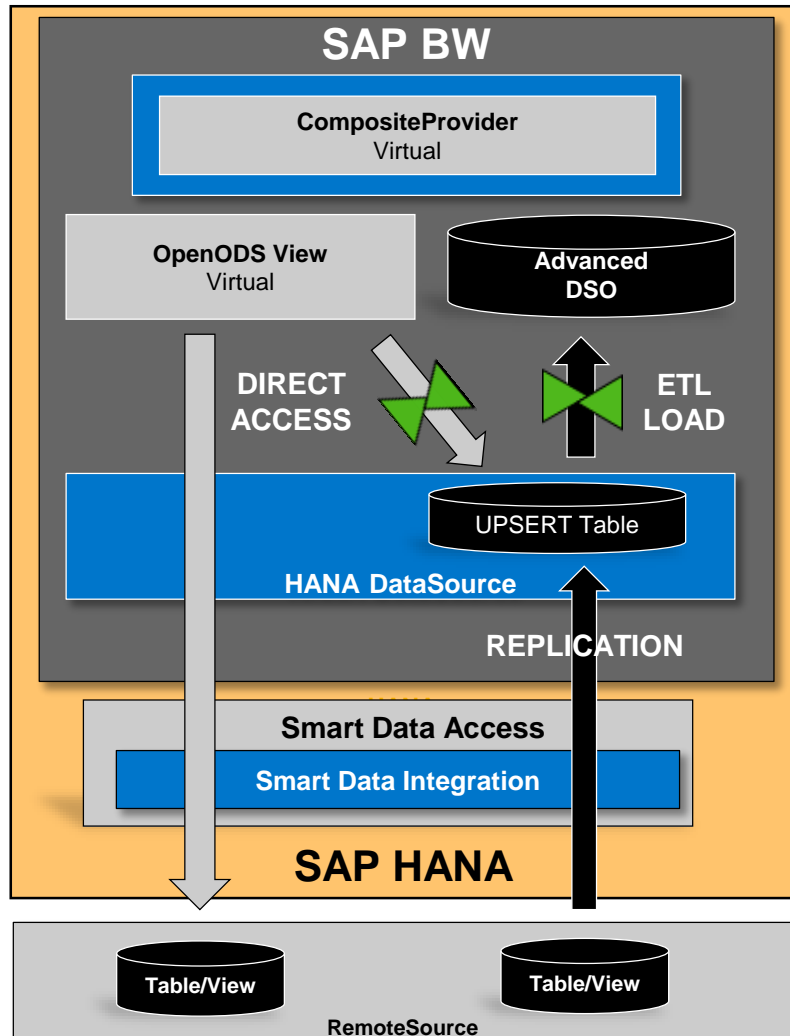
SAP HANA Smart Data Integration for SAP BW

