

# Migration to SAP Business Warehouse on SAP HANA – SAP First Guidance

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**Please Note:** As the collaboration Platform has changed, and with these caused circumstances a lot of available Documents were retired. So mostly new links are included now in this Update to guarantee to access the up-to-date Informations.

# Agenda

- Updates
- Improvements
- Recommendations
- Conclusion



# Updates

- ▶ End To End Guide - Migration BW on SAP HANA
- ▶ SAP First Guidance
- ▶ SAP NetWeaver BW Application Lifecycle Management Page
- ▶ SAP NetWeaver BW Migration Cockpit for SAP HANA

# SAP BW Application Lifecycle Management (ALM)

<https://blogs.sap.com/2016/10/11/software-application-lifecycle-management-sap-bw/#bwmigration>



## Migration to SAP BW on SAP HANA

**New Version 1.7x available using the latest SUM/DMO Features and the new UI**

SAP First Guidance – Using the new DMO to migrate to BW on HANA

**Please Note that since Q1/2014 the Presentation – Migration to BW on HANA – First Guidance concludes all of these manual efforts now.**

- [BLOG: Three things to know when migrating SAP BW on SAP HANA](#)
- [BLOG: 3 Major Reasons to Migrate To SAP BW 7.4 on SAP HANA](#)
- [BLOG: What's the Difference between a Classic #SAPBW and #BWonHANA?](#)
- [BLOG: Upgrade and Migration – SAP BW on SAP HANA](#)
- [BLOG: Migration of SAP Systems to SAP HANA](#)
- [BLOG: Where to find information on SAP BW on SAP HANA migrations](#)
- [BLOG: SAP BW Powered by SAP HANA Scale out – Best Practices](#)
- [BLOG: The SAP HANA Reference for NetWeaver Basis Administrators](#)
- [BLOG: Migration to SAP HANA: Latest News about SAP Note 1775293](#)

# End-to-End Implementation Roadmap

<http://help.sap.com/nw74#section7>

## Technical Preparation

Task	More Information				
Change to the new Add-On product version of SAP SEM using the CISI process.	<ul style="list-style-type: none"> <li>• <a href="#">SAP First Guidance - SEM/BW Configuration in Sol-Man 7.1</a> (SCN)</li> <li>• <a href="#">SAP Solution Manager: Special Cases in Installation and Upgrade</a> -&gt; "chapter 4.4 Modeling of SAP SEM-BW, SAP ERECRUIT, LSOFE, and FINBASIS" (SMP)</li> </ul>				
Separate ABAP and Java stack, considering the following: <ul style="list-style-type: none"> <li>• Portal migration</li> <li>• Isolating the ABAP instance</li> <li>• Setting up Java with an upgrade or a fresh installation</li> </ul> Tools: <ul style="list-style-type: none"> <li>• Dual-Stack Split Tool</li> <li>• SAPInst for Java deinstallation (for installations that are not supported by Dual-Stack Split)</li> </ul>	Dual-Stack Split: <table border="1"> <thead> <tr> <th>Task</th> <th>More Information</th> </tr> </thead> <tbody> <tr> <td>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).</td> <td> <ul style="list-style-type: none"> <li>• For SAP NetWeaver 7.4: <a href="#">Sybase IQ as Near-Line Storage Solution</a> (HP)</li> <li>• For SAP EhP1 for SAP NetWeaver 7.3: <a href="#">Sybase IQ as a Near-Line Storage Solution</a></li> <li>• <a href="#">SAP First Guidance - SAP-NLS Solution with Sybase IQ</a> (SCN)</li> <li>• <a href="#">Upgrade and Migration - BW on HANA</a> -&gt; section "SAP near-line storage solution with Sybase IQ" (Blog on <a href="http://www.saphana.com">www.saphana.com</a>)</li> </ul> </td> </tr> </tbody> </table>	Task	More Information	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).	<ul style="list-style-type: none"> <li>• For SAP NetWeaver 7.4: <a href="#">Sybase IQ as Near-Line Storage Solution</a> (HP)</li> <li>• For SAP EhP1 for SAP NetWeaver 7.3: <a href="#">Sybase IQ as a Near-Line Storage Solution</a></li> <li>• <a href="#">SAP First Guidance - SAP-NLS Solution with Sybase IQ</a> (SCN)</li> <li>• <a href="#">Upgrade and Migration - BW on HANA</a> -&gt; section "SAP near-line storage solution with Sybase IQ" (Blog on <a href="http://www.saphana.com">www.saphana.com</a>)</li> </ul>
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# SAP First Guidance Collection

<https://blogs.sap.com/2016/10/11/sap-first-guidance-collection-sap-bw-hana/>

## SAP First Guidance Collection for SAP BW on HANA

October 11, 2016 | 2,228 Views | Edit



Roland Kramer   
more by this author



Replacement of the retired "SAP HANA Cookbook": [End-to-End Implementation Roadmap for SAP BW](#)

SAP First Guidance – SAP BW on SAP HANA Installation/Systemcopy/HANA Revisions



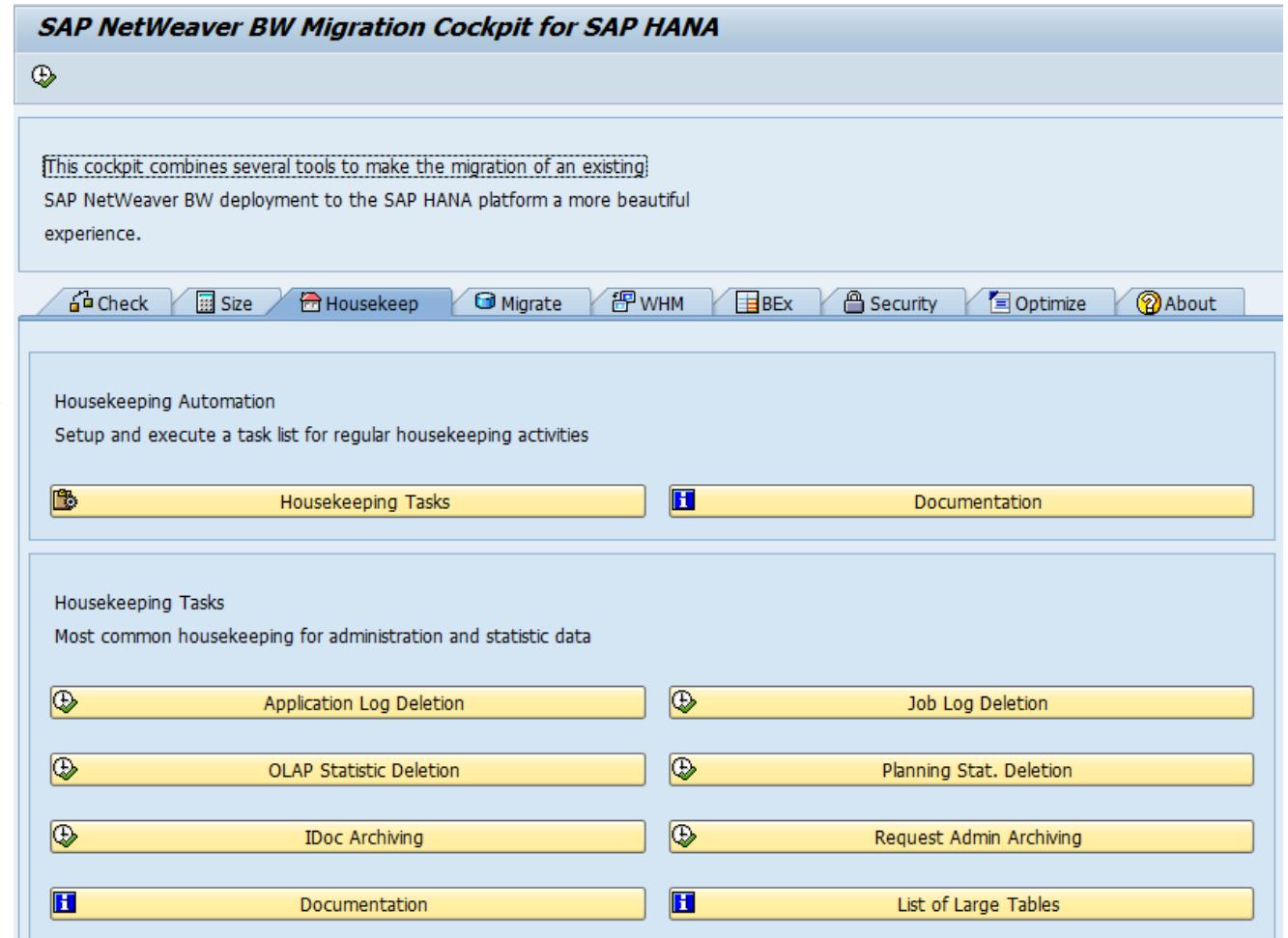
This Document also reflects the released SAP HANA SP/Revisions so far and also contains details for selected HANA Revisions and the usage together with SAP BW.

# SAP NetWeaver BW Migration Cockpit for SAP HANA

[Note 1909597 - SAP NetWeaver BW Migration Cockpit for SAP HANA](#)

There are many transactions and programs to help you configure BW on SAP HANA in an optimal way

The  
SAP NetWeaver BW Migration Cockpit  
for SAP HANA  
provides  
easy access  
to the  
most used and useful tools  
ZBW\_HANA\_MIGRATION\_COCKPIT





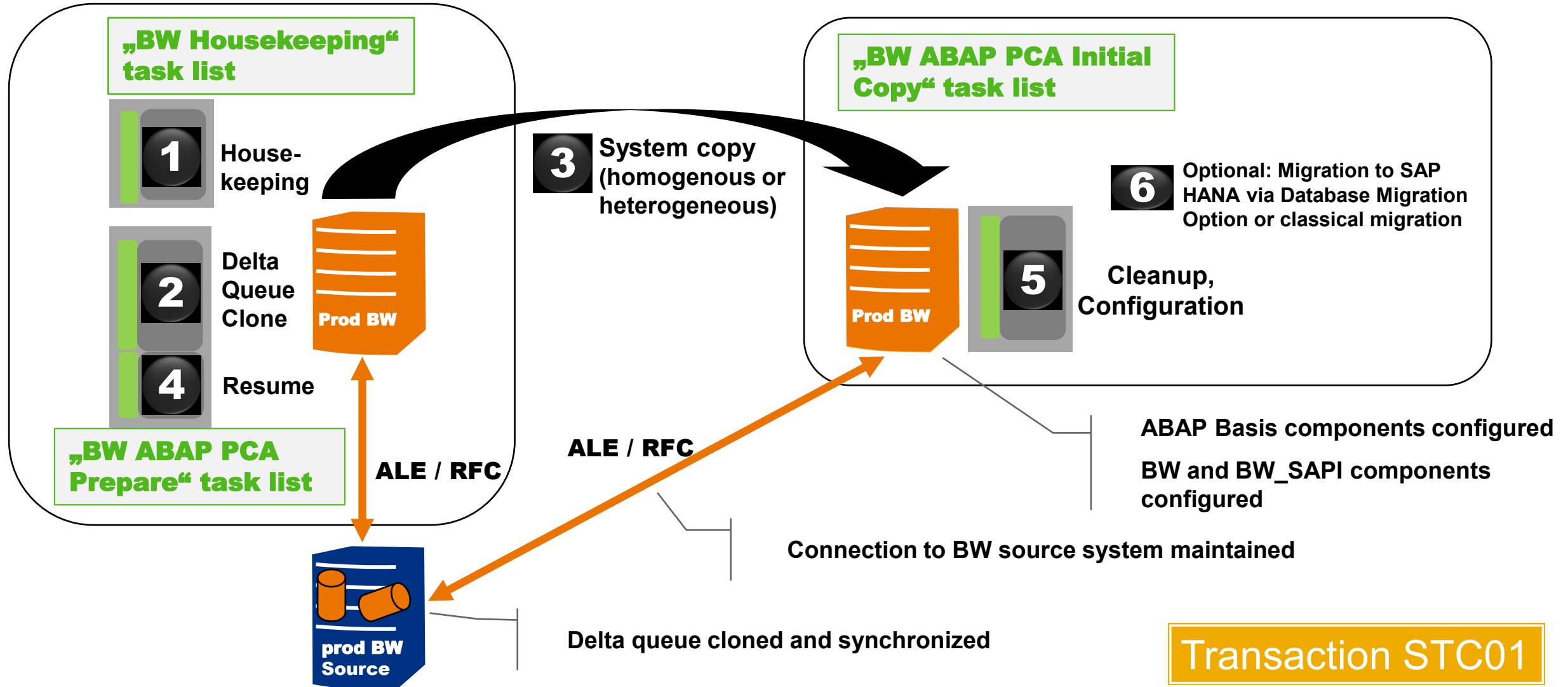


# Improvements

- ▶ Post Copy Automation for BW (BW-PCA)
- ▶ Upgrade/Migration Procedure
- ▶ database migration option (DMO) as part of software update manager (SUM)

