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Agenda

Introduction
EDW with BW on HANA
BW Integrated Planning
Enhanced Mobile Enablement
BW Content optimized for HANA
Outlook
Agenda

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Outlook
SAP BW Today (September 2013)

14500+ Customers

200 New Installations/Month

3500+ BW 7.3 Customers

Vast majority: Central EDW, harmonizing many source systems

Embedded into mission critical business processes

500+ BW on HANA Customers
SAP BW on HANA – Smarter, simpler, more efficient

How Does BW running on RDBMS differ from BW running on HANA?

Customer value of SAP BW powered by SAP HANA

- Excellent query performance for improved decision making
- Performance boost for Data Load processes for decreased data latency
- Accelerated In-Memory planning capabilities for faster planning scenarios
- Flexible combine EDW with HANA-native data for real-time insights and decision making
- Data persistency layers are cut off and reduced administration efforts
- Simplified data modeling and remodeling

Data intensive functions are pushed down from BW to HANA

HANA as the Primary Database for BW and Foundation for new Applications
Only the combination of SAP BW and HANA enables us to

… simplify the data modeling processes

… increase the agility of the Enterprise Data Warehouse

… reduce the complexity of the EDW landscape

… combine the strengths of an SQL oriented approach with an Integrated EDW application
SAP BW 7.4, SP5 – Overview
Planned with SAP BW 7.4, SP5 on HANA

**Enhanced Data Modeling**
- Common Eclipse based Modeling Tools
- BW/HANA Smart Data Access providing the logical EDW
- Easy integration of external data models with Open ODS Layer
- Further reduce data layers in BW via Operational Data Provisioning

**Push down further processing logic to HANA**
- BW Analytic Manager
- HANA Analysis Processes
- BW Transformations
- PAK – Pushing down more planning semantics

**Enhanced mobile enablement**

**Converged planning solutions**

**BW Content optimized for HANA**
Agenda

Introduction – evolving BW on HANA to HANABW
EDW with BW on HANA
BW Integrated Planning
Enhanced Mobile Enablement
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Outlook
EDW with SAP BW 7.4 on HANA

Data Modeling

- Eclipse based Modeling Tools in BW – common user experience
- HANA Smart Data Access for SAP BW – federating Hadoop, Teradata, Sybase and HANA
- Field based modeling - flexible consumption of external data models with Open ODS Layer
- CompositeProvider – e.g. Join and Union
- HANA model generation - consumption of data from BW in HANA for SQL clients
- BW Workspaces – monitoring and performance
- InfoObject Modeling – overcome the 60 characters limitation
- Data Provisioning – unified technology for data provisioning and consumption

Push down further processing logic to HANA

- BW Analytic Manager – OLAP compiler for HANA
- HANA Analysis Processes – leveraging HANA specialized libraries
- BW Transformations – optimized to be processed in HANA
Eclipse based Modeling Tools
**Common modeling tools**
Planned with SAP BW 7.4, SP5 on HANA

- Attractive, flexible and simplified BW modeling tools
- Harmonization BW and HANA modeling environments
- Integration of BW and HANA models in one modeling approach
- Integrated development & modeling environment across
  - SAP HANA Modeler,
  - BW Modeling
    - New developed native Eclipse based modeling tools for Open ODS View and New CompositeProvider
  - ABAP Development Tools
  - …
CompositeProvider Integration in Eclipse
Planned with SAP BW 7.4, SP5 on HANA

Left
- Project Explorer with ABAP and BW project (BW project with attached HANA system)

Top right
- CompositeProvider with Union and Join of BW Objects

Bottom right
- ABAP editor in Eclipse
Modeling Tools – Maintenance CompositeProvider
Planned with SAP BW 7.4, SP5 and on HANA

Common user experience via a central, unified modeling environment

New metadata object
- CompositeProvider as abstraction object of the query to the underlying technical persistence objects
  - Left
    - Scenario definition (Join, Union)
  - Right
    - Join condition
    - Mapping of Source Objects to Target Output structure
Modeling Tools – Open ODS View
Planned with SAP BW 7.4, SP5 and on HANA