- 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

See [Documentation](#) for more information

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

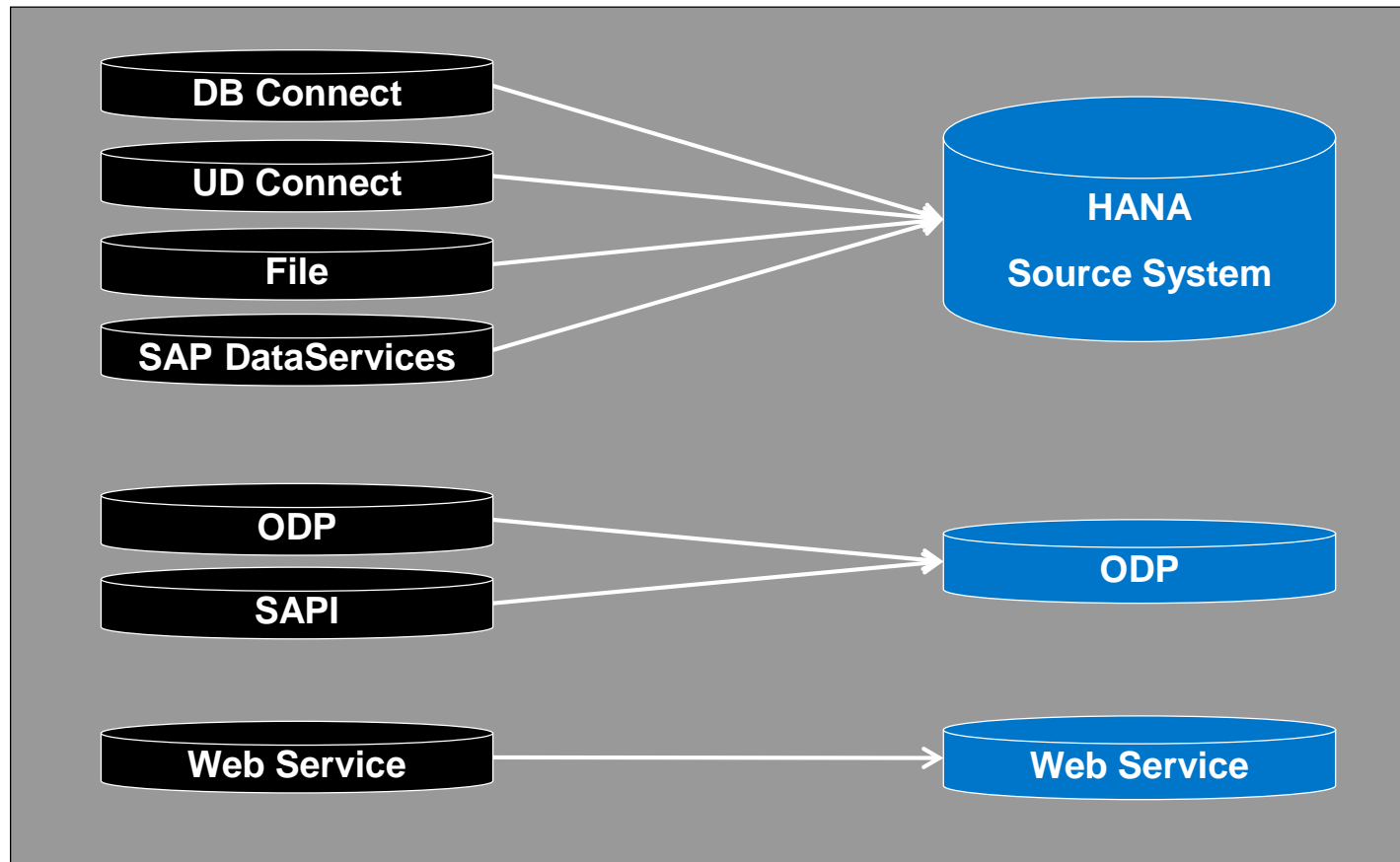
- Real-time Data Streaming to Advanced DataStore Objects

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 will consolidate existing source connectivity options in future releases