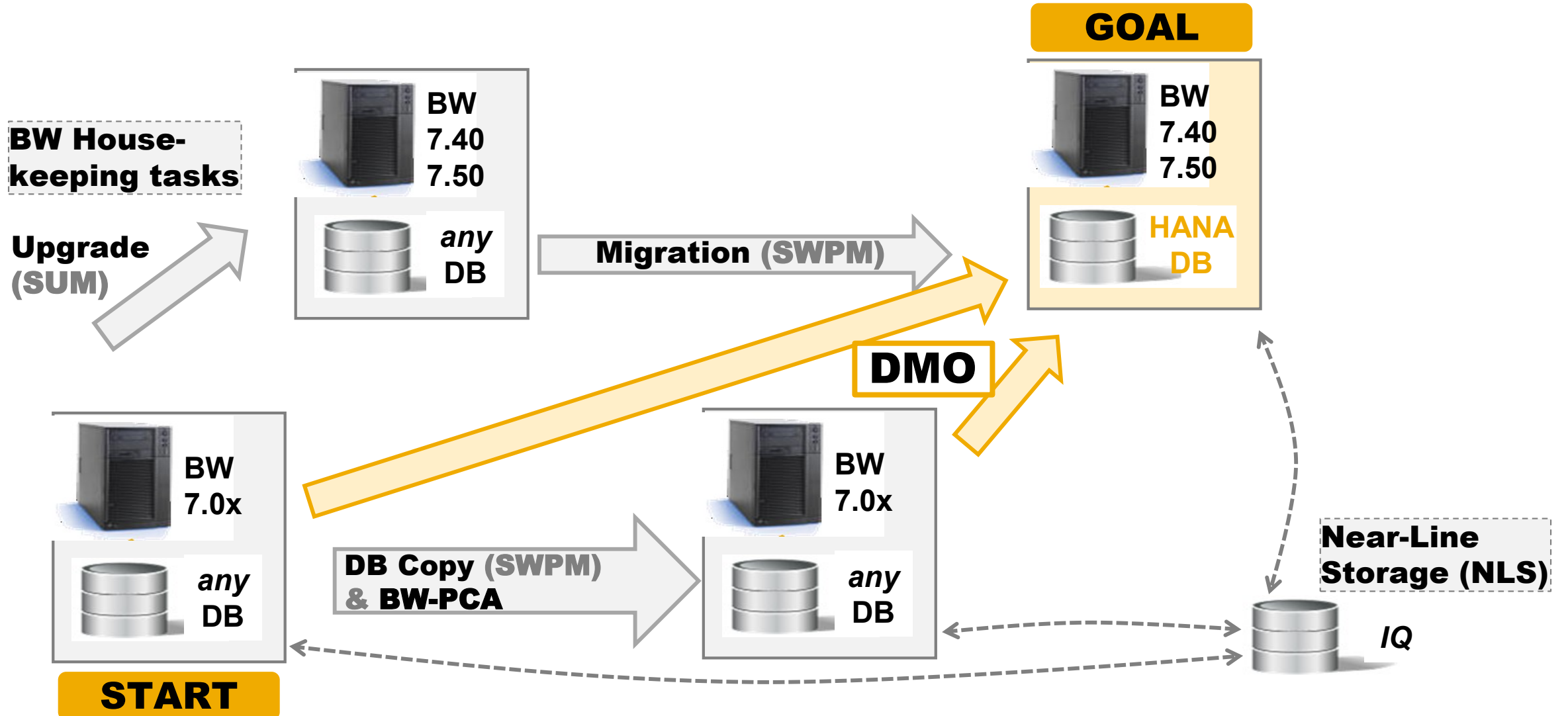
# BW ABAP PCA for regular system copies and DMO

post copy automation (BW-PCA) as the minimized downtime enabler for DMO



# Migration BW on SAP HANA - classical and **new way**

Blog: [Upgrade and Migration - BW on HANA](#)



# Migration BW on SAP HANA on Premise

combining BW-PCA and DMO to keep the “production downtime minimized”



**SAP First Guidance available**



**BW House-keeping tasks**

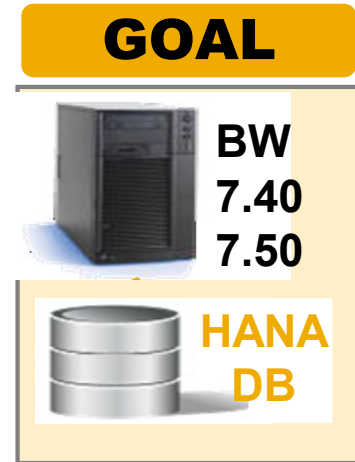


**START**

**DB Copy (SWPM) & BW-PCA**



**DMO**



**GOAL**



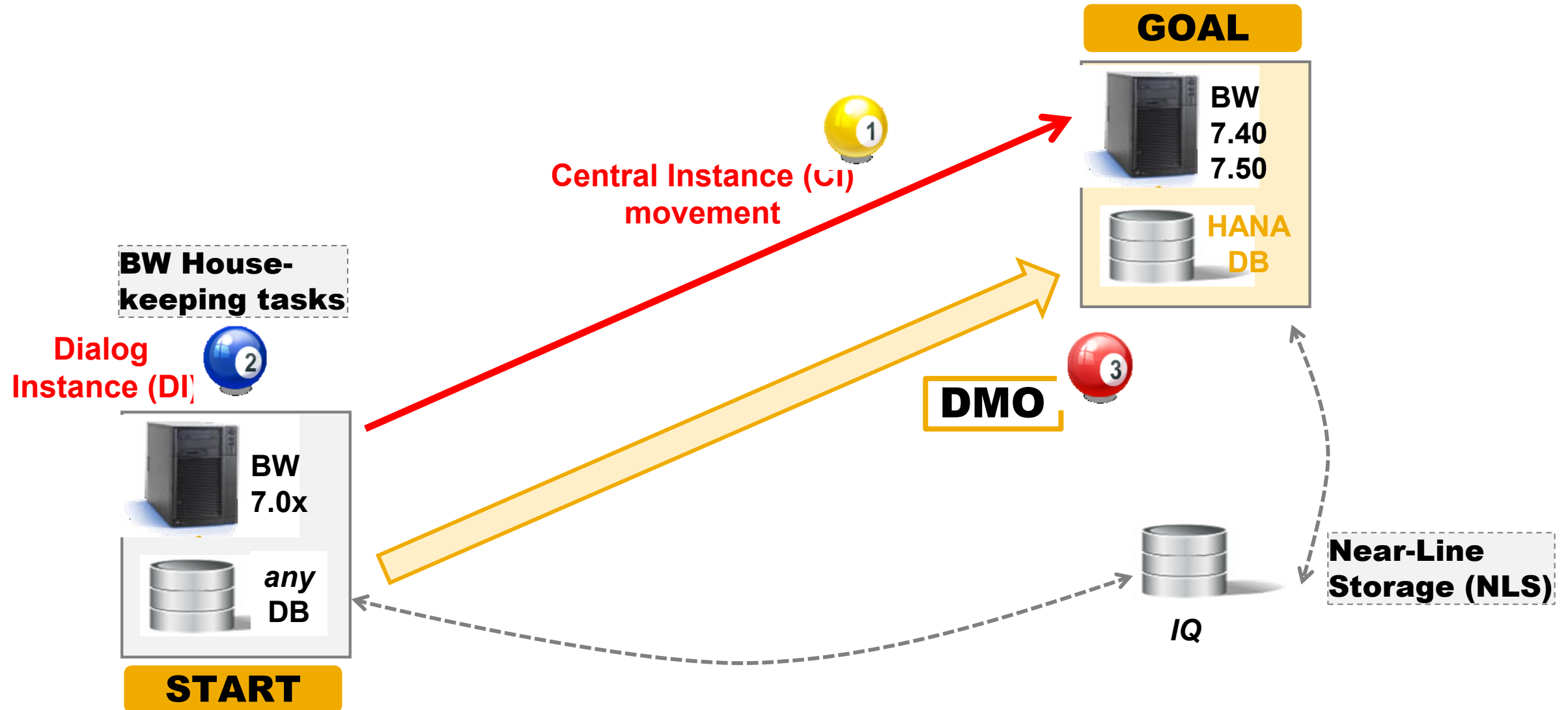
**Near-Line Storage (NLS)**



**IQ**

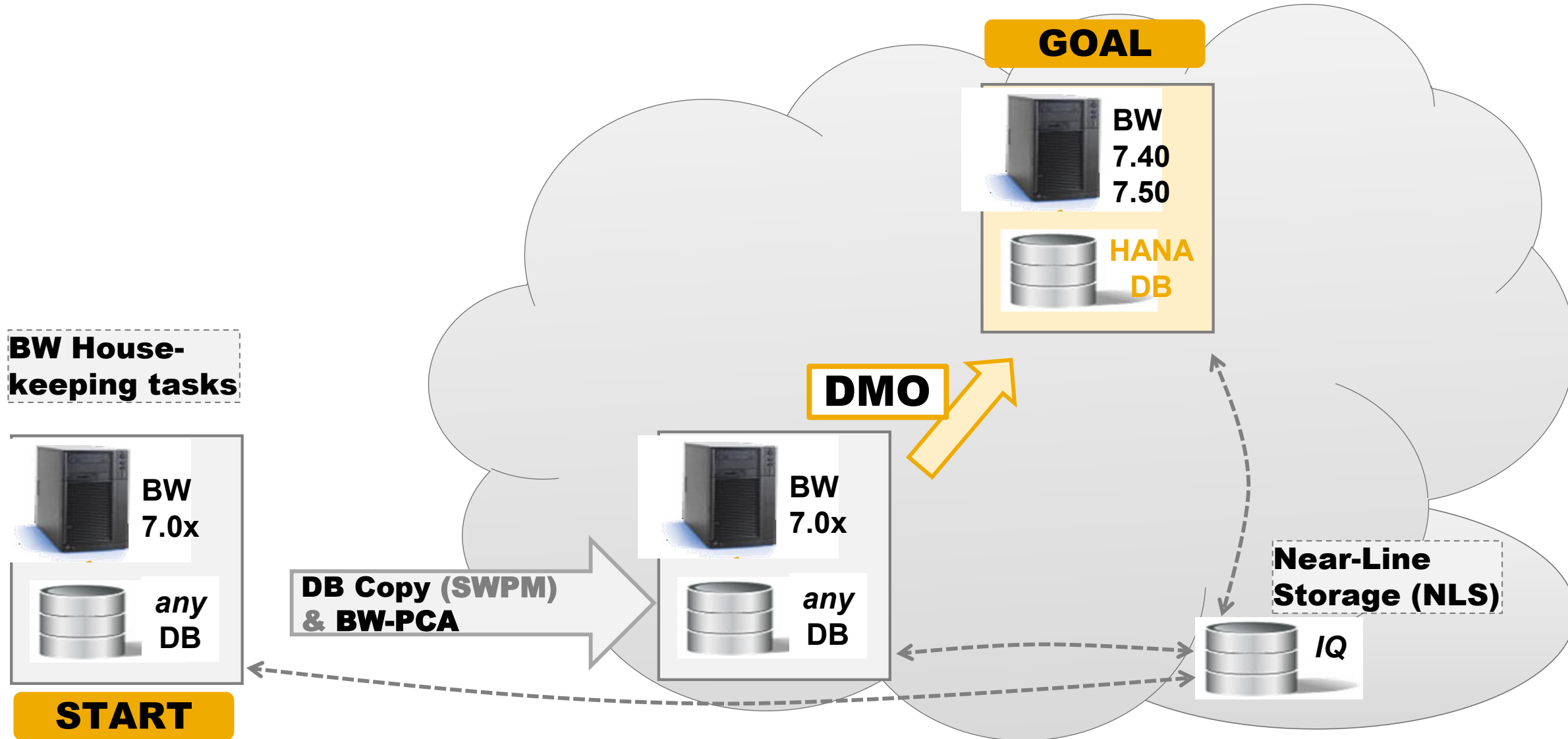
# Migration BW on SAP HANA - alternative

