

SAP Business Warehouse
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End-to-End Implementation Roadmap for SAP BW powered by SAP HANA



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1 About this Document

This document provides a central starting point for planning the technical implementation of SAP Business Warehouse (SAP BW) running on the SAP HANA database.

It specifies what needs to be considered when deploying SAP BW on the SAP HANA database. It also provides an end-to-end view of recommended implementation scenarios, outlines the steps required for implementation and guides you to more detailed information on the processes you need to complete the necessary tasks.

The following keys are used to specify the locations of the information linked within this document:

- SCN: [SAP Community Network](#)
- SMP: [SAP Service Marketplace](#)
You need an authorized user ID to access this information. If you need to register for SAP Service Marketplace login, [click here](#). If you have forgotten your password, [click here](#).
- HP: [SAP Help Portal](#)

Note

Make sure you have the latest version of the End-to-End Implementation Roadmap by checking SAP Service Marketplace before starting the implementation. The End-to-End Implementation Roadmap is regularly updated on SAP Service Marketplace at <http://service.sap.com/installnw73> resp. <http://service.sap.com/installnw74> -> Planning.

2 Introduction

Using SAP HANA as database for SAP BW allows you to benefit from improved performance and simplified administration and infrastructure:

- The query performance is equal to or better than a scenario where SAP BWA is used: Complex analysis and planning scenarios with unpredictable query types, high data volume, high query frequency and complex calculations can be processed with a high degree of efficiency, as read accesses are in-memory optimized. Query performance on DataStore objects is comparable to the performance on InfoCubes as well.
- Load processes in SAP HANA-optimized Data Warehouse objects can be processed with a high degree of efficiency.
- The SAP HANA database combines both the traditional database and SAP Business Warehouse Accelerator (SAP BWA), thus helping to cut infrastructure costs. Instead of database administration and additional SAP BWA administration, the SAP HANA database requires just one set of administration tools, for monitoring or backup and restore for example.
- Data modeling is simplified. Using SAP HANA-optimized objects for example means that it is not necessary to load to a BWA index. Also, aggregates are not necessary when using the SAP HANA database. The column-based database architecture enables easier remodeling, allowing you for example to delete characteristics from an InfoCube that still contains data. With the improved query performance on DataStore objects, loading data from a DataStore object into a downstream InfoCube can also become unnecessary, if the InfoCube is only created to improve query performance.
- With its significant compression rate, the column-based storage ensures that less data needs to be materialized. Column-based storage is used for all InfoProviders that save data as well as for the Persistent Staging Area (PSA). With using "SAP HANA-optimized" objects, performance can be improved even further.

2.1 Recommended Support Package Levels of the Supported Releases

Supported Releases

With the introduction of maintenance revisions SAP recommends the following revisions on different HANA SPS levels for BW powered by SAP HANA Systems as guidance for maintenance, update or upgrade planning:

Table 1:

Recommended Minimum Support Package Stack Level of Productively Used SAP BW Release	Recommended Minimum SAP HANA Support Package / Revision
SAP NetWeaver 7.3 Support Package Stack (SPS) 10	Maintenance Revisions 69.0x or Maintenance Revision 74.0x *) or Revision 82 or higher
SAP EhP1 for SAP NetWeaver 7.3 SPS 10	Maintenance Revisions 69.0x or Maintenance Revision 74.0x *) or Revision 82 or higher
SAP NetWeaver 7.4 SPS 09	Revision 84 or higher (SAP HANA SP08)

*) : With the availability of maintenance revision 69.07 and 74.04 SAP stops the delivery of fixes based on Revision 69 and 74. For more information, see SAP Note [2021789](#)

Recommended Source and Target Releases

The table below provides an overview of the recommended source and target release:

Table 2:

Recommended Source Release	Recommended Target Release
SAP NetWeaver 7.0 SPS 17 or higher	SAP NetWeaver 7.4 SPS 09 or higher
SAP EhP1/2 for SAP NetWeaver 7.0 SPS 14 or higher	
SAP NetWeaver 7.3 SPS 09 or higher	
SAP EhP1 for SAP NetWeaver 7.3 SPS 06 or higher	

i Note

We recommend to use the latest available SAP BW Support Package Stack.

We recommend to always use the latest available SAP HANA revision or maintenance revision.

Be aware of the licensing conditions when using SAP HANA products.

For more information on SAP BW running on the SAP HANA database, see the SAP Help Portal at:

- <http://help.sap.com/nw74> for target release SAP NetWeaver 7.4
- <http://help.sap.com/nw73bwhana> for target release SAP NetWeaver 7.3
- <http://help.sap.com/nw731bwhana> for target release SAP EhP1 for SAP NetWeaver 7.3

2.2 Implementation Options

Supported implementation options are:

- New installation of SAP BW on the SAP HANA database
- One-Step Upgrade and Migration with Database Migration Option (DMO) of Software Update Manager (SUM)
- Classical Migration of an existing SAP BW installation to the SAP HANA database
- Update or Upgrade from SAP BW running on SAP HANA to a higher SAP NetWeaver release running on SAP HANA

This End-to-End Implementation Roadmap focuses on the options new installation and one-step upgrade and migration with DMO of SUM for the recommended target release SAP NetWeaver 7.4.