Common user experience via a central, unified modeling environment

New metadata object
- OpenODSView to integrate external data models into BW

Left
- technical Information about Source Fields

Right
- General information
- Associations to OpenODSViews or InfoObjects
- Characteristic-specific Properties such as Authorization relevance and Referential Integrity
- Reporting Properties such as Display and Query Filter behavior
HANA Smart Data Access for SAP BW
Smart Data Access
Planned with SAP BW 7.4, SP5 on HANA

Enhanced Business Flexibility by providing “the logical EDW”

Data Federation in diverse EDW landscapes
- Smart data access – read access to relational and non-relational sources via ODBC
- Enables access to remote data access just like “local” table
- Supports data location agnostic development
- No special syntax to access heterogeneous data sources
- BW based Analytic Services on external data

Scenario
- Make other DWHs transparent to HANA
- Non-disruptive evolution from virtual table to persistent structure by establishing ETL without major effort
- Consolidating / rationalizing the DWH landscape
- Consumption of HANA datamart scenarios from second HANA database
Field based modeling
Flexible consumption of external data models
Planned with SAP BW 7.4, SP5 on HANA

Flexible and easy consumption of external data models building a BW Open ODS Layer using field-based modeling

Consume & combine external data models for
- Direct query access (w/o replication)
- Staging scenarios
- Switch between both options

Agile modeling
- Field based modeling via Open ODS View and DSO (with fields *)
- Complementing InfoObject modeling
- Integrate with existing BW models
- Gradually build up models and architectures based on relational schemas
- Possibility to start modeling from facts developing towards the dimensions
- Enables rapid prototyping – quick ROI

Direct query access
- Integrated with BW authorization concept
- Combine with existing InfoObjects / DSOs

* Pilot only (Note 1922533)
Field based modeling in BW on virtual HANA Tables
Planned with SAP BW 7.4, SP5 on HANA

**Open ODS View offers**

- Metadata object as an abstraction layer for underlying source object
- HANA virtual tables as supported source objects via SDA
- Querying on field level
- Supported for Teradata, Sybase ASE/IQ, Hadoop
- Optimized Query execution by pushing down to HANA
- Supported scenarios:
  - Virtual Access
  - Persistent Access *
    - Switch from Virtual to Persistent *
    - Based on Field based DSO including DTP and Transformation
    - Direct staging into DSO bypassing PSA
    - No need to adjust existing queries

**Easy assignment of semantics**

- Underlying object (Table, DB View, DataSource) can be tagged as Text, Master data or Facts
- Single fields of the object can be linked to already existing Open ODS Views or InfoObjects

* Pilot only (Note 1922533)
Modeling Tools – Open ODS View
Planned with SAP BW 7.4, SP5 and on HANA

Common user experience via a central, unified modeling environment

New metadata object
- OpenODSView to integrate external data models into BW

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- technical Information about Source Fields

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- General information
- Associations to OpenODSViews or InfoObjects
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- Reporting Properties such as Display and Query Filter behavior
Field based modeling in BW on persistent structures
Planned with SAP BW 7.4, SP5 on HANA

Use case 1

Open ODS View offers
- Metadata object as an abstraction layer against underlying source object
- HANA tables/views or BW DataSources based on external DB (Supported for RDBMS as external source via DBConnect or DataServices)
- Modeling and querying on field level
- Supports the evolution from view based - to a persistence based mode*
- Field-based Modeling of DataStore Objects to build BW persistence*
- Direct staging into DSO bypassing PSA

Use case 2

Open ODS View offers
- Metadata object as an abstraction layer against underlying source object
- HANA tables/views or BW DataSources based on external DB (Supported for RDBMS as external source via DBConnect or DataServices)
- Modeling and querying on field level
- Supports the evolution from view based - to a persistence based mode*
- Field-based Modeling of DataStore Objects to build BW persistence*
- Direct staging into DSO bypassing PSA

Use case 1
- Access existing HANA application
- Migrate existing RDBMS model to HANA and consume via BW

Use case 2
- Replicate data from RDBMS (e.g. external tracking system) into DSO (with fields) leveraging BW services for delta calculation and request management