moving the primary application server to the HANA server to improve performance



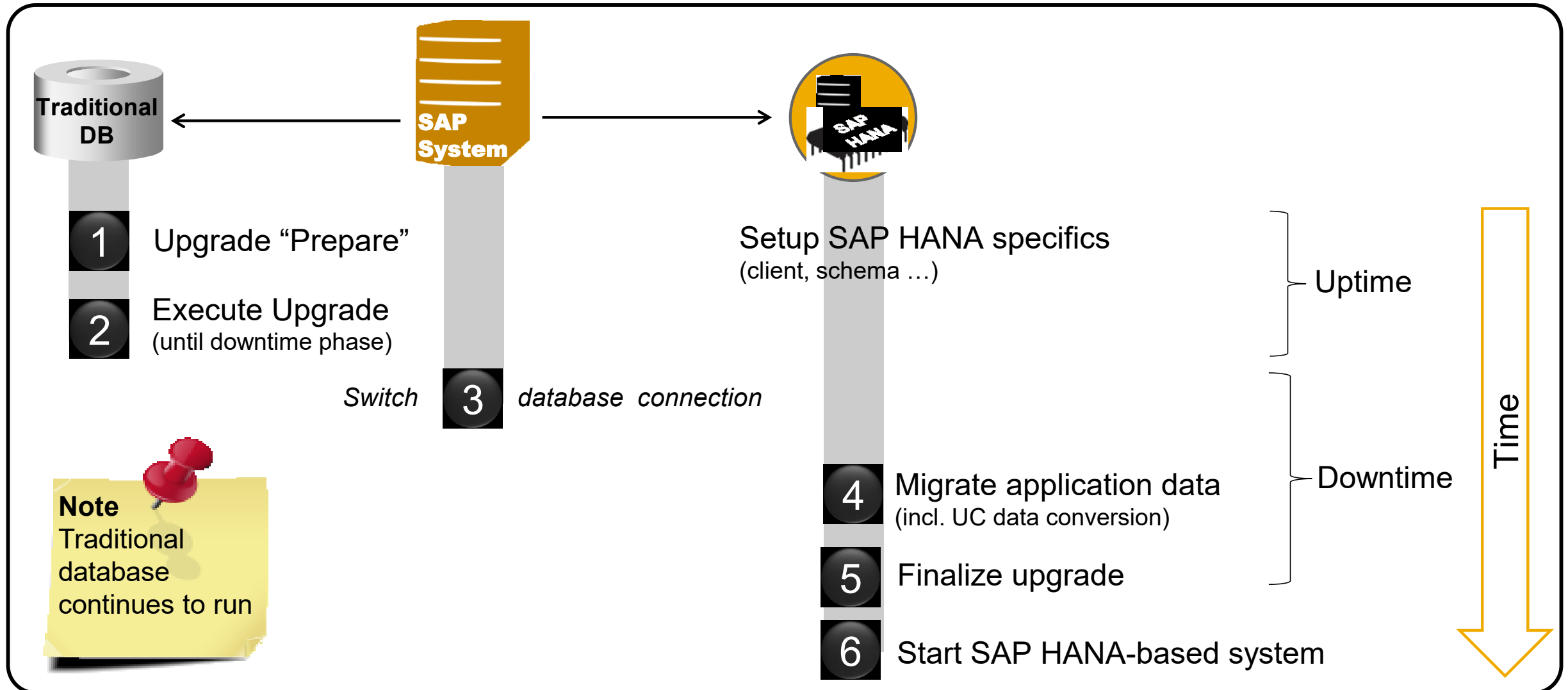
# Migration BW on SAP HANA to HEC

moving BW on Premise to the HANA Enterprise Cloud



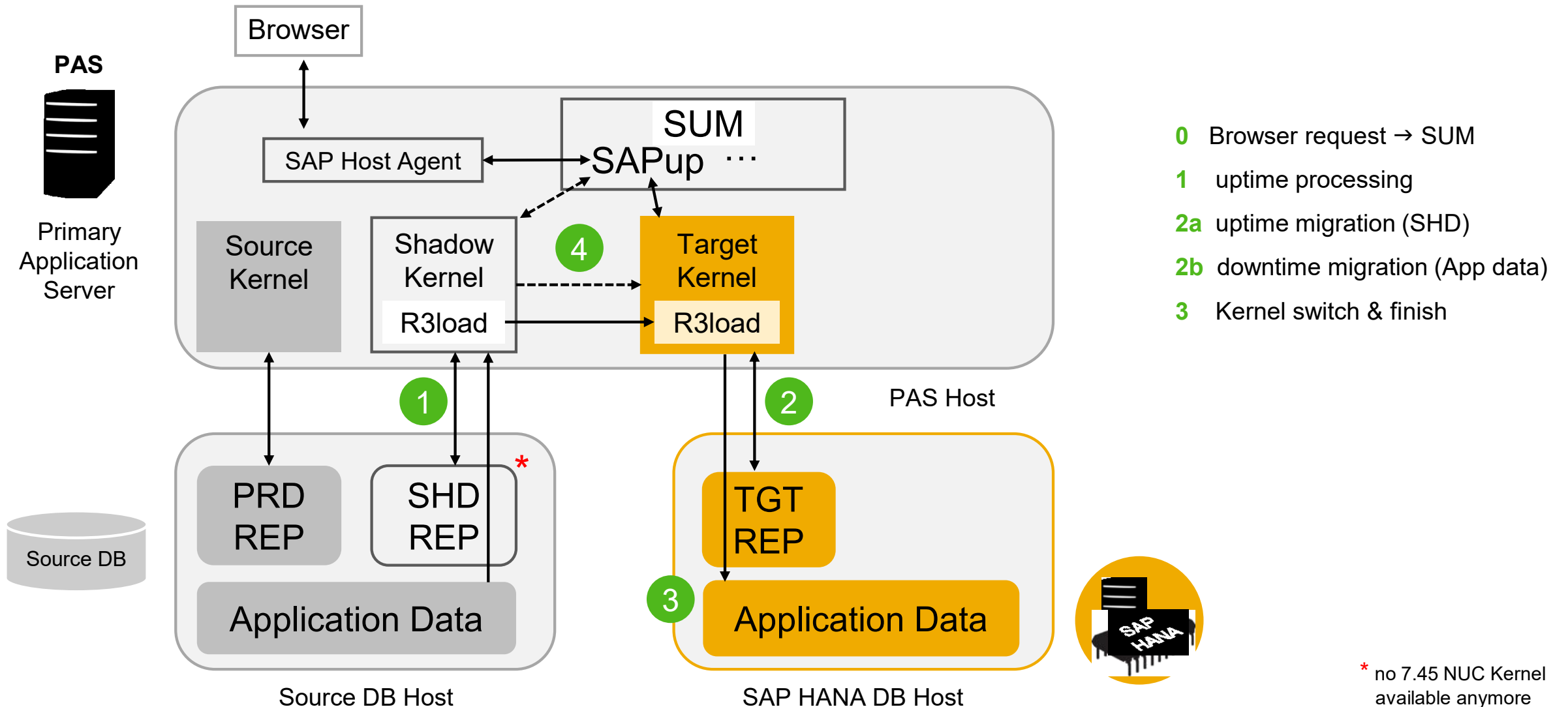
# Database migration option (DMO) in the SUM Framework