2.2.1 New Installation

Table 3:

Advantages	Considerations
<ul style="list-style-type: none">• No risk for production SAP BW system• Clean system without outdated data models, already unicode enabled• Side by side approach with latest BW enhancements	<ul style="list-style-type: none">• Requires transport of complete metadata, complete re-loading of all business data from production source systems and re-modeling• No real data comparison possible

2.2.2 One-Step Upgrade and Migration with Database Migration Option (DMO) of Software Update Manager (SUM)

The database migration option (DMO) as part of the Software Update Manager (SUM) is the standard database migration option for SAP HANA. To smooth the way to SAP HANA, DMO combines system update and database migration for the migration to SAP HANA in one step. DMO can be used if the migration to SAP HANA includes an upgrade or update (EhP installation or Support Package implementation).

DMO is available from SUM 1.0 SP09 on. It can be used for SAP NetWeaver BW systems from SAP NetWeaver 7.0 SPS17 (and higher) to migrate to SAP EhP1 for SAP NetWeaver 7.3 and higher releases. From SUM 1.0 SP10 on,

Unicode conversion is available with DMO. However, we recommend using SUM 1.0 SP11 or higher. The SAP system has to be a single ABAP stack, so a dual-stack split may be required before.

Table 4:

Advantages	Considerations
<ul style="list-style-type: none"> • Migration steps are simplified • System update, unicode conversion (with SUM 1.0 SP10 available) and database migration are combined in one tool • Business downtime is reduced • The source database remains consistent, so a fast fall-back is possible • well known tool SUM is used, with improved UI based on SAPUI5 • No foreground server application service needed anymore 	-

2.3 Prerequisites and Implementation Considerations

The following sections list the prerequisites and considerations for implementing SAP BW running on the SAP HANA database.

2.3.1 Pre-Installed SAP HANA Database

If you want to install SAP BW on the SAP HANA database, ensure that the recommended SAP HANA version has been properly installed according to the available SAP HANA on-premise deployment offerings.

i Note

If you update SAP BW on SAP HANA from SAP NetWeaver 7.3 to EhP1 for SAP NetWeaver 7.3, you have to update the SAP HANA database to the recommended level before upgrading the SAP NetWeaver system.

If you update SAP BW on SAP HANA from SAP NetWeaver 7.3 to SAP NetWeaver 7.4, you have to update the SAP HANA database to the recommended level before updating the SAP NetWeaver system.

For more information on the recommended SAP HANA revisions, see [Recommended Support Package Levels of the Supported Releases \[page 5\]](#).

For more information on the SAP HANA software, see the SAP HANA Master Guide at http://help.sap.com/hana_platform -> Installation and Upgrade Information -> SAP HANA Master Guides.

2.3.2 Standard or Distributed Installation

Only a standard installation and a distributed installation with AS ABAP is supported.

For AS ABAP and SAP HANA database on one Server, please refer to SAP Note [1953429](#). Other applications must not be installed on the database server apart from the preinstalled SAP HANA database and additional applications that it requires. This is because other applications might have a negative effect on performance. For details about the other supported combinations, see SAP Notes [1661202](#) and [1681092](#).

2.3.3 Technical Release Information

For technical release information such as supported operating systems, see the Product Availability Matrix (PAM) for SAP NetWeaver

- [PAM for SAP NetWeaver 7.3 \(with all EHPs\)](#)
- [PAM for SAP NetWeaver 7.4](#)

2.3.4 Add-Ons

- Not all add-ons for SAP BW are currently supported on the SAP HANA database. For information on limitations for application enablement, see SAP Note [1600929](#).
For general information on the add-on compatibility of SAP NetWeaver, see the following SAP Notes:
 - SAP Note [1532805](#) for SAP NetWeaver 7.3
 - SAP Note [1652738](#) for SAP EhP1 for SAP NetWeaver 7.3
 - SAP Note [1826531](#) for SAP NetWeaver 7.4
- BI Content on SAP BW on SAP HANA database is supported like on other databases.

i Note

In the BI Content Add-On releases 7.35 and 7.36/7.46, there are currently constraints regarding processing, compression and size of TLOG data in the POS Inbound Processing Engine as the central component of SAP POS Data Management. For more information, see SAP Note [1648861](#).

2.3.5 Java Implications

- With SAP NetWeaver BW 7.3, SAP EhP1 for SAP NetWeaver BW 7.3 and SAP NetWeaver 7.4 SPS 02 running on the SAP HANA database Java cannot be deployed. If you want to use Java and functions that require BI Java, you need to deploy BI Java on a separate server.
- ABAP and Java dual-stack systems are not supported with SAP NetWeaver BW running on the SAP HANA database. If your existing SAP NetWeaver BW system is a dual-stack system (ABAP+Java), you need to separate the ABAP stack from the Java stack before the upgrade.

For more information, see chapter [Preparation \[page 14\]](#) of this guide.

2.3.6 Unicode

For SAP BW running on the SAP HANA database, a Unicode system is required. If your existing SAP BW system has not yet been converted to Unicode, you can perform the Unicode conversion during database migration.

Use the transaction SPUMG for the conversion preparation before performing the database migration (heterogeneous system copy) or before running DMO.