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

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

Agenda

Simplification

Platform Integration

Big Data

SAP BW 7.5, edition
for SAP HANA

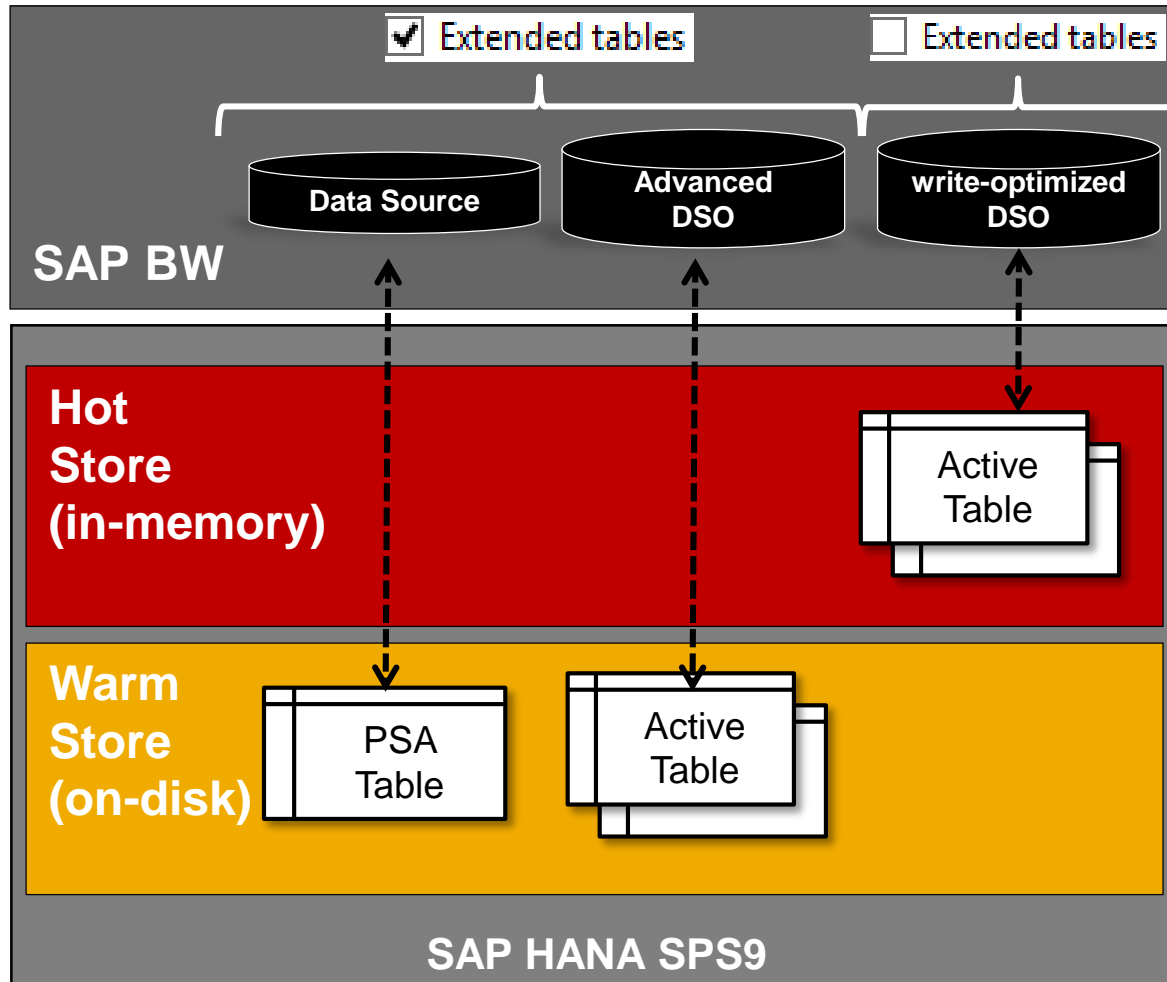
Planning

Miscellaneous

Roadmap

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

New with SAP BW 7.5 SP1 and SAP HANA SPS9



Recap BW 7.4 SP8

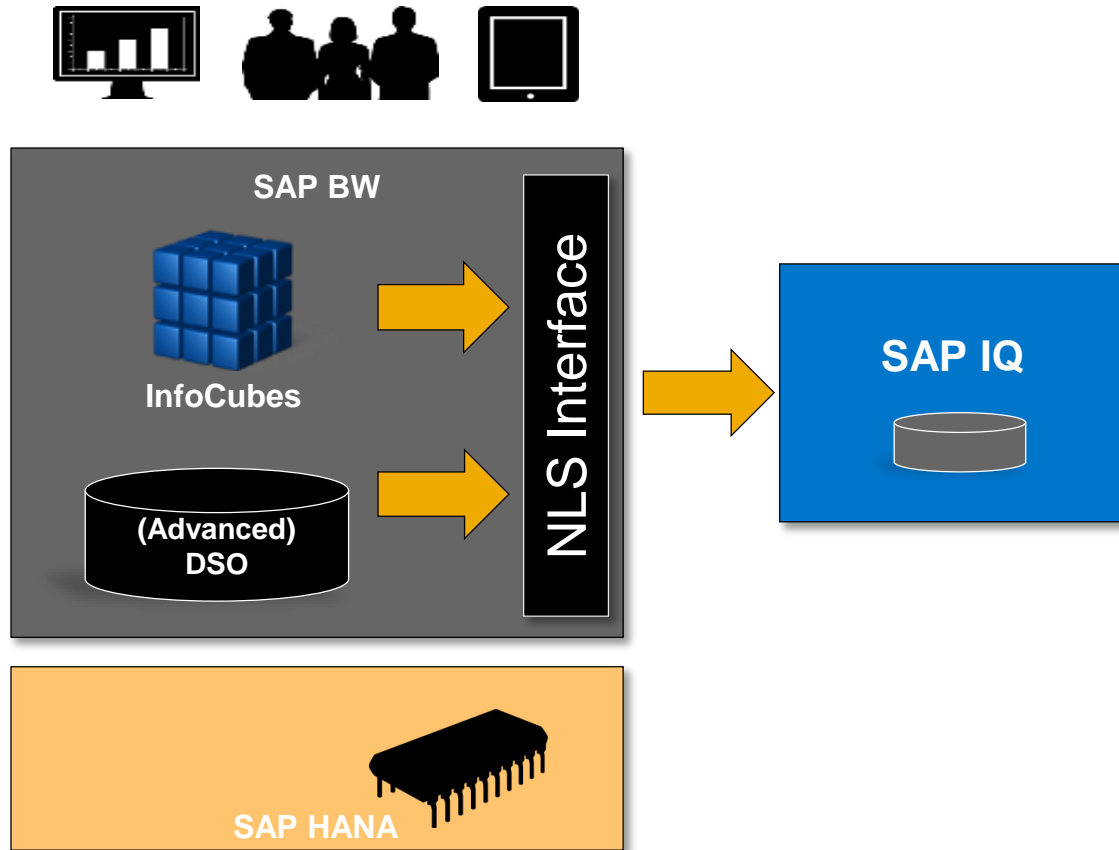
- Warm store as optional dynamic extension to hot store and integral part of the HANA platform
- Reduced in-memory footprint
- Highly efficient compression and performance
- Unified Installation & Update Management
- One Backup & Recovery process
- Support for DataSource (PSA) and w-o (A)DSO