* Pilot only (Note 1922533)
Imagine you have information in a relational database schema like this:

**Open ODS View Semantics „Master Data“**

<table>
<thead>
<tr>
<th>&lt;&lt;Dimension&gt;&gt;</th>
<th>Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>INTEGER</td>
</tr>
<tr>
<td>Surname</td>
<td>CHAR(20)</td>
</tr>
<tr>
<td>GivenName</td>
<td>CHAR(20)</td>
</tr>
<tr>
<td>Street</td>
<td>CHAR(30)</td>
</tr>
<tr>
<td>City</td>
<td>CHAR(20)</td>
</tr>
<tr>
<td>State</td>
<td>CHAR(10)</td>
</tr>
<tr>
<td>Country</td>
<td>CHAR(15)</td>
</tr>
<tr>
<td>PostalCode</td>
<td>CHAR(10)</td>
</tr>
<tr>
<td>Phone</td>
<td>CHAR(12)</td>
</tr>
<tr>
<td>CompanyName</td>
<td>CHAR(32)</td>
</tr>
</tbody>
</table>

**Open ODS View Semantics „Facts“**

<table>
<thead>
<tr>
<th>&lt;&lt;Fact&gt;&gt;</th>
<th>SalesOrderHeaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>INTEGER</td>
</tr>
<tr>
<td>CustomerID</td>
<td>INTEGER</td>
</tr>
<tr>
<td>OrderDate</td>
<td>DATE</td>
</tr>
<tr>
<td>Region</td>
<td>CHAR</td>
</tr>
<tr>
<td>SalesRepresentative</td>
<td>CHAR</td>
</tr>
<tr>
<td>FinancialCode</td>
<td>CHAR</td>
</tr>
<tr>
<td>Description</td>
<td>CHAR</td>
</tr>
<tr>
<td>FiscalYear</td>
<td>CHAR</td>
</tr>
<tr>
<td>Quarter</td>
<td>CHAR</td>
</tr>
<tr>
<td>Amount</td>
<td>DECIMAL</td>
</tr>
</tbody>
</table>

**Open ODS View Semantics „Master Data“**

<table>
<thead>
<tr>
<th>&lt;&lt;Dimension&gt;&gt;</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>EmployeeID</td>
<td>INTEGER</td>
</tr>
<tr>
<td>ManagerID</td>
<td>INTEGER</td>
</tr>
<tr>
<td>Surname</td>
<td>CHAR(20)</td>
</tr>
<tr>
<td>GivenName</td>
<td>CHAR(20)</td>
</tr>
<tr>
<td>DepartmentID</td>
<td>INTEGER</td>
</tr>
<tr>
<td>Street</td>
<td>CHAR(30)</td>
</tr>
<tr>
<td>City</td>
<td>CHAR(20)</td>
</tr>
<tr>
<td>State</td>
<td>CHAR(15)</td>
</tr>
<tr>
<td>Country</td>
<td>CHAR(15)</td>
</tr>
<tr>
<td>PostalCode</td>
<td>CHAR(12)</td>
</tr>
<tr>
<td>Phone</td>
<td>CHAR(13)</td>
</tr>
<tr>
<td>Status</td>
<td>CHAR(2)</td>
</tr>
<tr>
<td>SocialSecurityNumber</td>
<td>CHAR(11)</td>
</tr>
<tr>
<td>Salary</td>
<td>DECIMAL(20,3)</td>
</tr>
<tr>
<td>StartDate</td>
<td>DATE</td>
</tr>
<tr>
<td>TerminationDate</td>
<td>DATE</td>
</tr>
<tr>
<td>BirthDate</td>
<td>DATE</td>
</tr>
<tr>
<td>BenefitHealthInsurance</td>
<td>TINYINT</td>
</tr>
<tr>
<td>BenefitLifeInsurance</td>
<td>TINYINT</td>
</tr>
<tr>
<td>BenefitDayCare</td>
<td>TINYINT</td>
</tr>
<tr>
<td>Sex</td>
<td>CHAR(2)</td>
</tr>
</tbody>
</table>