For more information on the Unicode conversion, see SAP Note [1051576](#).

2.3.7 Migration of SAP BW Authorization Concept

SAP NetWeaver 7.3 and higher releases do not support the old role-based reporting authorizations. If you have not migrated the reporting authorizations to the analysis authorization concept introduced with SAP NetWeaver 7.0, you have to migrate to the new analysis authorization concept before or after the upgrade of your existing SAP BW system to SAP NetWeaver 7.3 or higher. It depends on your upgrade strategy whether you migrate the authorizations before or after the upgrade. For more information on the migration, see the documentation on [analysis authorizations](#) in the SAP Help Portal at <http://help.sap.com>.

2.3.8 SAP HANA optimized Objects in SAP BW

In SAP BW running on SAP HANA database, standard InfoCubes and semantically partitioned objects can be converted to SAP HANA optimized objects. This results in changed data structures and allows significant performance gains in loading and activating data. For information on conversion to SAP HANA optimized objects, see the chapter [Post-Migration Activities in SAP BW \[page 19\]](#) of this guide.

2.3.9 SAP BWA

If you use SAP NetWeaver BWA with your existing SAP BW system, the SAP HANA database replaces SAP NetWeaver BWA after migration. This then becomes obsolete.

For InfoCubes with data persistency in SAP NetWeaver BWA, the content is deleted during the system migration to SAP HANA, and the InfoCubes are set to inactive. If you want to continue using one of these InfoCubes as a standard InfoCube, you need to activate it again and reload the data from the former primary persistence (DataStore object for example).

For BW Workspaces, before database migration, backup copies for BW Workspace data can be created. The data can be recovered after database migration. All BW Workspace objects are then active and executable. For more

information, see SAP Note [1644694](#). Note that Backup and recovery of BW Workspaces is automated within the Database Migration Option (DMO) procedure. Only, if the system is disconnected from BWA before the technical DMO procedure starts, you must backup BW Workspaces manually.

2.3.10 Automation of Housekeeping as well as Before- and After-Upgrade and Migration Tasks

Many tasks in the area of housekeeping as well as in the area of preparation and follow-up steps for the upgrade and database migration have been automated within task lists based on the ABAP task manager infrastructure. For more information, see SAP Note [1734333](#) (for upgrade and migration) and SAP Note [1829728](#) (for housekeeping).

2.4 Important SAP Notes

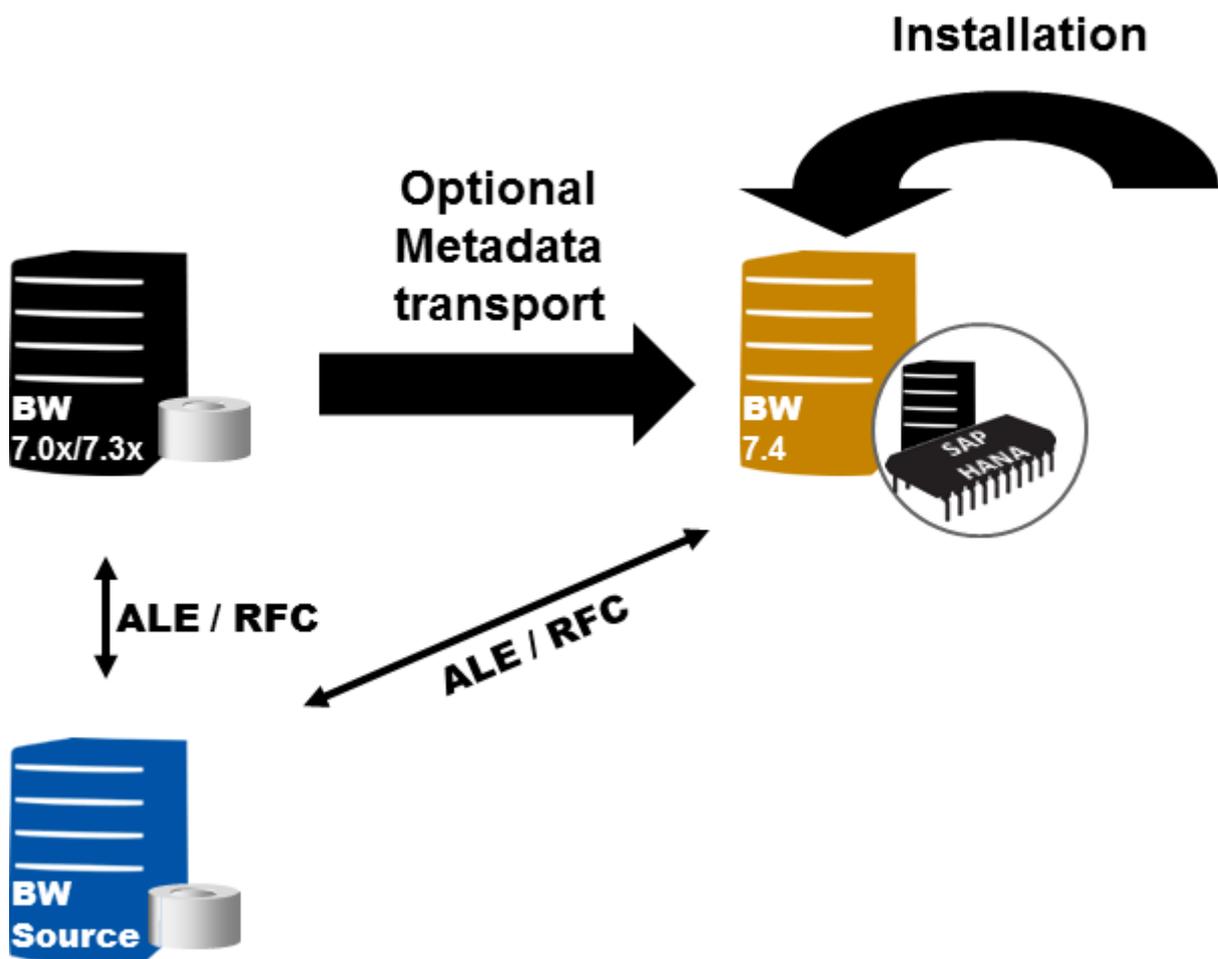
Table 5:

SAP Note	Title	Comment
1600929	SAP BW, powered by SAP HANA DB: Information	Central SAP Note for SAP BW, powered by SAP HANA with information on prerequisites, migration, known problems, and release specific information.
1637145	SAP BW on HANA: Sizing SAP In-Memory Database	Gives detailed sizing information (see the PDF files attached to the SAP Note).
1600066	Available DBSL patches for NewDB	-

3 Implementing SAP BW running on SAP HANA Database

3.1 New Installation

The figure below illustrates the new installation of SAP BW on the SAP HANA database:



The following table lists the tasks you have to perform in order to install SAP BW on the SAP HANA database and points you to more information about these tasks:

Table 6:

Task	More Information
Get an overview of the installation.	Master Guide SAP NetWeaver 7.4 at http://service.sap.com/installnw74 -> Planning -> Master Guide - SAP NetWeaver 7.4 incl. SR2 (SMP)
Install empty SAP BW 7.4 SPS 09 or higher (ABAP single stack) with Software Provisioning Manager remotely into an already installed SAP HANA database.	<ul style="list-style-type: none"> • Installation Guide - SAP Systems Based on the Application Server ABAP of SAP NetWeaver on <Operating System>: SAP HANA Database at Installing SAP Systems Based on SAP NetWeaver 7.1 and Higher - Using Software Provisioning Manager 1.0 (SMP) • SAP NetWeaver BW Installation/Configuration (also on HANA) (SCN) • SAP First Guidance - SAP BW Powered by SAP HANA: New Installation/Import - Including HLM (SCN)
Install latest Support Package of BI Content Add-On 7.57 with the SAP Add-On Installation Tool (SAINT).	For information about installation of BI Content Add-On 7.57, see: SAP Note 1943931 (SMP)
Apply the latest Support Package for SAP BW with Software Update Manager (SUM).	For maintenance information, see: http://service.sap.com/maintenancenw74 (SMP)
Depending on your scenario, install BI Java (Java single stack) with the Software Provisioning Manager.	Installation Guide - SAP Systems Based on the Application Server Java of SAP NetWeaver on <Operating System>: <Database> at Installing SAP Systems Based on SAP NetWeaver 7.1 and Higher - Using Software Provisioning Manager 1.0 (SMP)
Transport the scenarios you want to run on the SAP HANA database to the SAP BW installation.	<p>For information about transporting objects across releases, see:</p> <ul style="list-style-type: none"> • SAP Note 1090842 (SMP) • SAP Note 1273566 (SMP) <p>For information about transporting InfoCubes and DataStore objects across systems (SAP HANA - non SAP HANA), see:</p> <ul style="list-style-type: none"> • SAP Note 1691096 for InfoCubes (SMP) • SAP Note 1715129 for DataStore objects (SMP)
<p>To benefit from SAP HANA optimization, convert selected InfoCubes and semantically partitioned objects to SAP HANA optimized objects.</p> <p>i Note</p> <p>For the recommended minimum Support Package Stack Levels of SAP BW, the SAP-HANA-optimized activation is supported for all standard DataStore objects by default.</p>	<ul style="list-style-type: none"> • Converting Standard InfoCubes to SAP HANA Optimized InfoCubes (HP) • Converting Semantically Partitioned Objects to SAP HANA-Optimized Objects (HP)

Task	More Information
<p>To make use of all new HANA-optimized BW InfoProviders and benefit from the simplification effort that has been made in integrating SAP BW and SAP HANA modeling experience, install the Modeling Tools for SAP BW powered by SAP HANA.</p> <div style="background-color: #fff9c4; padding: 10px; border: 1px solid #ccc;"> <p>i Note</p> <p>The Modeling Tools for SAP BW powered by SAP HANA (in short BW Modeling Tools) represent a new modeling IDE (Integrated Development Environment), which is built on top of the Eclipse platform. HANA-optimized BW objects like CompositeProviders, Open ODS Views, DataStoreObjects (advanced) can be modeled within this environment. Furthermore, these tools include integration with SAP HANA modeling and consumption of SAP HANA elements in BW Open ODS Views or CompositeProviders.</p> </div>	<p>For information about implementing BW Modeling Tools, see:</p> <ul style="list-style-type: none"> • Installation Guide for Modeling Tools for SAP BW powered by SAP HANA (SMP) • SAP First Guidance - Implementing BW-MT for BW-aDSO (SCN) <p>For information on using BW Modeling Tools, see: Modeling with the BW Modeling Tools in Eclipse (HP)</p>