## one-step upgrade and migration with DMO - phases during the procedure



# Database migration option (DMO) in the SUM Framework

Recap - DMO technology: In-Place Migration Upgrade until 7.40 for NUC systems

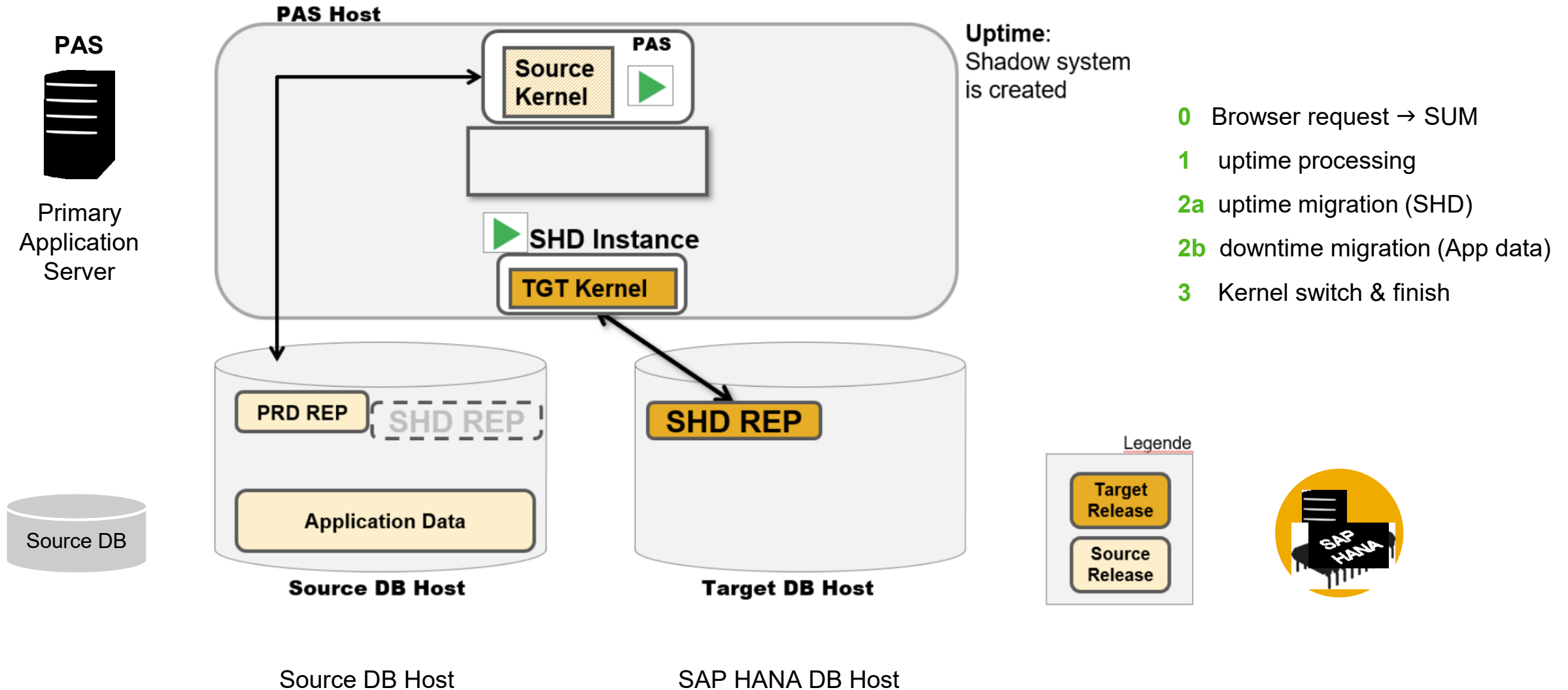


\* no 7.45 NUC Kernel available anymore



# Database migration option (DMO) in the SUM Framework

DMO: shadow repository now on target database for conv. to SAP S/4HANA 1909



# What's new with the Upgrade to BW 7.4

## software update manager (SUM) vs. database migration option (DMO)

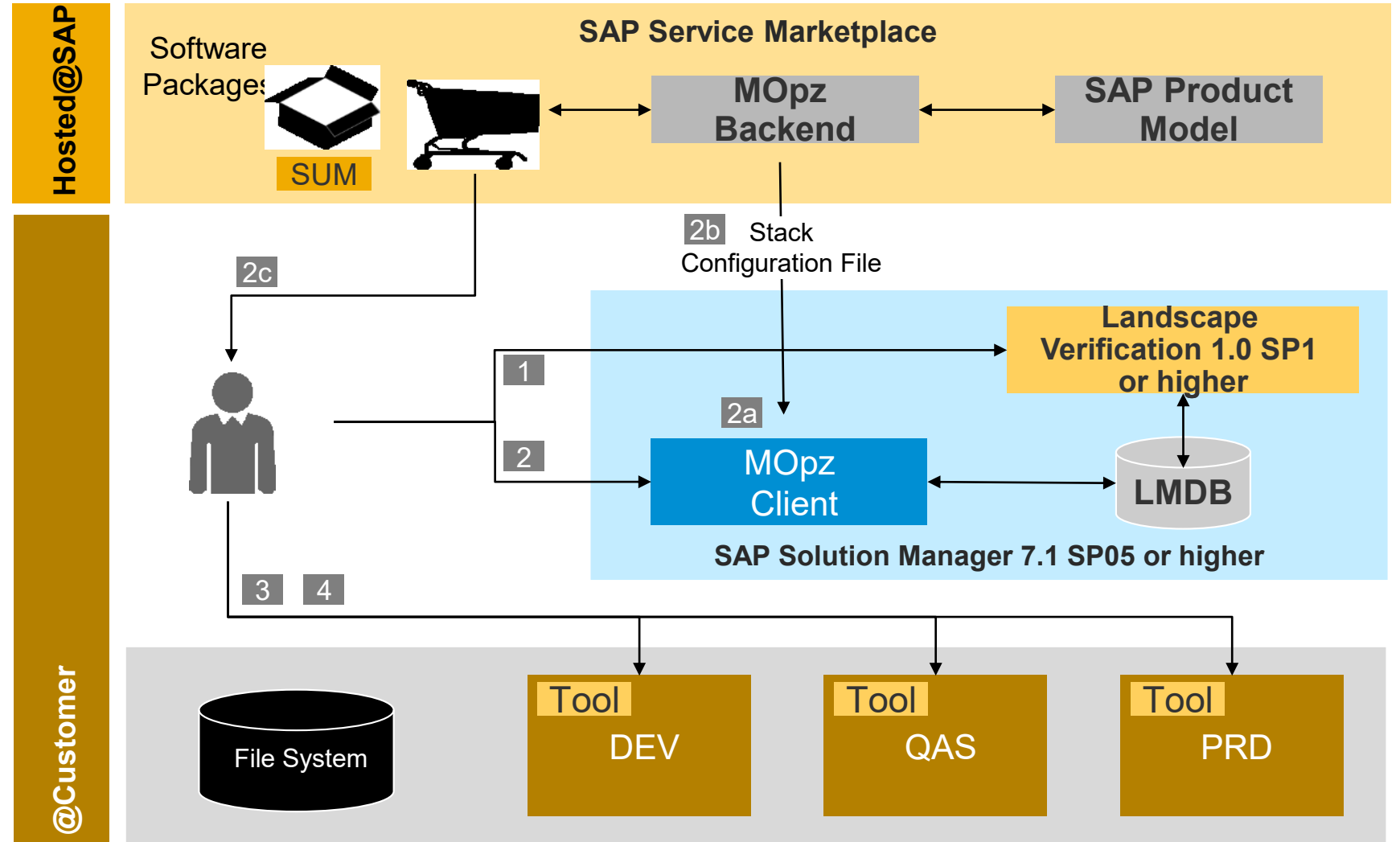
- The database migration option (DMO) is an integrated part of the software update manager (SUM) and not a separate tool.
- The upgrade procedure differs from the upgrade part of the database migration option
  - A standard upgrade requires a main database upgrade, DMO not.
  - In a standard upgrade, you have manually to run the ASU toolbox, and/or the upgrade pre/post task lists, DMO includes them automatically.
- The (heterogeneous) migration procedure to SAP HANA differs from the heterogeneous system copy
  - The DMO procedure uses a UI5 browser based fronted based on the SAP host agent, SUM the classical JAVA based GUI frontend.
  - The start release can be already SAP NetWeaver 7.0 (SPS17/SP19). Also a lower start release 6.40 is available with SUM SP11.
  - The specific script SMIGR\_CREATE\_DDL run's already automatically in the source release.
  - The in-place migration (related to the PAS) uses parallel export/import (via pipes) and is not comparable to the SWPM procedure. The usage of manual created MigMon scripts is not supported and not compatible with the DMO procedure.
  - The DMO procedure call's a reduced version of the ASU toolbox and the pre/post task lists for upgrade and migration, SWPM not.
  - The DMO procedure calls the post program RS\_BW\_POST\_MIGRATION automatically, SWPM not.
  - For an optimized table splitting from the source database, also the SWPM calls the SUM/DMO procedure (no further enhancement in SWPM).
- A standard upgrade followed by a heterogeneous system copy to SAP HANA (BW based systems) is a different approach than the usage of the database migration option (upgrade with a in-place database migration)

# What's new with the Upgrade to BW 7.4

Solution Manager pre requisites for the correct usage of the MOPZ



**SAP First Guidance available**



# What's new with the Upgrade to BW 7.4

Blog: [Good News - Easier Modeling of the SEM Add-On in Solution Manager](#)

**[1.] Product System Selection**  
Product System: N4S

**[2.] Product Instance Selection**  
Select By: \* Product Version EHP4 FOR SAP SEM 6.0 Search

**[3.] Product Instance - Search Result List**

Product Version	Product Instance	Additional Information	Assigned	Pr...
EHP4 FOR SAP SEM 6.0 (add-on)	SEM		<input checked="" type="checkbox"/>	i
EHP4 FOR SAP SEM 6.0 (add-on)	SEM NW7.3		<input type="checkbox"/>	i

## Note

Repairs all kind of misconfigured backend errors!

**Report RLMDB\_DOWNLOAD\_INST\_SOFT\_INFO**

DOMAI\_ID: LDB  
NAMESPACE: active  
PS\_NAME: N4S

SAP GUI

Name	Date modified	Type	Size
------	---------------	------	------

File name: stack\_for\_cisi.xml Save  
Save as type: All Files (\*.\*) Cancel

# What's new with the upgrade of SAP BW 7.50

Introducing the SAP Maintenance Planner – <http://scn.sap.com/docs/DOC-65243>

The screenshot displays the SAP Maintenance Planner interface. At the top, there is a search bar with the text "Enter a search term .." and a user profile for "Roland Kramer ( I008817 )". Below the search bar is a "Home" button. A table lists transaction details:

Transaction ID	Transaction Name	Transaction Status	Attachments	Created By	Creation Date
1000006905	MP_NEW_INST_20151030_B4H	Planning		I008817	30.10.2015 11:47:39

Below the table is a central diagram illustrating the maintenance process. The diagram features a central circle with the SAP logo and "B4H" below it. Surrounding this circle are four segments, each with an icon and a label:

- Schedule**: Represented by a calendar icon, with the text "Schedule a system deployment of the calculated archives at a convenient date".
- Sync**: Represented by a circular refresh icon, with the text "Synchronization of system data from SAP Solution Manager to SAP Support Portal".
- Verify**: Represented by a checklist icon, with the text "Verify system description and correct errors".
- Plan**: Represented by a green arrow icon, with the text "Plan a software change on your system, including download of files".

# What's new with the upgrade of SAP BW 7.50

<https://apps.support.sap.com/sap/support/mp>

The screenshot displays the SAP Maintenance Planner interface. At the top, the SAP logo is on the left, followed by the text 'Maintenance Planner'. A search bar contains the placeholder text 'Enter a search term ..'. On the right, the user name 'Roland Kramer ( 1008817 )' is shown with a dropdown arrow. Below this is a navigation bar with icons for 'Define Change', 'Select Files', 'Download Files', and 'Complete', connected by double arrows. The 'Define Change' step is currently active and underlined. To the right of the navigation bar are buttons for 'Undo', 'Redo', 'Back', 'Next', and 'Logs'. Below the navigation bar, the main area is titled 'Select Target Software Level to Install' with a 'Confirm Selection' button on the right. On the left, a box labeled 'B4H' is visible. The main content area shows a tree view of software options:

- Install an SAP NETWEAVER system
  - SAP NETWEAVER 7.5
    - Application Server ABAP
    - Business Intelligence
    - Developer Workplace
    - Search and Classif.(TREX)
  - SAP NETWEAVER 7.4
  - SAP NETWEAVER 7.3

A dropdown menu on the right shows '01 (11/2015, [...])' with a dropdown arrow.

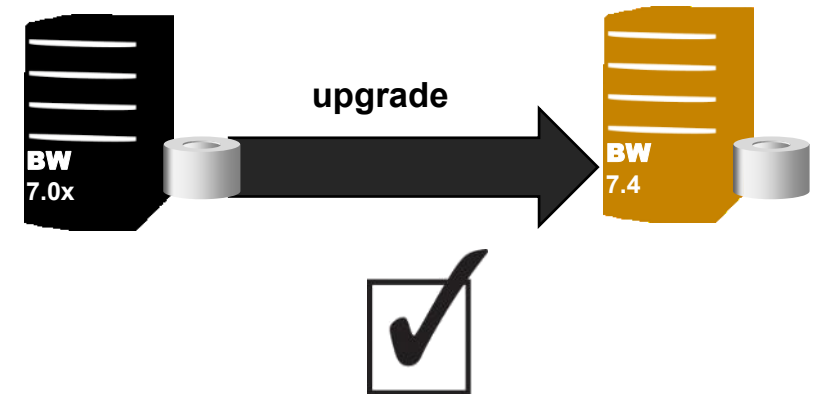
# General checks prior to the Upgrade

Reminder: the ASU toolbox/task list for BW is the first step for the upgrade prep.