How would you start to integrate this information in BW?
CompositeProvider
CompositeProvider
Planned with SAP BW 7.4, SP5 on HANA

Easier data modeling and reduction of InfoProvider types by enhancing the CompositeProvider

Supports

- Consolidation of existing CompositeProvider, MultiProvider, TransientProvider on HANA Models, VirtualProvider on HANA Models* and InfoSet* into CompositeProvider
- Use CompositeProvider as single BW metadata object to combine data from other HANA based applications on the same instance of HANA (consumption of native HANA models or tables) with data in BW
  - Faster Implementations
  - More flexibility – Unions and Joins
  - Easier consumption of data
  - HANA optimized query runtimes
- Modern Eclipse based UI
- Option to include Inventory key figures
- Possibility to include in planning scenarios

* Planned for SP6
CompositeProvider Integration in Eclipse
Planned with SAP BW 7.4, SP5 on HANA

Left
• Project Explorer with ABAP and BW project (BW project with attached HANA system)

Top right
• CompositeProvider with Union and Join of BW Objects

Bottom right
• ABAP editor in Eclipse
CompositeProvider
Planned with SAP BW 7.4, SP5 on HANA
**CompositeProvider**
Planned with SAP BW 7.4, SP5 on HANA

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HANA model generation
Automatic generation of HANA models
Planned with SAP BW 7.4, SP5 on HANA

Enhanced Metadata interoperability between BW and HANA

HANA Model generation
- Triggered from BW InfoProvider – push
  - Complements BW model import from HANA Modeler
  - Analysis Authorization: Automatic sync between HANA and BW
  - Object changes include HANA model impact analysis
- Direct consumption of BW data via generated HANA views
  - SAP Lumira, BO Explorer, SQL

Scenario
- Major footprint of scenario in BW
- Usage of generated view in HANA Studio to build own data models using BW data and HANA native algorithms
BW Workspaces
BW Workspace Enhancements
Planned with SAP BW 7.4, SP5 on HANA

**Enhanced Performance and Monitoring for faster file uploads**

**File Data cleansing and Simulation**
- Delete records with Duplicate records
- Setting field values to their initial value
- Replace field values
- Delete records with filed incompatible values
- Simulation mode for the data cleansing and upload
- Enhanced Statistics

**BW Workspace Management – Backend**
- Number of parallel tasks for file upload can be set for each BW Workspace
- Performance enhancement for Local file upload incl. simulation and file cleansing
Characteristic Values > 60 Characters and Extra Long Texts
Planned with SAP BW 7.4, SP5 on HANA

Overcome the 60 characters limitation for additional flexibility

Extend length for Characteristics values
- The maximum output length and attribute length can be <= 250
- 250 characters applies for the total (compound) length of the key

Extra long texts for Characteristics
- Long text can be stored as CHAR 60 (standard) or CHAR 1333 (option ‘Long text is XL’ set).
- No changes on frontends required
- Simple switch for existing Characteristics possible

Remark: Please check the impact on customer code (syntax-error, runtime-error) as the central data element RSCHAVL had to be changed from type CHAR60 to STRING 1333. See notes 1879618 and 1823174 for details

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**High Cardinality InfoObjects**
Planned with SAP BW 7.4, SP5 on HANA

Enable business scenarios which require extremely high volume of Master Data e.g. sales invoice analysis

**High Cardinality InfoObjects**
- InfoObjects can be flagged as “High Cardinality”
  - No SIDs generated
    - Thus overcoming the 2 billion records limitation
  - Support Attributes, Texts, Compounding, Time dependency
- Can be used in Data Store Objects
- Enabled for analysis and planning
Remodeling Toolbox
Planned with SAP BW 7.4, SP5 on HANA

Simplified and faster remodeling of InfoObjects without the need to delete and reload data
- Central place for InfoObject Metadata changes
- Change Compounding of InfoObjects
- Flag InfoObjects for High Cardinality