3.2 One-Step Upgrade and Migration with DMO

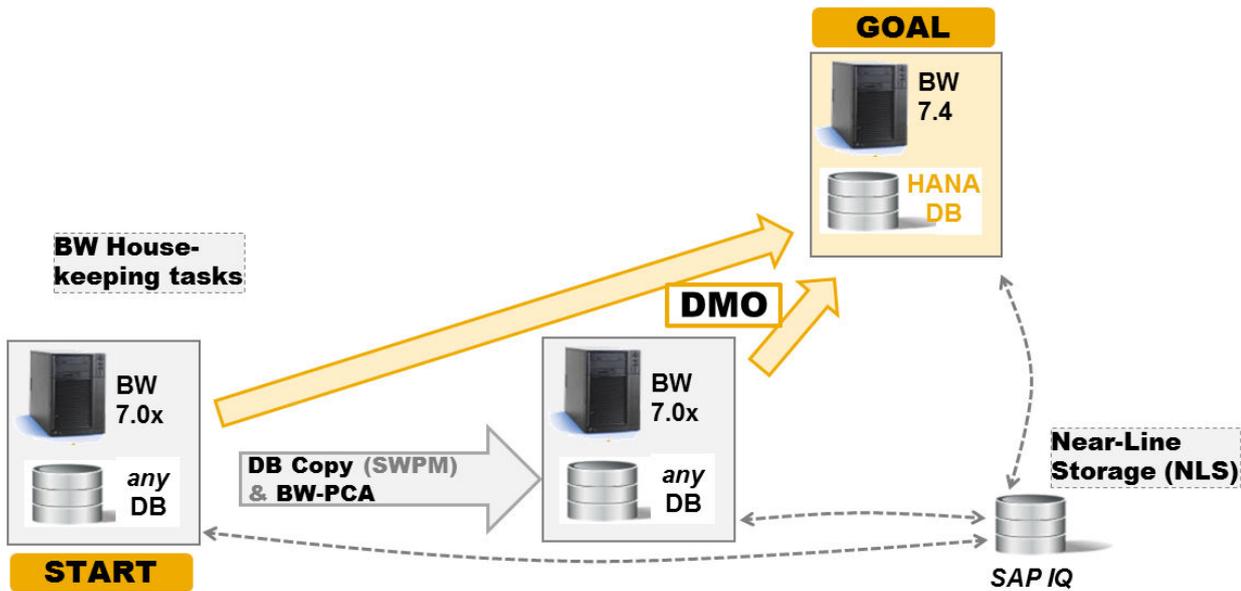
Database migration option (DMO) is an option of Software Update Manager (SUM) for a combined update and migration: update an existing SAP system to a higher software release and migrate to SAP HANA database including the unicode conversion of the source database (as of SUM 1.0 SP10). The procedure is only available for systems based on AS ABAP, hence the executable SAPup is used in background. DMO migrates from an existing relational database type ("anyDB") to SAP HANA. The DMO is an inplace-migration (instead of a new installation): it upgrades and migrates the existing system while keeping the system-ID, host name, and connectivity settings stable.

We recommend using DMO with SUM 1.0 SP11 or higher.

For more information, see:

- [Three things to know when migrating NetWeaver BW on HANA](#)
- [Database Migration Option \(DMO\) of SUM - Introduction](#)
- [Migration BW on HANA – Update 2014](#)

The figure below illustrates how DMO can be used for updating and migrating SAP BW to SAP HANA database.



The following chapters list the tasks you have to perform when using the DMO option and points you to more information about these tasks.

3.2.1 Preparation

Before preparing the upgrade of your BW system, consider the following:

Planning

Table 7:

Task	More Information
For dual-stack systems, you need to isolate the ABAP stack, by performing a dual-stack split procedure or by deinstalling the Java stack for example.	Upgrade to SAP Business Warehouse 7.40 -> "chapter 1: Roadmap and technology facts" (SCN)
Decide on the Java options for your target SAP NetWeaver release: <ul style="list-style-type: none"> • Upgrade Java (including ADS) Upgrade limitations: <ul style="list-style-type: none"> ◦ No automatic file system conversion to 7.x, if not done manually ◦ No automatic SAPCryptoLib import to Kernel directory ◦ Disable SNC configuration • Fresh install of Java (without ADS) 	