NetWeaver BW

Object consistency

Cleaning old data





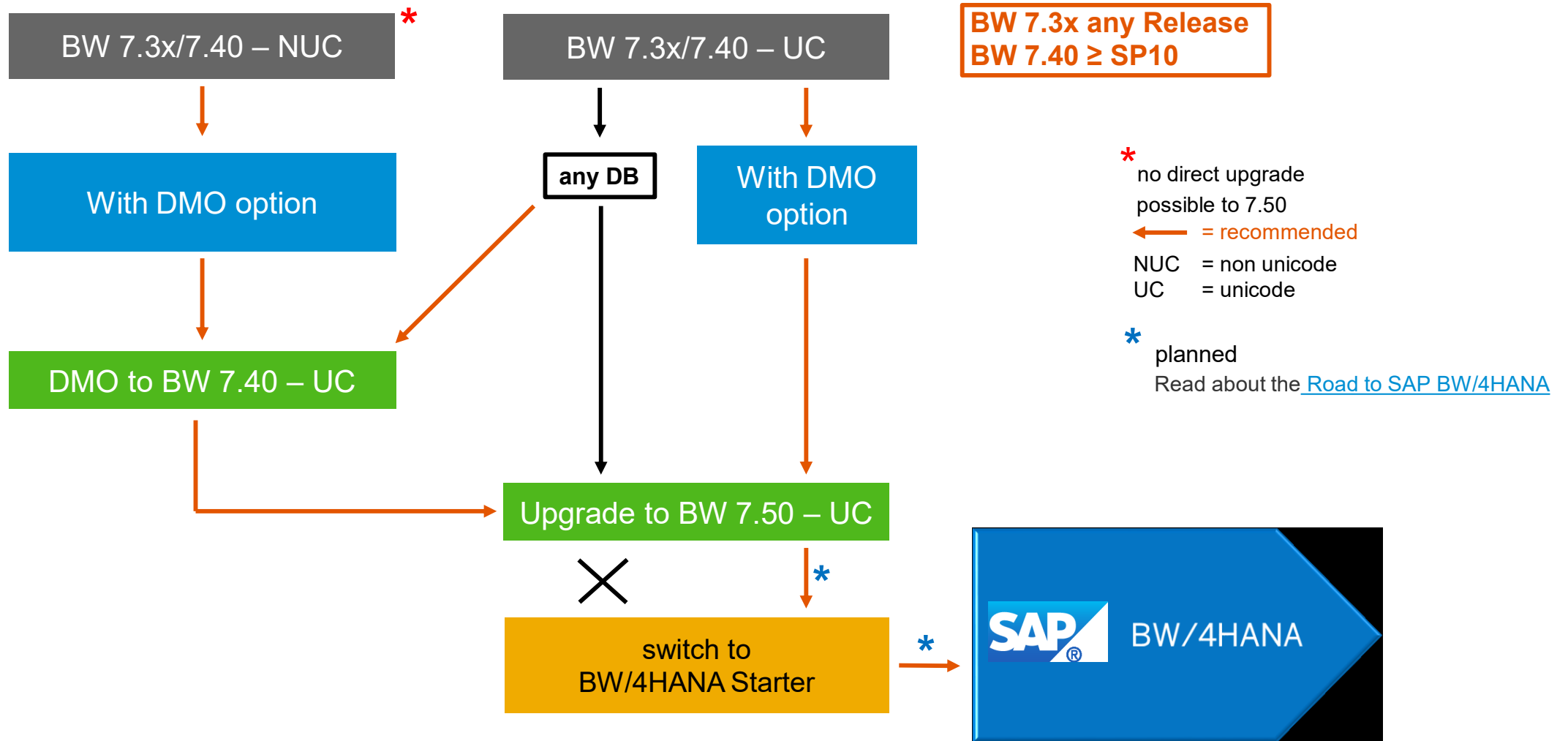
# Recommendations

- ▶ The Master Plan
- ▶ BW Housekeeping Tasklist/Pre-Post Upgrade/Migration Tasklist
- ▶ Data reallocation Process (DAP) with SAP-NLS Solution based on SAP Sybase IQ



# The Road to SAP BW/4HANA

Which Upgrade fits to the existing SAP BW environment – Release 7.3x/7.40



# The Master Plan: one tool: DMO, one target: BW on SAP HANA!

## All current SAP NetWeaver Releases

- 7.0/7.01/7.02
- 7.3/7.31
- 7.40
- apply at least one SP or upgrade

Database migration option (DMO)

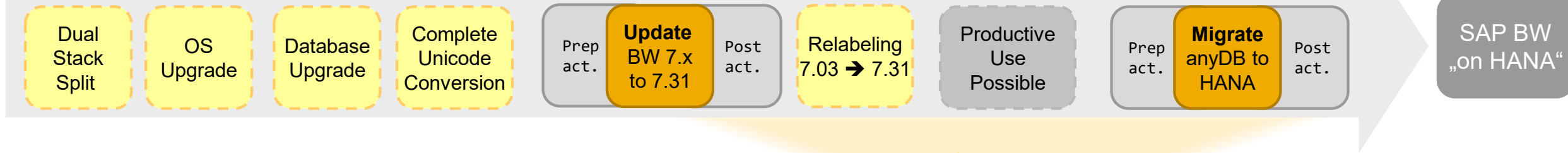
**BW 7.50 on SAP HANA**

**The Master Plan!**

# Comparison of the Standard and New Migration Processes

new option also reduces time by eliminating prep/post activities

## Old/classical migration to SAP HANA



## With DMO now Integrated update and migration to SAP HANA



**SAP First Guidance available**

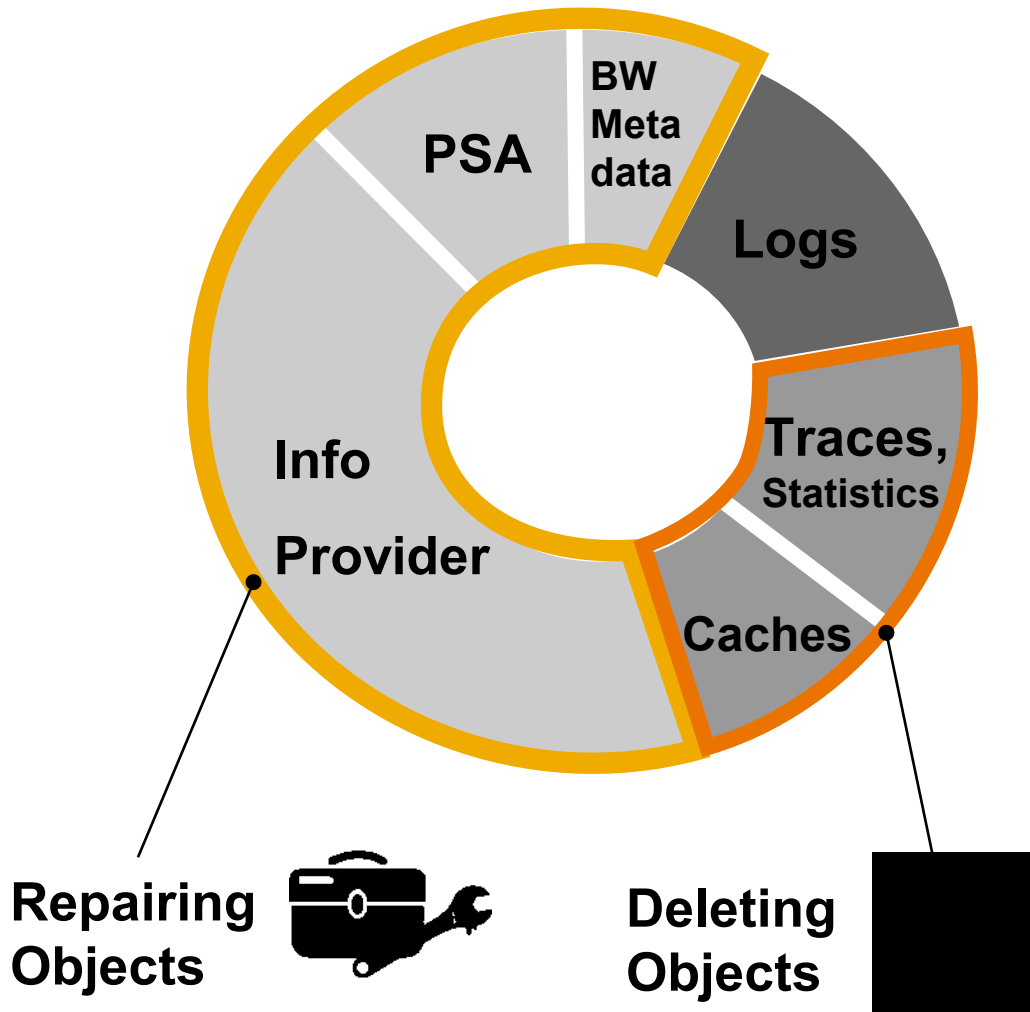
Legend



\* - may be a necessary step – depends on customer situation, start release

# BW Housekeeping and Upgrade Before Tasklists

challenges with growing number of Data objects in SAP NetWeaver BW



## Challenges:

- Data Objects in BW system grow over time
- Some data objects get inconsistent and corrupted
- BW systems become too large with outdated data
- System copy with inconsistent and outdated data will result in inconsistencies

## Solutions:

- Clean-up system regularly (e.g. monthly)
- Repair inconsistent data objects regularly
- Housekeeping especially before system copy
- Delivered with SAP Note 1829728

Transaction STC01

# BW Housekeeping and Upgrade Before Tasklist

<https://blogs.sap.com/2016/10/11/software-application-lifecycle-management-sap-bw/#bwhousekeeping>

### Maintain Task List Run SAP\_BW\_HOUSEKEEPING\_20130919133906

Task List: SAP\_BW\_HOUSEKEEPING

Task List Run: SAP\_BW\_HOUSEKEEPING\_20130919133906

E	C...	S...	L...	Autom. Phase	Comp.	Task Description
<input checked="" type="checkbox"/>				Repair	BW	Repairs indices on Info
<input type="checkbox"/>				Repair	BW	Re-assign requests wri
<input type="checkbox"/>				Repair	BW	Ensure request consist
<input type="checkbox"/>				Repair	BW	Ensure partitioned tab
<input type="checkbox"/>				Repair	BW	Verify DataSource seg
<input type="checkbox"/>				Cleanup	BW	Deletes the entries th
<input type="checkbox"/>				Cleanup	BW	Reorganize and delete
<input type="checkbox"/>				Cleanup	BW	This program deletes f
<input type="checkbox"/>				Cleanup	BW	This program deletes f
<input type="checkbox"/>				Repair	BW	Checks BW metadata
<input checked="" type="checkbox"/>				Postprocessing	BW	Clear all OLAP Cache p