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](#)

Agenda

Simplification

Platform Integration

Big Data

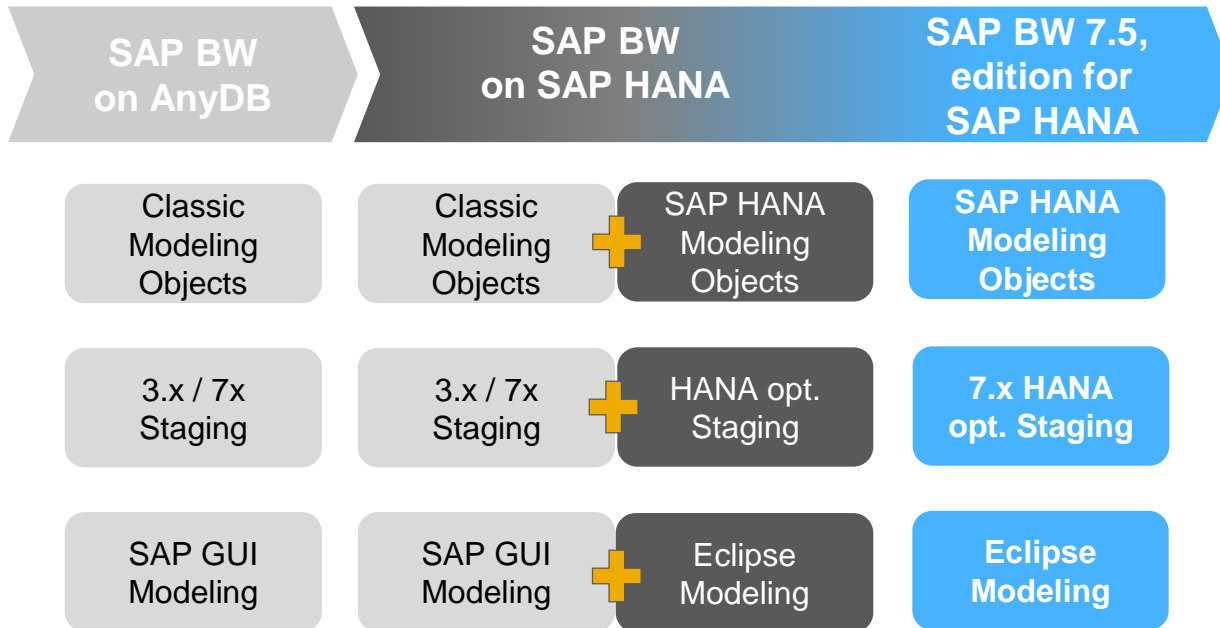
**SAP BW 7.5, edition
for SAP HANA**

Planning

Miscellaneous

Roadmap

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	InfoObject	
DataStore Object		
MultiProvider	CompositeProvider	
InfoCube		
3.x DataFlow	Advanced DataStore Object	
SAP GUI Modelling		
HybridProvider	OpenODS View	
7.x DataFlow		
TransientProvider	7.x Data Flow	
VirtualProvider		
InfoSet	Eclipse Modeling	
.....		
	SAP UI5 Administration	

