SAP BW 7.5 SP7 powered by SAP HANA
Overview & Roadmap

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### Highlights of SAP BW 7.5 SP7

#### Simplification
- Semantic Groups for Advanced DataStore Objects
- Enhancements for CompositeProvider
- Additional Object Editors in Eclipse
- InfoObjects Supporting Transitive Attributes
- Streaming Process Chains
- New BW Workspaces Scenarios

#### Big Data
- Extension Nodes as New “Warm” Data Concept
- Extended Near-line Storage Capabilities
- HADOOP as Near-line Storage

#### Platform Integration
- SAP HANA Smart Data Integration via New HANA Source System in BW
- SAP HANA Optimized Transformations

#### SAP BW/4HANA Starter Add-on
- Reduced Governance and Faster Time to Market
- Run SAP BW in Simplified Mode
- Availability since September 2016 (min. 7.5 SP 4)
- Prepare system for in-place conversion to SAP BW/4HANA
Simplification
Simplification – BW Modeling Tools in Eclipse
Delivered and planned Eclipse Editors in SAP BW

**SAP BW 7.4 SP9 / SP10**
- Composite Provider
- Open ODS View
- Query Designer (simple queries)

**SAP BW 7.5 SP1**
- Advanced DataStore Object
- InfoObject
- Query Designer (complex queries)

**SAP BW 7.5 SP4**
- DataSource
- Aggregation Level
- InfoSource
- Semantic Groups
- InfoArea
- OpenHub

**Planned Innovations**
- Transformations & Data Flows
Simplification – Semantic Group for Advanced DataStore Objects
New with SAP BW 7.5 SP4

New Highly Flexible Concept for Semantic Partitioning for Advanced DataStore Objects

- Tool to create semantical partitioned data models
  - Based on a reference structure
  - Each member can be changed independently
  - Flexible definition of split criteria
  - Pruning information is derived
- Generated advanced DataStore Objects remain individual objects including
  - CompositeProvider
  - DTP filters
- Only generated objects will be transported into subsequent systems
Simplification – Enhancements of Advanced DataStore Object
New with SAP BW 7.5 SP4

Dynamic Tiering
- Partition classification as “warm”

Selective Deletion with Reverse Image
- Propagate result of a selective deletion to BW targets
- Based on new change log request
- Roll back option

Snapshot Enablement
- Differences between active table and newly loaded request written into change log as reverse images
- Propagate deletion of records in source to further BW targets (e.g. DataSource delivers full only)

New Process Chain Types
- Clean up activities based on advanced DataStore Object type
Simplified User Experience

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

New with SAP BW 7.5 SP4

- Support of CompositeProvider with temporal joins to fully replace InfoSets
- Transfer tool from InfoSet to Composite Provider (incl. Queries)
- Runtime properties for Query Execution of each PartProvider available in Eclipse
Simplification – DataSource Maintenance in Eclipse
New with SAP BW 7.5 SP4

New Eclipse-based DataSource Editor in BW Modeling Tools
- Modern, intuitive Eclipse based UI
- Enhanced replication dialog
- New update dialog
- Remote repository based on information from source system for ODP-BW, ODP-HANA and ODP-CDS

Source Systems Available for Modeling in Eclipse
- SAP HANA, ODP, S-API (“extractors”)
Simplification – InfoObjects supporting Transitive Attributes
New with SAP BW 7.5 SP4

Transitive Attributes for InfoObjects
- Add navigational attributes of one InfoObject as navigation attributes to another InfoObject
- Ability to extend a star schema to snow flaking
  - At present two levels are allowed

Increased Flexibility, Maintainability, Less Redundancy
- Changes in parent InfoObjects do not affect children
- Easier data provisioning / staging to InfoObjects (e.g. 3NF sources) and advanced DataStore Objects
- Usage in CompositeProvider and Open ODS View to avoid redundancy
Simplification – Streaming Process Chains
New with SAP BW 7.5 SP4

Streaming is a New Operation Mode of a Process Chain
- Process data in real-time
- High frequent execution