### Maintain Task List Run SAP\_BW\_BEFORE\_UPGRADE\_20130919135523

Task List: SAP\_BW\_BEFORE\_UPGRADE

Task List Run: SAP\_BW\_BEFORE\_UPGRADE\_20130919135523

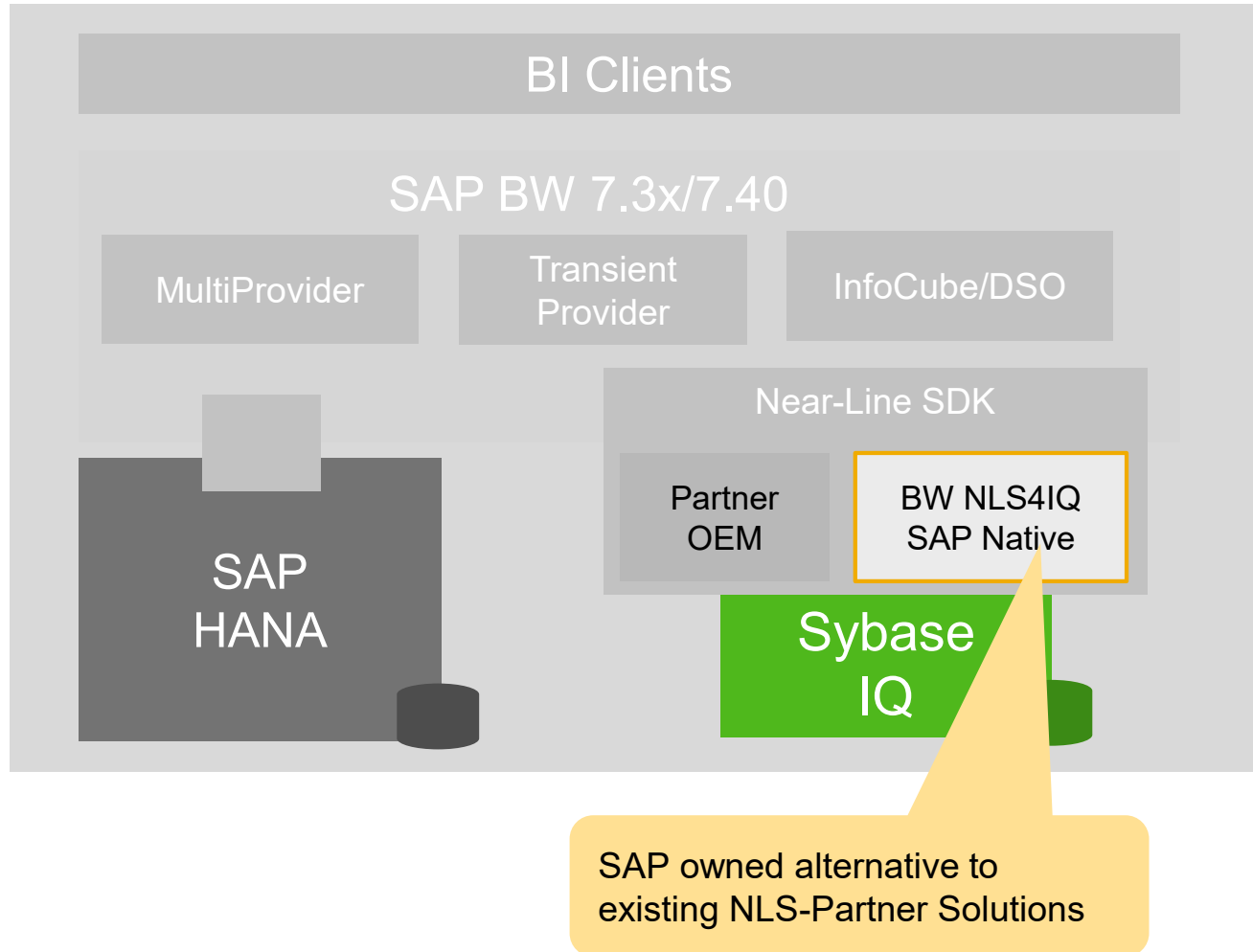
E	C...	S...	L...	Phase	Comp.	Task Description	H	P...	Parameter Description
<input checked="" type="checkbox"/>				Repair	BW	Repairs indices on InfoCube fact table(s) at the Data Dictionary level			
<input type="checkbox"/>				Repair	BW	Re-assign requests written into the incorrect PSA partition			
<input type="checkbox"/>				Repair	BW	Ensure request consistencies throughout the PSA landscape			
<input type="checkbox"/>				Repair	BW	Ensure partitioned tables are correctly indexed for the PSA			
<input type="checkbox"/>				Repair	BW	Checks BW metadata with regard to the DDIC			
<input type="checkbox"/>				Cleanup	BW	Deletes the entries that are no longer required in table RSIXWWW.			
<input type="checkbox"/>				Cleanup	BW	Reorganize and delete bookmark IDs and view IDs			
<input type="checkbox"/>				Cleanup	BW	This program deletes RSTT traces			
<input type="checkbox"/>				Cleanup	BW	This program deletes BW statistical data			
<input checked="" type="checkbox"/>				Cleanup	BW	Delete Aggregate data via deactivation			
<input checked="" type="checkbox"/>				Prepare	BW	Confirm we are at the User Lock stage of an Upgrade/Migration			
<input checked="" type="checkbox"/>				Prepare	BW	Confirm BEX-Request is released and removed from table RSADMINA			
<input checked="" type="checkbox"/>				Prepare	BW	Unset flags in order to skip replication and generation of source-dependent objects			
<input checked="" type="checkbox"/>				Prepare	BW	Stop RDA Daemons and Process Chains			
<input checked="" type="checkbox"/>				Prepare	BW	Deletes temporary/interim data used for Analysis Process Design			
<input checked="" type="checkbox"/>				Prepare	BW	Deletes temporary BW tables			
<input checked="" type="checkbox"/>				Prepare	BW	Deletes entries from the DDNT and DDNF tables			



**SAP First Guidance**  
available

# SAP BW on HANA and SAP IQ

## Near-Line Storage (SAP-NLS) Architecture - Overview



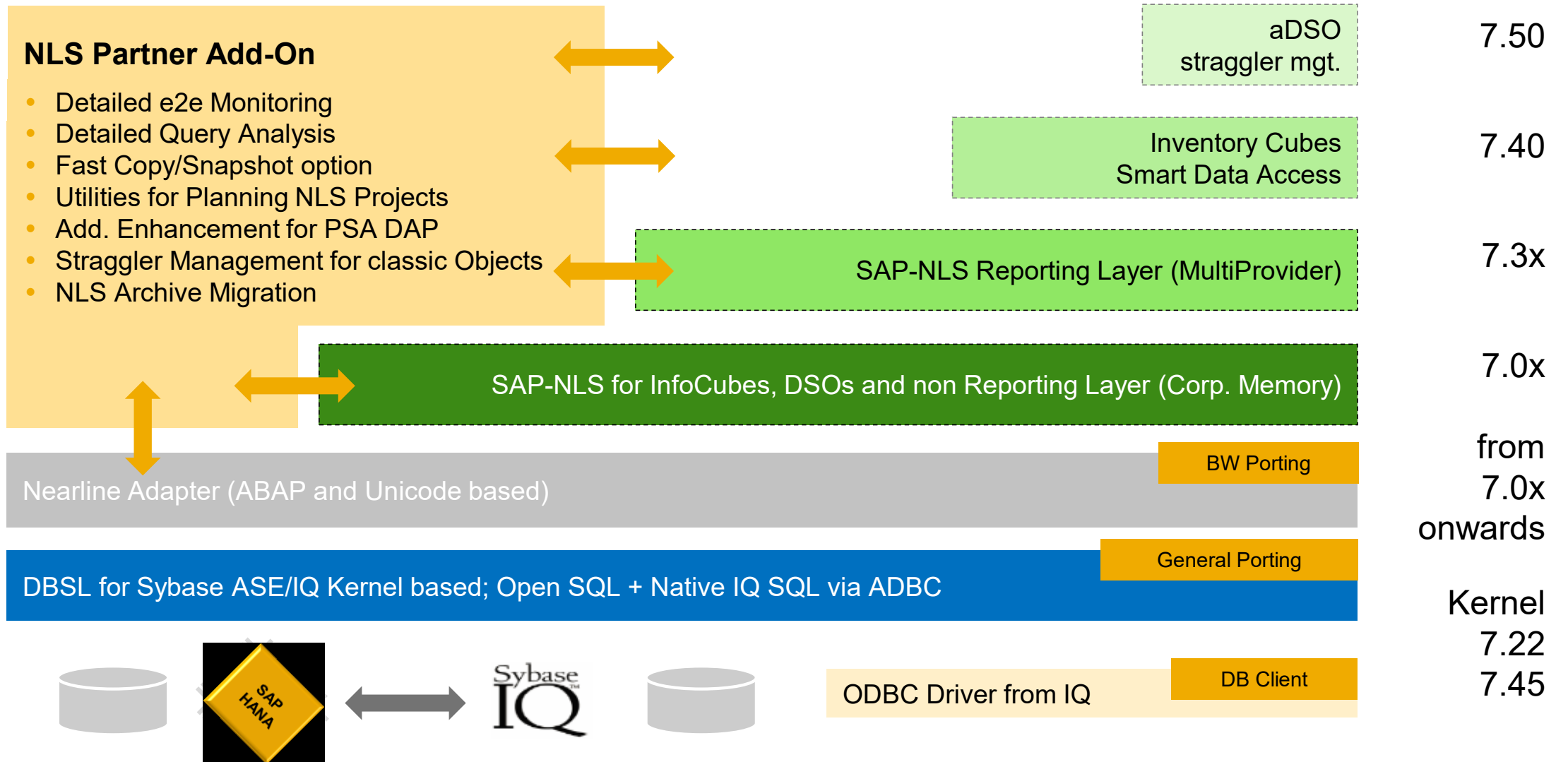
An SAP - owned BW NLS implementation for Sybase IQ offers a fully integrated solution from one provider

### Main aspects:

- Deliver an ABAP-based implementation of the BW NLS interfaces
- Deliver a Sybase IQ DBSL 'light' that covers all the needs of the above-mentioned NLS implementation
- Sybase IQ to deliver reliable, high-performance execution of the DBSL driven loads and queries
- Availability since Q2/2013

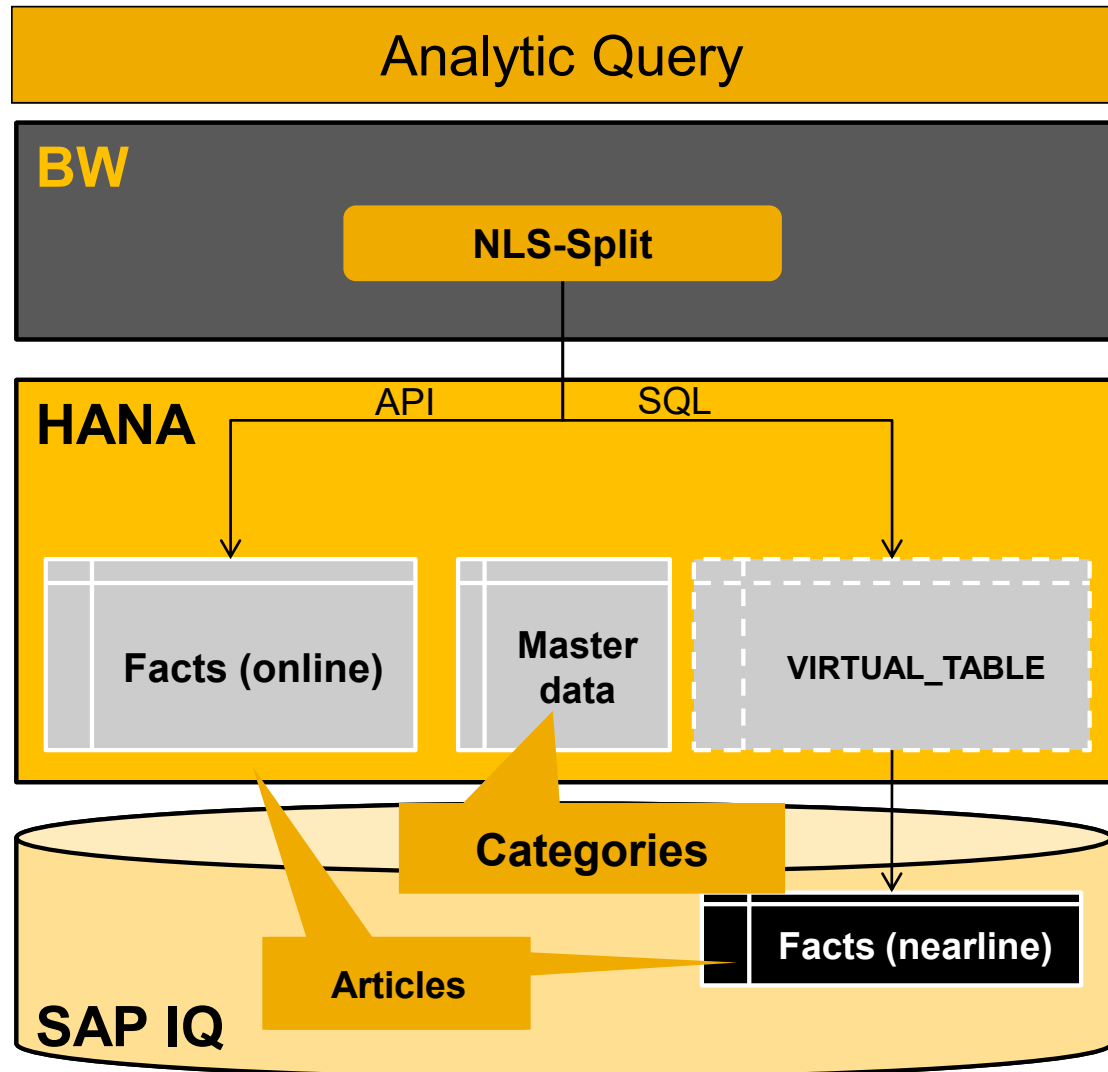
# The SAP-NLS Implementation – Release Capabilities