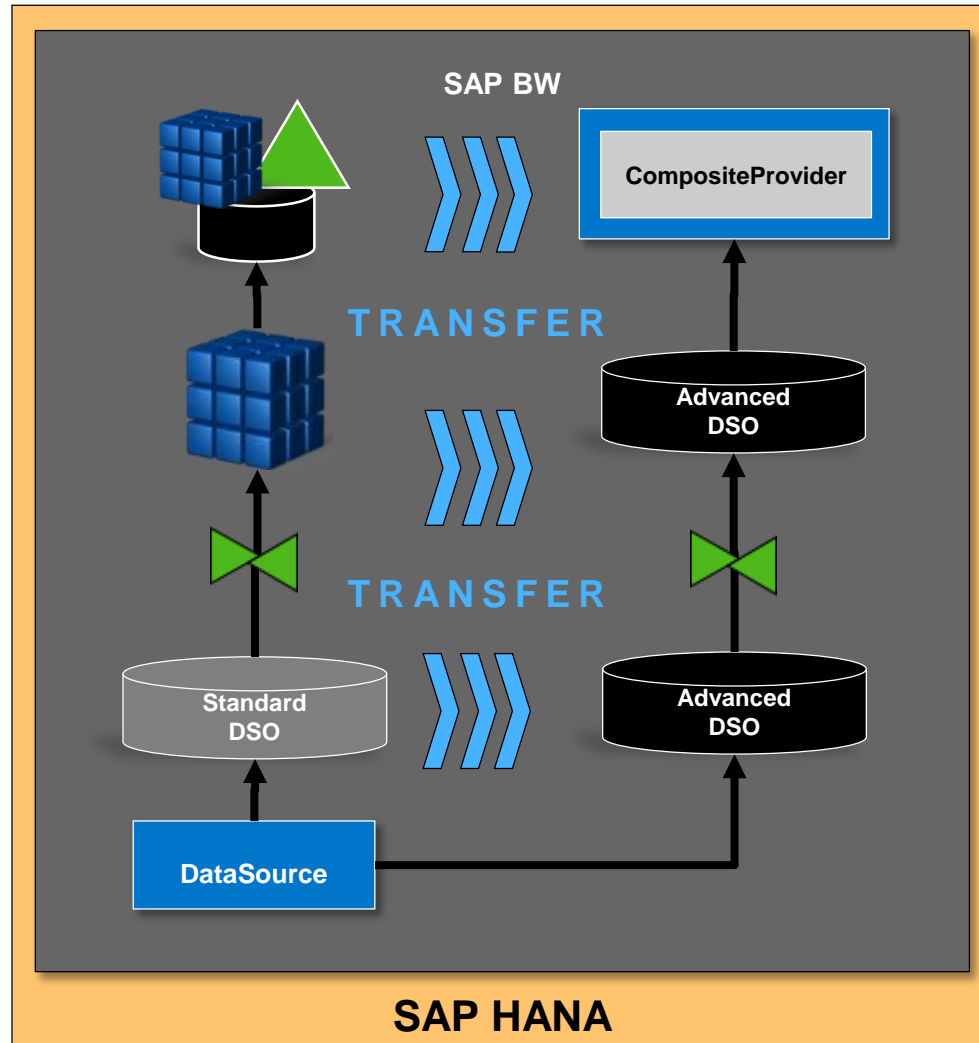
Run SAP BW 7.5 in future ready and recommended way

- 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

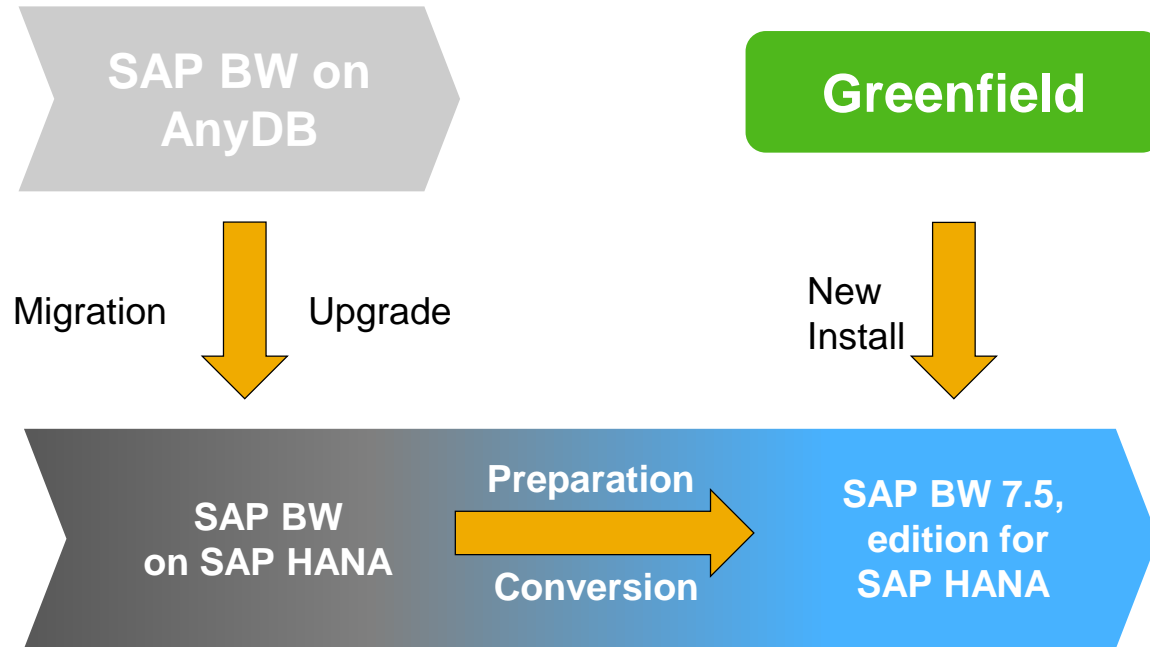
Planned with SAP BW 7.5 SP1



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 InfoCubes and DataStore Objects into Advanced DataStore Objects
- MultiProvider transfer/copy into 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, SP1 on HANA (or higher)
- Default SAP BW 7.5, edition for SAP HANA