Streaming Mode as Central Property Per Process Chain
- Activated via `Process Chain → Attributes → Streaming Mode`
- Process types that can trigger the chain in streaming mode:
  - DTP (Hana Data Source, ODP) or START
- Process types that can be used and run in streaming mode:
  - ADSO Activation, ABAP Program, Decision, AND, OR, EXOR

Improved Streaming Mode Monitoring

Specific Behavior for Failed Processes and Logging
Simplification – SAP BW Workspaces
New with SAP BW 7.5 SP4

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 SP4
• Enablement of Navigational Attributes in local CompositeProviders
• BW Workspace as private Staging Area to transfer your data back into advanced DataStore Objects
• Upload services (submit data)
  • Workspace as local data acquisition area
  • Trigger local data load to central targets
  • Data Quality checks
Platform Integration
Platform Integration – HANA Smart Data Integration for SAP BW
Recap - HANA Smart Data Integration for SAP BW with SAP BW 7.5 SP1

New BW Source System 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 SAP HANA sources with the HANA Source System in BW*

SAP HANA Smart Data Integration for SAP BW
• Adding real-time replication for various sources
• Extends SAP HANA 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

* Pilot only
** see full list of supported adapters

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Integration Scenarios with SAP BW – General Availability

- Direct access to any Smart Data Integration (SDI) remote source via Open ODS View
- SDI real-time replication managed by HANA DataSource
  - UPSERT table for actual view / INSERT table for history preserving
  - 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
  - Full / delta upload into advanced DataStore Objects
  - Real-time streaming from UPSERT / INSERT table into advanced DataStore Object possible
- SAP HANA Multi-tenant Database Container (MDC) support for HANA DataSource (SAP BW 7.5 SP5, BWMT 1.15)*
- SAP HANA DataSource Integration with Streaming Process Chains

* See SAP Note 2312583
Platform Integration – SAP HANA Optimized Transformations
New with SAP BW 7.5 SP4

Recap SAP BW 7.5
• Standard transformations are optimized to be processed directly in SAP HANA where possible
• ABAP-managed database procedure (AMDP) integration embedded in expert routines

New with SAP BW 7.5 SP4
• ABAP-managed Database Procedure (AMDP) available for start, field, and end routines
• Support for DTP with error handling
• Simulation Mode
Big Data
Big Data – SAP HANA Extension Nodes for Dynamic Tiering in BW
New with SAP BW 7.5 SP4

Enhanced Data Lifecycle Management for Warm Data

- Easy to set up and significantly reduced administration effort
- Support of all SAP HANA features for operations, updates and data management

Typical Landscape Characteristics

- Usage of standard SAP HANA nodes
- Simplified sizing formula
- Optimized RAM/CPU ratio for warm data
- Runs as “asymmetric” Scale-Out cluster
- Differentiation between “hot” and “warm” via BW application (definition of Object Groups)
- Supported BW objects: PSA, write optimized DataStore Objects, advanced DataStore Objects

See SAP Note 2317200 and blogs: Overview + Further Details
Big Data – Near-Line Storage (NLS) with SAP IQ
New with SAP BW 7.5 SP4

Recap SAP BW 7.5 SP1
- NLS support for advanced DataStore Objects 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)

Enhanced Functionality with SAP BW 7.5 SP4
- All common types of advanced DataStore Objects for staging and reporting are supported
- Support of exceptional updates for classic DataStore Objects**

* See SAP Note 2215265
** Pilot only – See SAP Note 2270881
Use HADOOP as Near-Line Storage for SAP BW
- Store archived data in HADOOP
- Available for all NLS supported BW object types

Available for SAP BW powered by SAP HANA
- Full support for queries (near-line reading)
- Leveraging SAP HANA smart data access
  - Based on Apache Spark for optimal performance on Hadoop
  - Recommended usage: cold, read-only data (typically aged data)

Available for SAP BW on AnyDB
- Support for archive data only
- No support for query access, lookup and exceptional updates
SAP BW/4HANA Starter Add-on
SAP BW Roadmap Driven by SAP HANA