Together with [NLS Partner Add-On's](#) and SAP



# HANA Smart Data Access for BW NLS with SAP IQ

Available with SAP BW 7.4, SP8 (Q3/2014) on HANA



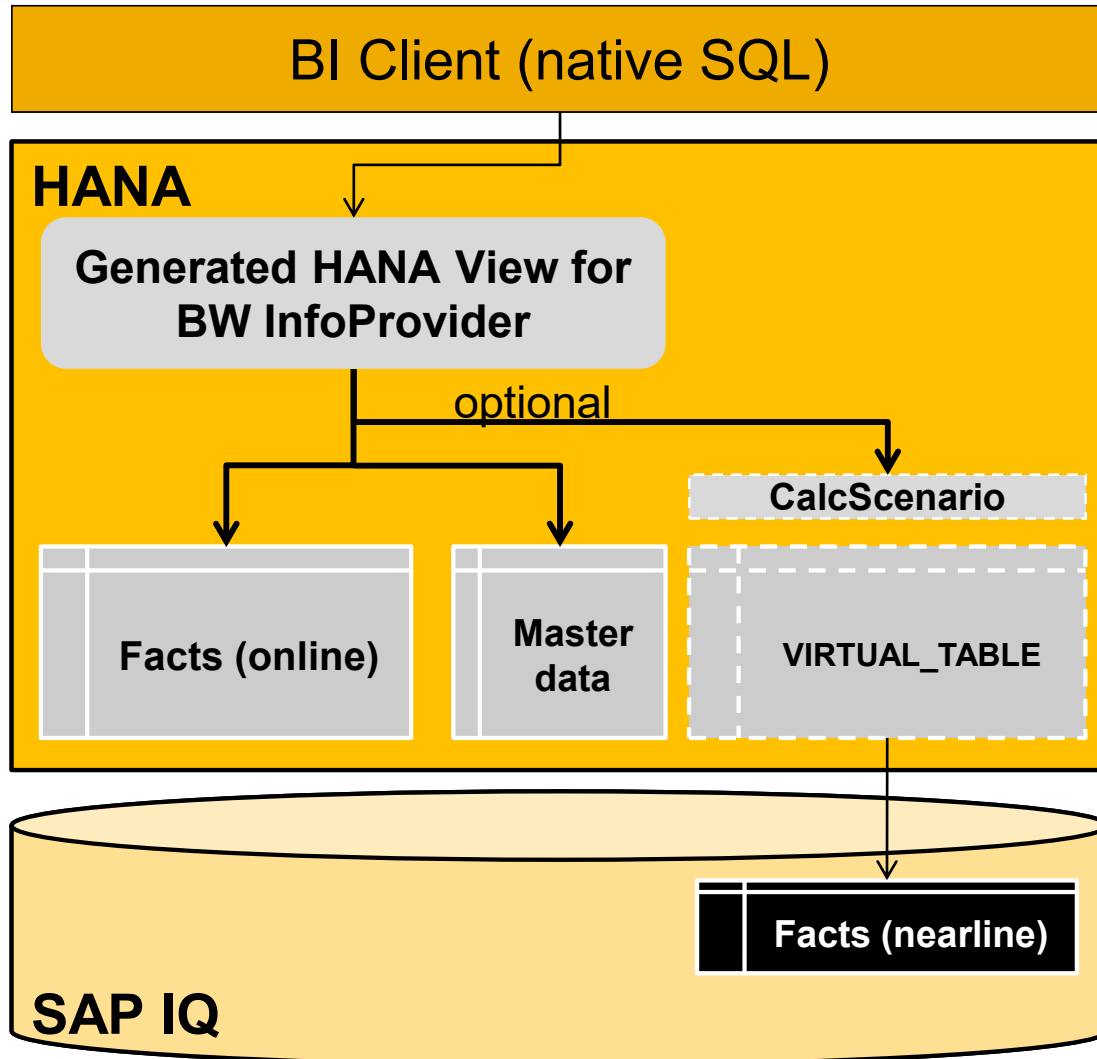
- Query Access to NLS part of InfoProvider can leverage SDA (if NLS uses SAP Sybase IQ for NLS)
- Optimized Query execution plan (Semi-JOIN), Filter push-down, ...
- Significantly better Query performance for many NLS queries
  - especially Queries using Hierarchies or Nav. Attributes can run 100 times faster

Example from Retail:  
Aggregation of articles in categories as  
Nav. Attributes



# BW NLS data for External HANA Views

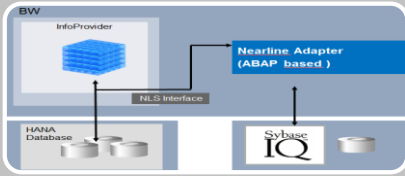
Available with SAP BW 7.4, SP8 (Q3/2014) on HANA



- Generated HANA Views for InfoProvider (new with BW7.4 SP05)
- HANA Views can (optionally) include NLS part as UNION between online and nearline facts
- NLS part is available for external consumption, e.g. 3<sup>rd</sup> Party Frontend's
- NLS part is always accessed

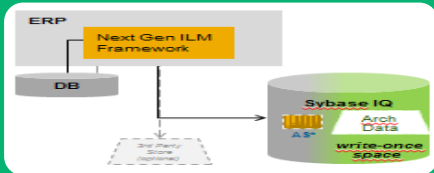
# SAP IQ is the preferred solution for warm and cold data archiving capabilities for SAP BW, Business Suite, and HANA

## NLS (Near Line Store) for SAP BW



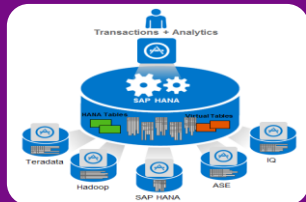
- Optimized NLS data transfer throughput using IQ Loader functionality
- SAP HANA and IQ share the same columnar paradigm, and similar data compression rates
- Ready for large data volumes
- Suitable for ad-hoc queries with long history
- Minimum administration effort

## ILM for SAP Business Suite



- Fast archive index read w/o additional secondary DB indexes
- Increased search capabilities
- Faster archive I/O – fewer layers (software, network, storage hardware)
- ERP archive files as well as archive indexes stored in SAP IQ

## Warm archive for HANA using smart data access (SDA)



- Using SDA, HANA customers can access IQ as a federated store
- Store warm data in IQ, and real time data in HANA
- Push query processing down to IQ

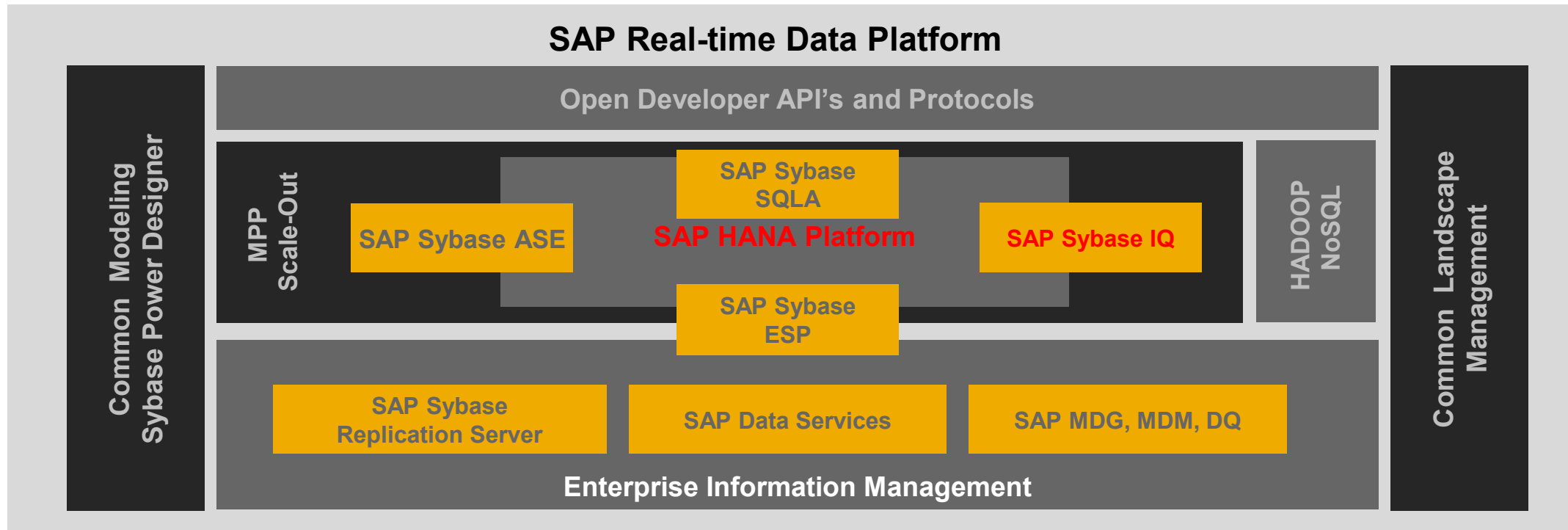
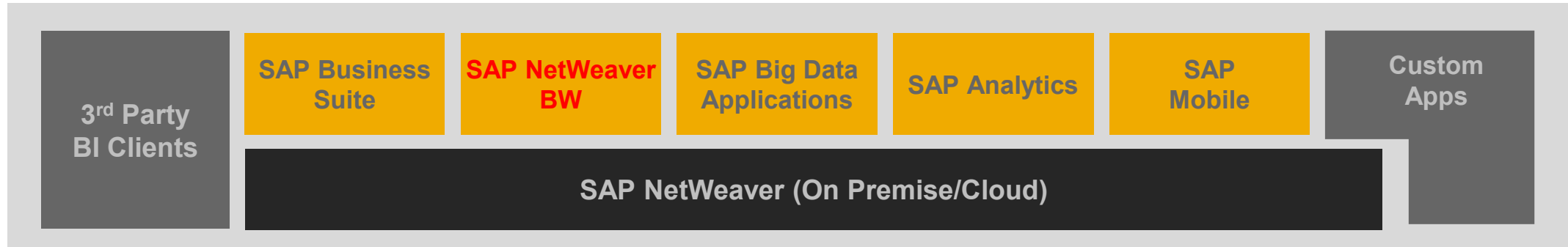