Agenda

Simplification

Platform Integration

Big Data

SAP BW 7.5, edition
for SAP HANA

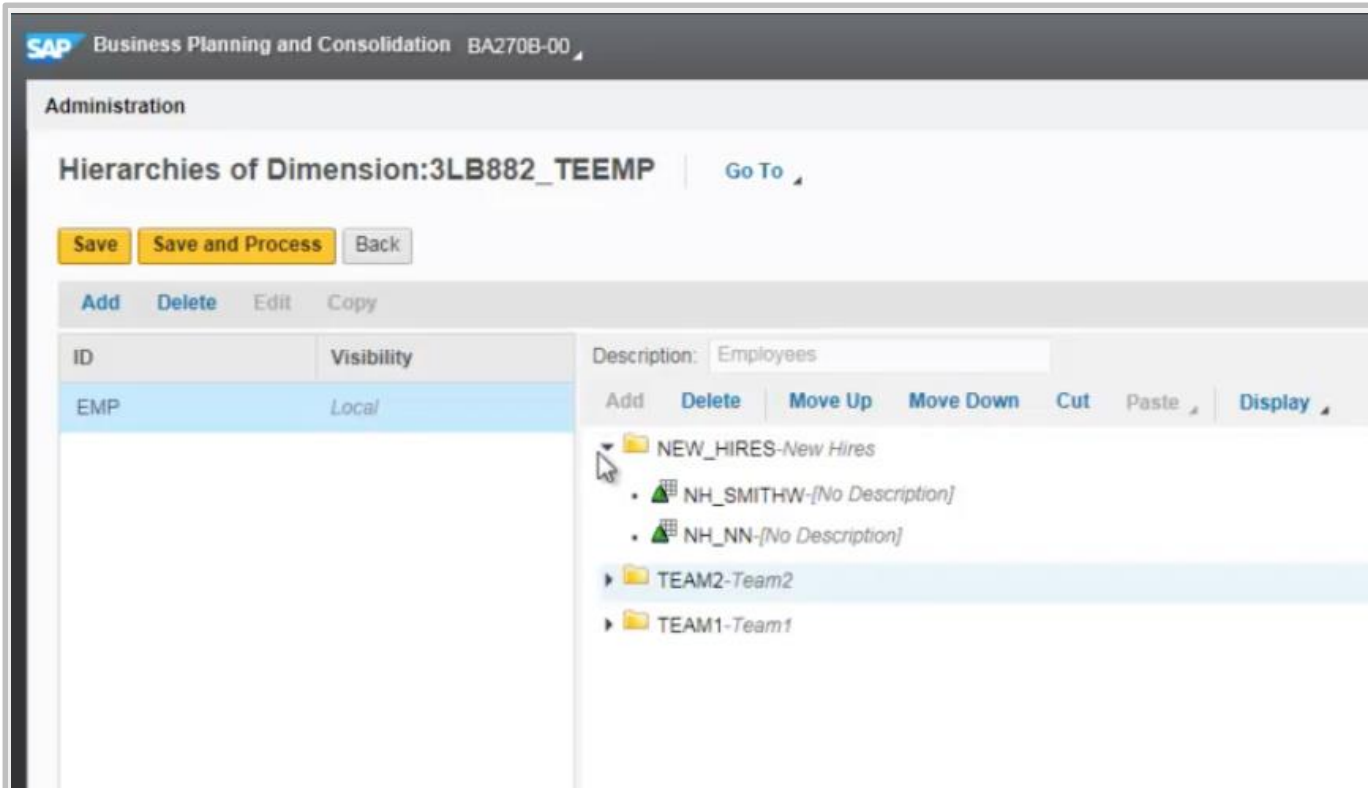
Planning

Miscellaneous

Roadmap

Planning Enhancements – BW-IP/PAK, BPC 10.1 Embedded

Enhancements with SAP BW 7.5



Local Dimension; Local Hierarchies

Contact: Detlef.Wassmuth@sap.com

Product & Product Strategy Update: <https://scn.sap.com/docs/DOC-58721>

SAP BW-IP (PAK)

- Advanced DataStore Objects planning enabled
- Planning enabled Measures available in BW Workspace Query Designer
- Local Dimensions and local hierarchies for local planning scenarios available
- Improved Fox Formula handling

SAP BPC 10.1, NW - embedded Model

- BPC Add-On as part of SAP BW 7.5 software component
- BPC Embedded Model: Embedded Consolidation available*

As the underlying data model, BPC 10.1 Embedded Model is using the BW-IP/PAK technology.