- **2012**: SAP BW 7.3 SP5 powered by SAP HANA
  - Performance Optimization

- **2013**: SAP BW 7.4 SP5 powered by SAP HANA
  - Simplification and Virtualization

- **2015**: SAP BW 7.5 powered by SAP HANA
  - Simplification, HANA platform integration, Big Data scenarios

- **2015/2016+**: SAP BW/4HANA Starter Add-on
  - SAP BW run simpler

- **2012**: 500 BW on HANA customers
- **2013**: 1200 BW on HANA customers
- **2015**: 4000+ BW on HANA customers
SAP BW/4HANA Starter Add-on

Run SAP BW 7.5 in Future Ready and Recommended Way

- General Availability SAP BW/4HANA Starter Add-on since September 2006
- Use only new SAP HANA specific modelling and data flow objects
- No overhead due to 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

* runs as an SAP BW 7.5 SP4 add-on
Miscellaneous
New Enhanced Technical Content

- Data volume information to monitor the size of BW objects*
- Request overview for advanced DataStore Object
- Based on CDS technology for easier and simplified operations
  - Installation, loading and activation is NOT required
  - Real-time access

Enhancements in Open ODS Views

- New Open ODS View creation wizard
- Navigational attributes from associated virtual InfoObject
- SAP HANA Multi-tenant Database Container (MDC) support (SAP BW 7.5 SP5, BWMT 1.15)**

Central Maintenance of BW Hierarchies via Web Dynpro

Enhanced Feature Support of HANA View Generation***

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* See SAP Note 2296290
** See SAP Note 2312583
*** See SAP Note 2317197
Pushdown from OLAP to SAP HANA for
- Formulas with exception aggregation
- Variable with replacement path
- Additional exception aggregations
- Dynamic selections

SAP HANA based extraction
- Support of DTP extraction from advanced DataStore Object including archive (NLS)
- SAP HANA performance improvements in Data Transfer Processes
- Extraction of very large data volumes with HANA processing*

* See SAP Note 2329819
Roadmap
Planned Roadmap SAP BW on SAP HANA
Key Themes and Capabilities

Today

Integration with the SAP HANA Platform
- Leverage SAP HANA Smart Data Integration
- Further pushdown of data intensive functions

User Experience
- Eclipse based modeling for ADSO, CompositeProvider, Query Designer, InfoObject, OpenHub, InfoSource

Simplification
- Enhanced Advanced DSO (ADSO) features (planning support, inventory handling, etc.)
- Semantic Groups for Data Flows and ADSOs

Big Data Scenarios
- Real-time streaming for BW objects
- Support of HADOOP as NLS
- HANA extension nodes for warm data management

Exposing BW data models for SQL consumption
- Enhanced feature support of HANA view generation (pruning support, enablement of hierarchies)

SAP BW/4HANA Starter Add-on
- General availability planned for September 2016

Feature Pack SAP BW 7.5 SP4

Planned Innovations

Integration with SAP HANA Platform
- Seamless transition into SAP HANA mixed scenarios

User Experience
- Modern UI for Data Flow modeling
- SAPUI5 based scheduling, monitoring, and administration

Simplification
- Conversion tools for simple transition to SAP BW on HANA objects
- Enhanced integration with S/4HANA

Integration with Amazon Web Services (AWS)
- Run SAP BW in an AWS instance

Big Data Scenarios
- Highly automated Data Lifecycle Management
- NLS / Hadoop integration with SAP HANA Vora
- Data access scenarios with Hadoop

Future Direction

Integration with SAP HANA Platform
- SAP HANA mixed scenarios as integral part of SAP BW

User Experience
- All in modern UI

BW as part of the SAP HANA Data Warehouse
- Common orchestration and scheduling
- Tight collaboration with SAP HANA DW tooling

Integration with SAP S/4HANA
- Smooth integration with SAP S/4HANA Analytics
- New content scenarios

SAP HANA Data Warehouse Strategy

2016 - 2017

SAP will continue to support RDBMS platforms

This is the current state of planning and may be changed by SAP at any time.
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.
Market presence in Data Warehousing with a clear roadmap

Strong and simplified offering with tight integration

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

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