Task	More Information
<p>As for using SAP BusinessObjects BI 4.x together with SAP BW, SAP recommends leveraging the built-in Java Server of BI 4.x.</p> <div style="background-color: #fff9c4; padding: 5px;"> <p>i Note</p> <p>If you are running SAP BusinessObjects BI Suite on SAP NetWeaver 7.4, please be aware of the following: SAP BusinessObjects BI Suite 4.1 Support Pack 1 or BusinessObjects BI Suite 4.0 Support Pack 6 is mandatory. Lower SP levels do not incorporate the enhancements delivered with SAP NetWeaver 7.4 See more in the SAP BusinessObjects BI Suite release restriction e.g. SAP BusinessObjects BI Suite 4.1 Support Pack 1 Release Restrictions</p> </div>	
<p>Change to the new Add-On product version SAP SEM using the Correction of Installed Software Information (CISI) process.</p> <p>You can define the SEM component as a "normal" Add-On on top of the NetWeaver BW System. This makes the creation of the stack.xml for the usage of the software update manager (SUM) and the database migration option (DMO) much more easy.</p> <p>By changing to the new Add-On product version you can upgrade to SAP NetWeaver 7.31 and higher from any NetWeaver 7.0x release, including any associated add-ons, such as SEM, PBC and RPC. You don't have to upgrade to version 7.03 first and then to version 7.31 anymore.</p>	<ul style="list-style-type: none"> • Good News - Easier Modeling of the SEM Add-On in Solution Manager (SCN) • SAP First Guidance - SEM/BW Configuration in SolMan 7.1 (SCN)

Application Preparation

Table 8:

Task	More Information
<p>Separate ABAP and Java stack, considering the system landscape architecture.</p>	<p>Upgrade to SAP Business Warehouse 7.40 -> "chapter 1: Roadmap and technology facts" (SCN)</p>

Technical Preparation

Table 9:

Task	More Information
Change to the new Add-On product version of SAP SEM using the CISI process.	<ul style="list-style-type: none"> • SAP First Guidance - SEM/BW Configuration in SolMan 7.1 (SCN) • SAP Solution Manager: Special Cases in Installation and Upgrade -> "chapter 4.4 Modeling of SAP SEM-BW, SAP ERECRUIT, LSOFE, and FINBASIS" (SMP)
Separate ABAP and Java stack, considering the following: <ul style="list-style-type: none"> • Portal migration • Isolating the ABAP instance • Setting up Java with an upgrade or a fresh installation Tools: <ul style="list-style-type: none"> • Dual-Stack Split Tool • SAPInst for Java deinstallation (for installations that are not supported by Dual-Stack Split) • Software Update Manager (SUM) for upgrading BI Java • Software Provisioning Manager for installing BI Java 	Dual-Stack Split: <ul style="list-style-type: none"> • Dual-Stack Split Guide at http://service.sap.com/sltoolset -> Software Logistics Toolset 1.0 -> Dual-Stack Split If you use SAPInst for Java deinstallation, see: <ul style="list-style-type: none"> • SAP NetWeaver AS Java installation guide for the relevant release -> "Additional Information" -> "Deleting an SAP System or Single Instances" at http://service.sap.com/instguides -> SAP NetWeaver -> SAP NetWeaver <Release> -> Installation -> Installation - SAP NetWeaver Systems (SMP) • Deinstall SAP Java Add-In (SCN) For information on setting up Java, see: <ul style="list-style-type: none"> • For Java upgrade: Upgrade Guide at Upgrade and Update Documentation - SAP NetWeaver 7.4 (SMP) • For Java installation: <ul style="list-style-type: none"> ◦ Installation Guide - SAP Systems Based on the Application Server Java of SAP NetWeaver on <Operating System>: <Database> at Installing SAP Systems Based on SAP NetWeaver 7.1 and higher - Using Software Provisioning Manager 1.0 (SMP) ◦ Fresh Install SAP BI-Java 7.30 (SCN) • For Java 7.4 on SAP HANA: End-to-End Implementation Roadmap for SAP NetWeaver AS Java

3.2.2 BW Housekeeping

Table 10:

Task	More Information
<p>Perform housekeeping steps with the ABAP task manager for lifecycle management automation (transaction STCO1) to clean up the system before the upgrade by executing automated housekeeping tasks with task list SAP_BW_HOUSEKEEPING. We recommend to run the task list</p> <ul style="list-style-type: none"> usually days/weeks before the upgrade combined with task list SAP_BW_BEFORE UPGRADE that simplifies the application specific upgrade preparation tasks 	<p>For more information on the task list SAP_BW_HOUSEKEEPING, supported releases as well as prerequisites, see:</p> <ul style="list-style-type: none"> SAP Note 1829728 (SMP) SAP First Guidance - BW Housekeeping and BW-PCA (SCN) <div style="background-color: #fff9c4; padding: 5px; border: 1px solid #ccc;"> <p>Note</p> <p>Check for chapter 1.1.4.1 Additional Housekeeping Tasks, which lists tasks that haven't been added to the task list yet, but are essential for reducing the size of the database.</p> </div> <p>For more information on the task list SAP_BW_BEFORE UPGRADE, supported releases as well as prerequisites, see:</p> <ul style="list-style-type: none"> SAP Note 1734333 (SMP) SAP First Guidance - Using the DMO Option to Migrate BW on HANA -> chapter "3.1 Application Specific Preparation Steps" (SCN) <p>For more information on BW housekeeping generally, see:</p> <ul style="list-style-type: none"> Section BW Housekeeping Tasks on the SAP BW Application Lifecycle Management (ALM) overview page (SCN)

3.2.3 Near-Line Storage based on SAP IQ

Table 11:

Task	More Information
<p>Use Near-Line Storage (NLS) to clean-up your system from historical read-only data prior to the migration to SAP HANA. Depending on your system being a Unicode system or not, you use the SAP Near-Line Storage solution based on SAP IQ (for Unicode systems) or the partner solution based on SAP IQ (for Non-Unicode systems).</p>	<ul style="list-style-type: none"> SAP IQ as Near-Line Storage Solution (HP) SAP First Guidance - SAP-NLS Solution with SAP IQ (SCN) Upgrade and Migration - BW on HANA -> section "SAP near-line storage solution with SAP IQ" (Blog on www.saphana.com)

3.2.4 [Optional:] System Copy with Post-Copy Automation (PCA) as Minimized Downtime Enabler for DMO

Table 12:

Task	More Information
<p>To reduce downtime in your production landscape, the migration path from SAP BW running on any database to SAP BW on SAP HANA optionally comprises a system copy of your SAP BW system with Software Provisioning Manager (SWPM) and ABAP post-copy automation for SAP BW (BW-PCA).</p>	<ul style="list-style-type: none"> • SAP First Guidance – BW Housekeeping and BW-PCA (SCN) • Configuration Guide - ABAP Post-Copy Automation for SAP NetWeaver Business Warehouse (SMP) • System copy guide for the relevant release at http://service.sap.com/instguides -> SAP NetWeaver -> SAP NetWeaver <Release> -> Installation -> Installation - SAP NetWeaver Systems (SMP)
<p>i Note</p> <p>Keep the time between preparing the system copy and post system copy steps as short as possible, as delta queues in the connected source systems can grow fast. If required, resume delta uploads into the copied SAP BW system.</p>	

3.2.5 Upgrade and Migration with DMO

Application Preparation

Table 13:

Task	More Information
To save time, start working with the ASU Toolbox in the original system before the technical DMO procedure starts.	SAP First Guidance - Using the DMO Option to Migrate BW on HANA -> chapter "3.1 Application Specific Preparation Steps" (SCN)
Consider certain SAP Notes before the DMO procedure starts.	
Execute report UMG_ADD_PREP_STEP: This additional report was originally used with Unicode migrations (which also is valid for the DMO process). It performs additional checks and makes repairs that help to ensure consistency prior to the Upgrade.	

Unicode Preparations

i Note

Unicode conversion only is available with SUM 1.0 SP10 or higher. We recommend using DMO with SUM 1.0 SP11 or higher.

Table 14:

Task	More Information
If the system you want to migrate isn't Unicode enabled yet, prepare your system by running transaction SPUMG and checking RSCPINST settings.	SAP First Guidance - Using the DMO Option to Migrate BW on HANA -> chapter "3.2 Unicode preparations for the DMO Procedure" (SCN)

DMO Procedure

Table 15:

Task	More Information
Perform the upgrade/update and migration to SAP HANA with the DMO procedure.	<ul style="list-style-type: none"> SAP First Guidance - Using the DMO Option to Migrate BW on HANA -> chapter "3.3 The DMO Procedure in Detail" (SCN) Database Migration Option (DMO) for SUM 1.0 SPXX -> chapter "4 Running the Software Update Manager" (SMP)

Post-Migration Activities

The DMO procedure includes post-migration activities like report RS_BW_POST_MIGRATION or task list SAP_BW_AFTER_MIGRATION (ABAP task manager for lifecycle management automation). However, there are some application specific activities to consider as post-migration activities. For more information, see [SAP First Guidance - Using the DMO Option to Migrate BW on HANA](#) -> chapter "3.5 Post Activities after the main DMO Procedure" (SCN) and chapter [Post-Migration Activities in SAP BW \[page 19\]](#) of this guide.

3.2.6 Post-Migration Activities in SAP BW

Table 16:

Task	More Information
Check the SAP HANA database with transaction DBACOCKPIT.	SAP First Guidance - Using the DMO Option to Migrate BW on HANA -> chapter "3.5 Post Activities after the main DMO Procedure" (SCN)
Perform an application check with report RSDU_TABLE_CONSISTENCY.	
Repair inconsistent PSA tables.	
Correct missing views for selected master data.	

Task	More Information
Optionally, you can run the task list SAP_BW_AFTER_MIGRATION in the ABAP task manager for lifecycle management automation, if for any reason not all steps have been run successfully with the DMO procedure.	
To benefit from SAP HANA optimization, convert selected InfoCubes and semantically partitioned objects to SAP HANA-optimized objects.	
Using the SAP HANA database makes certain process types obsolete. It is no longer possible to select these process types in process chain maintenance. Existing process chains do not have to be modified. The relevant process variants do not run any tasks in the chains and do not terminate with errors.	Obsolete Process Types for SAP HANA Database

3.2.7 Installing Modeling Tools for SAP BW powered by SAP HANA

Table 17:

Task	More Information
<p>To make use of all new HANA-optimized BW InfoProviders and benefit from the simplification effort that has been made in integrating SAP BW and SAP HANA modeling experience, install the Modeling Tools for SAP BW powered by SAP HANA.</p> <div style="background-color: #fff9c4; padding: 10px; border: 1px solid #ccc;"> <p>i Note</p> <p>The Modeling Tools for SAP BW powered by SAP HANA (in short BW Modeling Tools) represent a new modeling IDE (Integrated Development Environment), which is built on top of the Eclipse platform. HANA-optimized BW objects like CompositeProviders, Open ODS Views, DataStoreObjects (advanced) can be modeled within this environment. Furthermore, these tools include integration with SAP HANA modeling and consumption of SAP HANA elements in BW Open ODS Views or CompositeProviders.</p> </div>	<p>For information about implementing BW Modeling Tools, see:</p> <ul style="list-style-type: none"> • Installation Guide for Modeling Tools for SAP BW powered by SAP HANA (SMP) • SAP First Guidance - Implementing BW-MT for BW-aDSO (SCN) <p>For information on using BW Modeling Tools, see: Modeling with the BW Modeling Tools in Eclipse (HP)</p>

4 Document History

Before you start the implementation, make sure you have the latest version of this document, which you can find on SAP Service Marketplace at <http://service.sap.com/installnw73> resp. <http://service.sap.com/installnw74> -> Planning.

Table 18:

Version	Date	Description
2.11	2014-12-11	<p>Revised version:</p> <ul style="list-style-type: none"> Information about Modeling Tools for SAP BW powered by SAP HANA with availability of new InfoProviders like DataStore object (advanced) has been added. Information about BI Content Add-On 7.47 has been removed. It is recommended to use 7.57 to benefit from BI Content that makes use of the new SAP BW features in SAP NetWeaver 7.4. Recommended minimum level for target release changed to SAP NetWeaver 7.4 SPS09. SUM recommendation changed to SUM 1.0 SP11.
2.10	2014-10-20	<p>Revised version:</p> <p>Focus on SAP NetWeaver 7.4 SPS08 as Go-To-Release für SAP BW on SAP HANA.</p>
2.00	2014-04-15	<p>Revised version:</p> <p>The Document has been completely revised to reflect the latest recommendations with regards to the processes used for migration, especially Database Migration Option in Software Update Manager (DMO in SUM).</p>
1.60	2013-08-09	<p>Revised version:</p> <ul style="list-style-type: none"> Several links across the document have been updated. Information about Database Migration option in Software Update Manager has been added. Information about automated tasks in the area of housekeeping, upgrade and migration has been added. Information about Near-Line Storage in the context of migration to SAP HANA has been added.
1.50	2013-05-10	<p>Revised version:</p> <ul style="list-style-type: none"> Information about SAP NetWeaver BW 7.4 running on SAP HANA SPS 05 has been added. Several links across the document have been updated. Information about DataStore object conversion has been replaced by up-to-date information on this topic. Information about Kernel media for 7.3 and EhP1 for 7.3 have been updated.

Version	Date	Description
1.40	2012-11-08	<p>Revised version:</p> <ul style="list-style-type: none"> Information about using the ABAP post-copy automation for SAP NetWeaver BW has been added to the chapter about the homogeneous system copy. Software Provisioning Manager as successor of the the product- and release-specific delivery of provisioning tools, such as SAPinst, has been reflected in links to installation guides and to system copy guides of the supported SAP NetWeaver product versions and in the media list chapters. There are new media available for Kernel 7.20 EXT. The information including material numbers has been adapted accordingly in the media list chapters. Information about preparation and follow-up steps for the database migration (heterogeneous system copy) has been adapted. Information about handling huge delta queues during the migration process has been added to the Prerequisites and Implementation Considerations chapter. Information about applying Support Packages has been adapted in the chapters about initial installation of SAP NetWeaver BW on SAP HANA database. These now reflect using SAP Solution Manager and Software Update Manager to receive and implement the updates.
1.30	2012-08-06	<p>Revised version:</p> <ul style="list-style-type: none"> Information about the upgrade from SAP NetWeaver BW 7.3 running on SAP HANA to SAP EhP1 for NetWeaver BW 7.3 running on SAP HANA has been added. The media lists have been revised and adapted to the latest media.
1.20	2012-06-25	<p>Revised version:</p> <ul style="list-style-type: none"> Information about SAP EhP1 for NetWeaver BW 7.3 running on SAP HANA database SP4 has been added. Document has been restructured to reflect the new and changed content.
1.10	2012-05-16	<p>Revised version:</p> <ul style="list-style-type: none"> Chapter Introduction now contains information about the benefits of running SAP NetWeaver Business Warehouse (BW) on the SAP HANA database. Chapter Prerequisites and Implementation Considerations has been enhanced with information about Java implications, Unicode and other information that need to be considered when implementing SAP NetWeaver BW on SAP HANA database. Chapter "Initial Installation of SAP NetWeaver BW 7.3 on the SAP HANA Database" has been revised and adapted to the latest information. The documentation reference has been removed. Instead, the information about documentation locations has been put directly into the table in chapter 3. Chapter "Migration of an Existing SAP NetWeaver BW Installation to SAP NetWeaver BW 7.3 running on the SAP HANA Database" has been revised and adapted to the latest information. Chapter "Media List (7.3)" has been revised: There is a new material number available for the SAP NetWeaver BW 7.3 powered by SAP HANA: Installation Master, and BI Content Add-On information has been enhanced.
1.00	2011-11-07	Initial version

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