HANA-Optimization for Mass data readiness
- Faster Remodeling by processing remodeling steps directly in SAP HANA
- Avoid round trips between BW Application Server and SAP HANA
Data Provisioning
Operational Data Provisioning (ODP) Technology
Planned with SAP BW 7.4, SP5 on HANA

Provider

SAP ERP Extractors
HANA Views
Source BW

Subscriber / Consumer

Operational Data Provisioning

Embedded Analytics
Target BW
SAP DataServices

Unified technology for data provisioning and consumption

- Enables extract once deploy many architectures for sources
- Unified configuration and monitoring for all provider and subscriber types
- Time stamp based recovery mechanism for all provider types with configurable data retention periods
- Highly efficient compression enables data compression rates up to 90% in Operational Delta Queue (ODQ)
- Quality of service: „Exactly Once in Order“ for all providers
- Intelligent parallelization options for subscribers in high volume scenarios

*) New with SAP BW 7.4

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Simplified trigger based table replication to SAP BW with SLT
Planned with SAP BW 7.4, SP5 on HANA

New source system type ODP-SLT
• SLT Real-Time push in Operational Delta Queue (ODQ)
• Direct Update to BW InfoProviders
  – Scheduled or real – time daemon
  – Automatic change notification for daemon
• Set up of SLT replication from SAP BW

Benefits
• Simplified data flow
• PSA no longer required
• Flexible recovery options
• Consumption of ODQ by multiple subscribers
• Reduced data latency
Simplified data provisioning from SAP ERP and SAP BW
Planned with SAP BW 7.4, SP5 on HANA

Provider ERP Extractors
- Direct Update to BW InfoProviders – PSA not required
  - Scheduled or real – time daemon
  - Automatic change notification for daemon
- Consumption by multiple subscribers

Provider BW
- Enables direct staging between InfoProviders of source and target BW systems
- PSA not required
- Consumption of ODQ by multiple BW subscribers and SAP Data Services

Benefits
- Simplified data flow
- PSA no longer required
- Flexible recovery options
- Stream lined system communication
  - Synchronous RFC replaces ALE/IDoc
Open Hub Service
Planned with SAP BW 7.4, SP5 on HANA

Extending the reach of Open Hub Service to provide HANA applications with BW query and InfoProvider data

- Export data from BW directly to tables residing in any RDBMS supported by SAP
- Supported for Sybase ASE and IQ as well
- Delta extraction for InfoProviders and DataSource
- Query snapshots via QueryProvider are possible

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EDW with SAP BW 7.4 on HANA

Data Modeling

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- Field based modeling - flexible consumption of external data models with Open ODS Layer
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Push down further processing logic to HANA

- BW Analytic Manager – OLAP compiler for HANA
- HANA Analysis Processes – leveraging HANA specialized libraries
- BW Transformations – optimized to be processed in HANA
Analytic Manager
The OLAP Compiler for HANA

Intro

BW / BEX Query Designer
- is the design tool for the Analytic Manager

Analytic Manager
- has a wide variety of OLAP functions.
- converts the query definition into a ABAP runtime object (BW Query)
- Generates calculation scenarios for those BW Query operations which can be performed in HANA directly

Pushing down BW Analytic Manager (OLAP) operations down to HANA provides
- Excellent query performance
- Additional business insights by overcoming existing ABAP based limits – deep granular data can now be analyzed (e.g. counters on order items level)
‘New’ functions in Analytic Manager
Planned with SAP BW 7.4, SP5 on HANA

Providing additional business insights

- Multidimensional exception aggregation
  - Simplified modeling
  - Enhanced performance
  - New insights e.g. average value for characteristic combinations
- New “CURRENT MEMBER” variable
  - Rolling window (e.g. average of last 3 months)
  - Comparison between month and previous month
  - Simplified modeling e.g.: Year To Date calculations

- FIX Operator
  - Supports scenarios with constant selection and exception aggregation in one query
    - Fix operator avoids constant selection gets overridden by exception aggregation
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**Push Down List**

Planned with SAP BW 7.4, SP5 and future SPs on HANA

**OLAP Features pushed down to HANA in BW 7.3x**
- Hierarchy Handling Part I
- Restricted key figures
- Exception Aggregation CNT for quantity key figures without unit conversion
- Exception Aggregation of currency key figures with optional currency conversion