Agenda

Simplification

Platform Integration

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SAP BW 7.5, edition
for SAP HANA

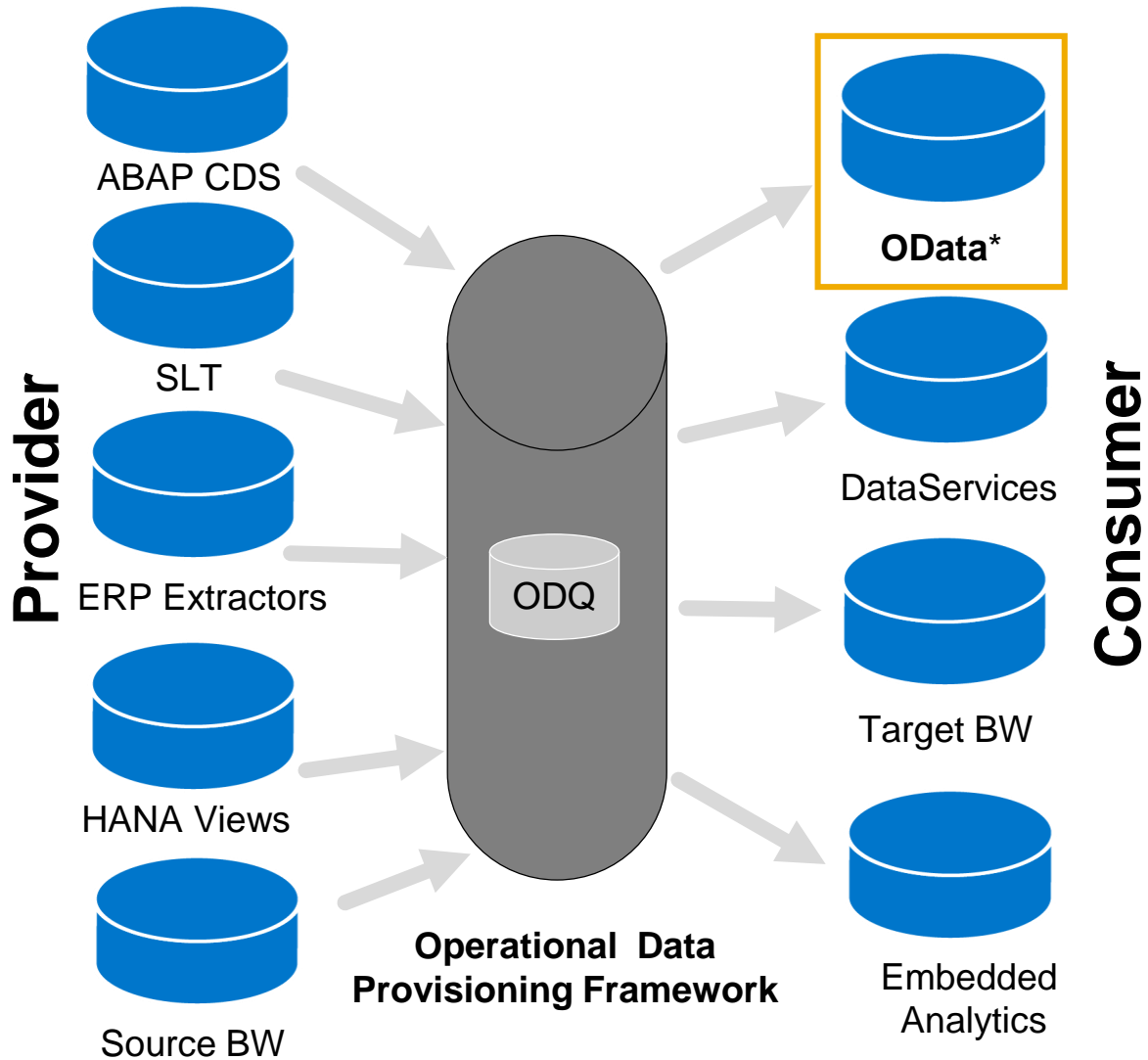
Planning

Miscellaneous

Roadmap

Operational Data Provisioning (ODP)

New with SAP BW 7.5 SP1



Flexible ODP based data distribution via OData

- Providing consistent and scalable (delta) distribution of BW data to external recipients based on the OData protocol, e.g. to exchange data between cloud based applications
- Available for all current ODP Contexts
- Generation of SAP NetWeaver Gateway Service based on an Operational Data Provider (ODP). This service (URL) is called from an external application via OData / HTTP
 - Allowing for provisioning of delta data where source ODP allows (e.g.: Advanced DataStore Object in BW)
- Complementary to the existing BW OpenHub Interface sharing the same license model