**OLAP Features pushed down to HANA in BW 7.4 SP5**
- Processing of further query scenarios in HANA (Joins, Union, etc.)
- Avoid intermediate result set materialization (e.g. Exception Aggregation)

**OLAP Features pushed down to HANA in BW 7.4 SP6 and beyond**
- Handling of inventory keyfigures
- Stock coverage keyfigure
- Hierarchy Handling Part II
- Formula exception aggregation
HANA Analysis Processes
HANA Analysis Process (HAP)
Planned with SAP BW 7.4, SP5 on HANA

Enhanced analysis capabilities

- Execute HANA-native functions directly on BW InfoProvider data e.g.:
  - Clustering, association algorithms, regression analysis, anomaly detection, weighted score, exponential smoothing, etc.
- Execute complex and data intensive processes on HANA without losing the integrity and integration with the BW environment
- Materialize the result of a HANA Analysis Process in HANA for further processing – automated
- Supporting also a scheduled batch processing use case

Source

BW InfoProvider

Function

AFL(PAL, …), Procedure, L-Script, R-Script

Target

BW InfoProvider

BW Process Management

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**HAPs in details**

Planned with SAP BW 7.4, SP5 on HANA

**Sources**
- Most BW InfoProvider
- Database tables

**Supported procedures/algorithms**
- AFL-functions (PAL, …)
- L-script, R-script, SQL-script procedure.

**Supported output**
- Analytic Index (modeled/generated/virtual),
- DSO, database table
- HAP Input (“stacked HAPs”)

**Staging integration**
- stand-alone,
- triggered via APIs from applications,
- process chain variant,
- source of a DTP
Transformations
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SAP HANA optimized Transformations
Planned with SAP BW 7.4, SP5 on HANA

Next level of performance in data staging for BW on HANA

- Standard Transformations are gradually optimized to be processed directly in SAP HANA by generating according DB procedure
- First set of Transformations optimized i.e.:
  - Mappings
  - Conversions (time, currency, units)
  - Formulas
  - Read Master Data, Read from DSO
  - Expert routine for HANA SQL script . . .
- Sources:
  PSA, DSOs, InfoCubes, SPOs, CompositeProvider, MultiProvider
- Targets: DSO
Agenda

Introduction – evolving BW on HANA to HANA BW
EDW with BW on HANA
**BW Integrated Planning**
Enhanced Mobile Enablement
BW Content optimized for HANA
Outlook
Push down of planning semantics
Planned with BW 7.4, SP5 on HANA

Next level of performance by pushing down further planning capabilities to HANA

- Possibility to implement HANA SQL Script based user exits to be able to push down ABAP based user exits down to HANA
- Distribution of new planning records by key pushed down to HANA
- Additional planning functions
  - Physical delete of planning data records in DSOs rather than just zeroing-out facts
- Details about availability of already pushed down elements see SAP note 1637199
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**Planning**

**LOB enablement**

**Combine the best of three worlds to a unique planning solution (HANA, BPC, BW-IP)**

**Combines the**
- …successful EPM Excel add-in
- …flexible BPC admin-UI
- …powerful BW-IP / PAK planning manager
- …super-fast HANA planning engine

**Selected features**
- Full PAK-model compatibility
- Business process flows (BPF)
- Work-status
- Data auditing
- Easy upload scenario
- LOB authorizations

**BPC NW**
- user experience
- collaboration
- data flexibility

**BW-IP**
- EDW-integration
- Built-in functions

**HANA**
- Unprecedented speed

**BPC NW ‘unified’ (10.1)**
Agenda

Introduction – evolving BW on HANA to HANA BW
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Outlook
BW Query & ODATA Services
Planned with SAP BW 7.4, SP5 on HANA

Enable home-grown, straight forward planning applications and embedded planning, e.g. on mobile devices

Easy to use
- Queries flagged as ‘OData’ in the BEXQuery Designer offer an external planning and reporting Service interface

Standard compliant
- Fully integrated into the ODATA specification

Robust and flexible
- Stateless cell-wise data input-protocol
Agenda

Introduction – evolving BW on HANA to HANA BW
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BW Integrated Planning
Enhanced Mobile Enablement

**BW Content optimized for HANA**

Outlook
New Business Content optimized for BW on HANA

- New analytics combining capabilities of SAP HANA and SAP NetWeaver BW
- Provides additional analytic solutions for existing BW on HANA customers
- Follows the LSA++ architecture
- Provides higher level of details (line items, …)
- Implements mixed scenarios HANA Content + BW Content
- Provides optimized transformation for HANA
- Offers more flexibility in data acquisition and reporting
- Makes use of the consolidated InfoObjects
- Find further information in the SAP Help – BI Content documentation and see the extended presentations on the HANA optimized Business Content in SCN

<table>
<thead>
<tr>
<th>Available/Planned</th>
<th>Sales &amp; Distribution</th>
<th>Finance</th>
<th>Material Management</th>
<th>Controlling</th>
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<tr>
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<td>Accounts Receivable Enhancements</td>
<td>Service Level</td>
<td>Controlling Product Cost Forecast + Simulation</td>
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<td>Accounts Payable</td>
<td>Purchase Overview</td>
<td>Enterprise Controlling: Profit Center Accounting</td>
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<td>General Ledger</td>
<td>Purchase Accounting</td>
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<td>Sales Overview</td>
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Agenda

Introduction – evolving BW on HANA to HANA BW
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Enhanced Mobile Enablement
BW Content optimized for HANA

Outlook
# SAP NetWeaver BW

## Product Roadmap Overview – Key Themes and Capabilities

### SAP NW BW 7.3 on SAP HANA

**SAP HANA specific features**
- Performance boost for data loading, query response time and In-memory planning
- SAP HANA-optimized InfoCubes and Data Store Objects
- Simplified and faster data modeling/remodeling
- "Not active" data concept
- SAP NetWeaver BW and SAP HANA Mixed Scenarios (BO Explorer, BW Virtual Master Data, etc.)
- Support of Semantic Partitioned Objects and enhanced partitioning for write optimized DSOs
- Simplified system landscape

**Platform independent highlights**
- Graphical data flow modeling and enhanced support of 3.x -> 7.x data flow migration
- Semantic Partitioned Objects (SPO)
- Rapid prototyping of Ad Hoc scenarios via BW Workspaces
- NLS based on Sybase IQ
- DSO planning
- Tighter integration with SAP Data Services

### Planned Innovations

**SAP NW BW 7.3 SP9; SAP NW BW 7.31 SP7**

* SAP will continue to support RDBMS platforms

<table>
<thead>
<tr>
<th>Today</th>
<th>Planned Innovations</th>
<th>Future Direction</th>
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<tbody>
<tr>
<td><strong>Upcoming planned release</strong></td>
<td><strong>Future innovations</strong></td>
<td></td>
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<tr>
<td><strong>Enhanced Data Modeling</strong></td>
<td><strong>Extend and Simplify Data Modeling</strong></td>
<td></td>
</tr>
<tr>
<td>• BW/HANA Smart Data Access providing the logical EDW</td>
<td>• Next Generation DSO Concept</td>
<td></td>
</tr>
<tr>
<td>• Easy integration of external data models with Open ODS Layer</td>
<td>• Evolution of CompositeProvider for simplified architecture and reduced TCO</td>
<td></td>
</tr>
<tr>
<td>• Composite Provider for enhanced support of &quot;Mixed Scenarios&quot;</td>
<td>• Add common data sources to HANA Smart Data Access</td>
<td></td>
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<tr>
<td>• Common Eclipse based Modeling tools</td>
<td>• Continuous unification of BPC, PAK, BW-IP to BPC unified</td>
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</tr>
<tr>
<td><strong>Push down further processing logic to HANA</strong></td>
<td><strong>Enable Additional Big Data Scenarios</strong></td>
<td></td>
</tr>
<tr>
<td>• BW Analytic Manager</td>
<td>• OLAP and Planning features pushed down to HANA</td>
<td></td>
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<tr>
<td>• HANA Analysis Processes</td>
<td>• Further evolve data lifecycle management with Sybase IQ</td>
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<tr>
<td>• BW Transformations</td>
<td>• Enhanced HADOOP/Big Data integration</td>
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<tr>
<td>• BW Planning Semantics</td>
<td><strong>Extended Mobile enablement</strong></td>
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<tr>
<td><strong>Data Provisioning</strong></td>
<td><strong>Planning function enablement</strong></td>
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<tr>
<td>• Operational Data Provider</td>
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<td><strong>Simplified High Performance Planning</strong></td>
<td><strong>Optimized Cloud enablement</strong></td>
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<tr>
<td>• &quot;BPC Unified&quot;</td>
<td>• Enable fast and easy cloud deployment</td>
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<td>• Capabilities of BW IP, BPC, and HANA</td>
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<td><strong>Mobile enablement</strong></td>
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<td></td>
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<tr>
<td>• Easy Mobile consumption using ODATA standard</td>
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**Future Direction**