Prerequisite and Implementation

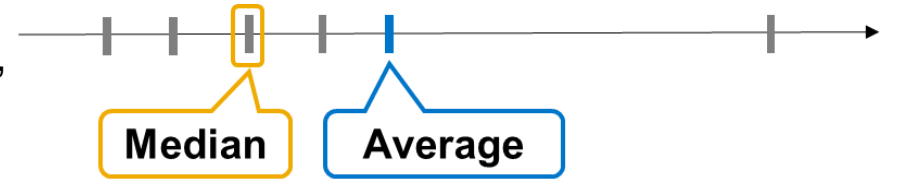
- Requires SAP NetWeaver Gateway (locally on SAP NetWeaver instance of the ODP Provider or on separate SAP NetWeaver instance, means multiple RFC connections used between BW and NW Gateway)

Miscellaneous – New Analytic Manager functions

New with SAP BW 7.5 SP1

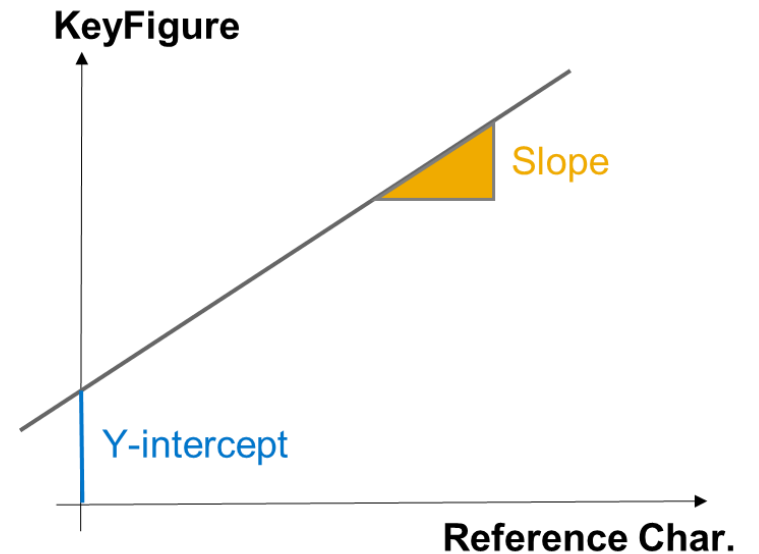
Exception Aggregation – Median

- The median is the numerical value separating the higher half of a data sample, a population, or a probability distribution, from the lower half
- Median can be used to reduce the importance of outliers



Exception Aggregation – Simple Linear Regression

- Simple linear regression fits a straight line through the set of n points in such a way that makes the sum of squared residuals of the model as small as possible
- In statistics, the correlation coefficient is a measure of the linear correlation (dependence) between two variables X and Y . It is widely used in the sciences as a measure of the degree of linear dependence between two variables



Further Performance push down of OLAP functions

- Leveraging SAP HANA hierarchy processing

Agenda

Simplification

Platform Integration

Big Data

SAP BW 7.5, edition
for SAP HANA

Planning

Miscellaneous

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 warehousing

- 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 warehousing Strategy

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

SAP BW 7.5 SP1 Feature Overview

Feature	Type	HANA only	Available since	HANA Revision
Usability improvements for CompositeProvider	Enhancement	Yes	BW 7.5 SP1	
Feature completeness with extended functionality for Query Designer in Eclipse	Enhancement	Yes	BW 7.5 SP1	None
InfoObject maintenance in Eclipse	Enhancement	Yes	BW 7.5 SP1	None
Extended ADSO features (inventory handling, planning support)	Enhancement	Yes	BW 7.5 SP1	
SAP HANA Smart Data Integration for SAP BW	New Feature	Yes	BW 7.5 SP1	HANA SPS9
Source system consolidation via HANA Source system	New Feature	Yes	BW 7.5 SP1	HANA SPS9
Dynamic Tiering for Advanced DSO in staging scenarios	Enhancement	Yes	BW 7.5 SP1	HANA SPS10
Additional Features for HANA View Generation (pruning support, enablement of hierarchies)	Enhancement	Yes	BW 7.5 SP1	
Local hierarchies in SAP BW Workspaces	Enhancement	Yes	BW 7.5 SP1	None
SAP BW Workspace Query Designer	New Feature	Yes	BW 7.5 SP1	None
NLS support for Advanced DSO	Enhancement	Yes	BW 7.5 SP1	
Flexible ODP based data distribution via Odata	New Feature	No	BW 7.5 SP1	None

Please consider the blog: [SAP BW 7.4 feature overview and platform availability](#) to get an overview of all features delivered since BW 7.4 SP5



Thank you!

Questions?

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Appendix

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