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<tr>
<td><strong>SAP NW BW 7.4 SP5</strong></td>
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Summary
Enterprise Data Warehousing with SAP BW 7.4 on HANA

Tight integration between SAP BW 7.40 SP 5 and HANA supports

… simplified and unified modeling

… reduced complexity of your EDW landscape

… pushing down additional processing logic to HANA

SAP BW on HANA is and will continue to be the cornerstone of SAP’s EDW strategy
Thank you
Appendix / Backup
## BW 7.4 Feature Overview and Platform Availability - I

<table>
<thead>
<tr>
<th>Topic</th>
<th>Category</th>
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<tr>
<td>Extension of max. char. Value</td>
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<td>Extra-long text</td>
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<td>XXL-Attributes</td>
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<td>High-Cardinality InfoObject (SID-less InfoObject)</td>
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<td>BW Modeling Tools in Eclipse (Composite Provider, Open ODS View...)</td>
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<td>CompositeProvider</td>
<td>Metadata&amp;Modeling</td>
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<td>HANA Model Generation for BW InfoProvider</td>
<td>Metadata&amp;Modeling</td>
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<td>InfoObjects based on Calculation View</td>
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<td>Inventory Keyfigures for DSO, VirtualProvider, CompositeProvider</td>
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<td>OLAP: Calculation push-down</td>
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<td>OLAP: Stock coverage keyfigure</td>
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<td>OLAP: FIX operator</td>
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<td>OLAP: Multi-dimensional FAGGR</td>
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<td>OLAP: Current Member</td>
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<td>PAK enhancements</td>
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<td>Planning on local provider in BW Workspace</td>
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<td>Planning: ODATA &amp; Easy Query extensions</td>
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<td>Planning: Support on HANA views for facts and master data</td>
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# BW 7.4 Feature Overview and Platform Availability - II

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<td>Open ODS Layer – Open ODS View</td>
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<td>Support of Smart Data Access</td>
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<td>HANA Analysis Process</td>
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<td>Transformation based on HAPs (In-Memory Transformations)</td>
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<td>Field-based DataStore Objects</td>
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<td>Bulk load capabilities</td>
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<td>Open Hub: Push data into a connected database</td>
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<td>Operational Data Provisioning - PSA becomes optional – renewed</td>
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<td>integration with SAP extractors and renewed BW data mart scenario</td>
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<td>Operational Data Provisioning - ODQ for SLT</td>
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<td>Operational Data Provisioning – Dataservices Integration</td>
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<td>Data request house keeping</td>
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<td>DTP for Hierarchies: extract multiple hierarchies request by request from PSA into data target</td>
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<td>Monitoring integrated in DBA cockpit for Sybase IQ</td>
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<td>Optimized Query-access to NLS data in Sybase IQ leveraging SDA</td>
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<td>Support to archive InfoProviders containing non cumulative key figures</td>
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<td>BW Workspace enhancements: Data Cleansing</td>
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<td>Re-Modeling Toolbox Enhancements</td>
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<td>New WebDynpro-based Masterdata Value Maintenance</td>
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