# Conclusion

- ▶ SAP Realtime Database Platform
- ▶ SAP BW on SAP HANA

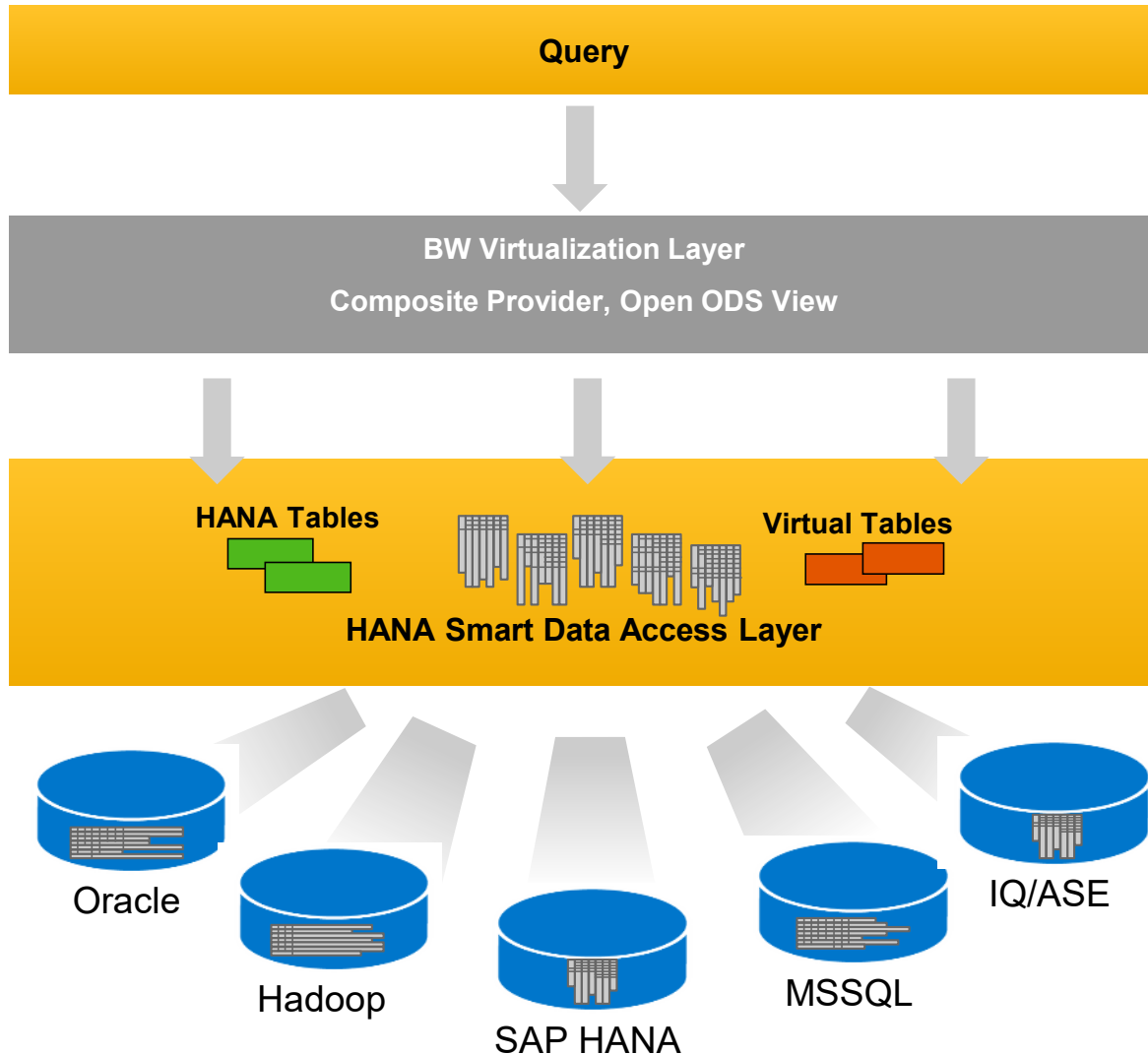
# SAP Real-time Data Platform

optimized for all big data applications



# SAP HANA Smart Data Access

data virtualization for on-premise and hybrid cloud environments



Enhanced Business Flexibility by providing “the logical EDW”

Data Federation in diverse EDW landscapes

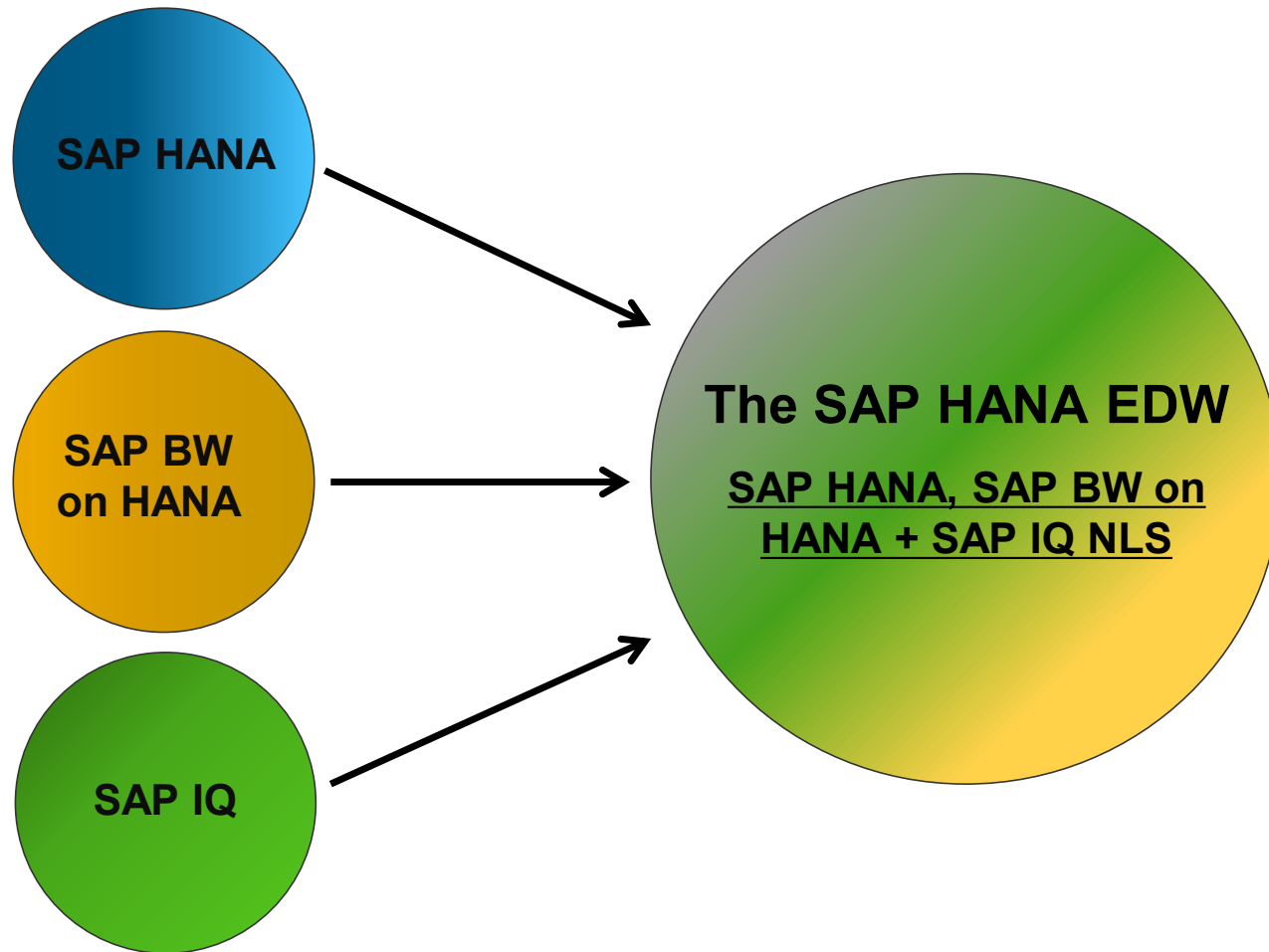
- Smart data access – read access to relational and non-relational sources via ODBC
- Enables access to remote data access just like “local” table
- Supports data location agnostic development
- No special syntax to access heterogeneous data sources
- BW based Analytic Services on external data

## ■ 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

## Conclusion – combining the strengths of the different worlds

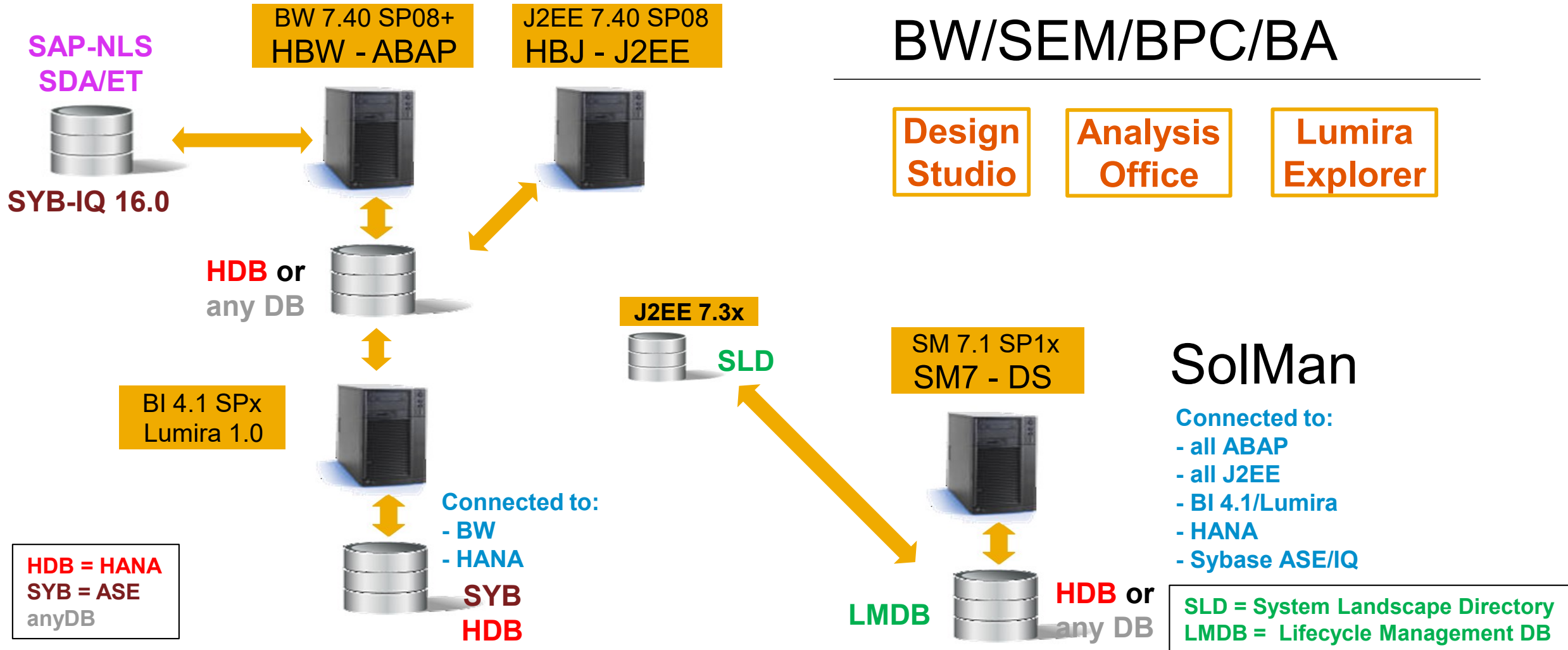
[Blog: 3 Major Reasons To Migrate To SAP BW 7.4 on SAP HANA](#) - SAP BW EDW



- SAP HANA Agile Data Mart scenarios and SAP NetWeaver BW powered by HANA perfectly address the needs of, Data Marts and Central (E)DW
- SAP Sybase IQ is SAP's recommended NLS for SAP NetWeaver BW powered by SAP HANA and is capable of storing terabytes to petabytes of structured & unstructured data
- Mature customer architectures will leverage the capabilities of all three components where appropriate

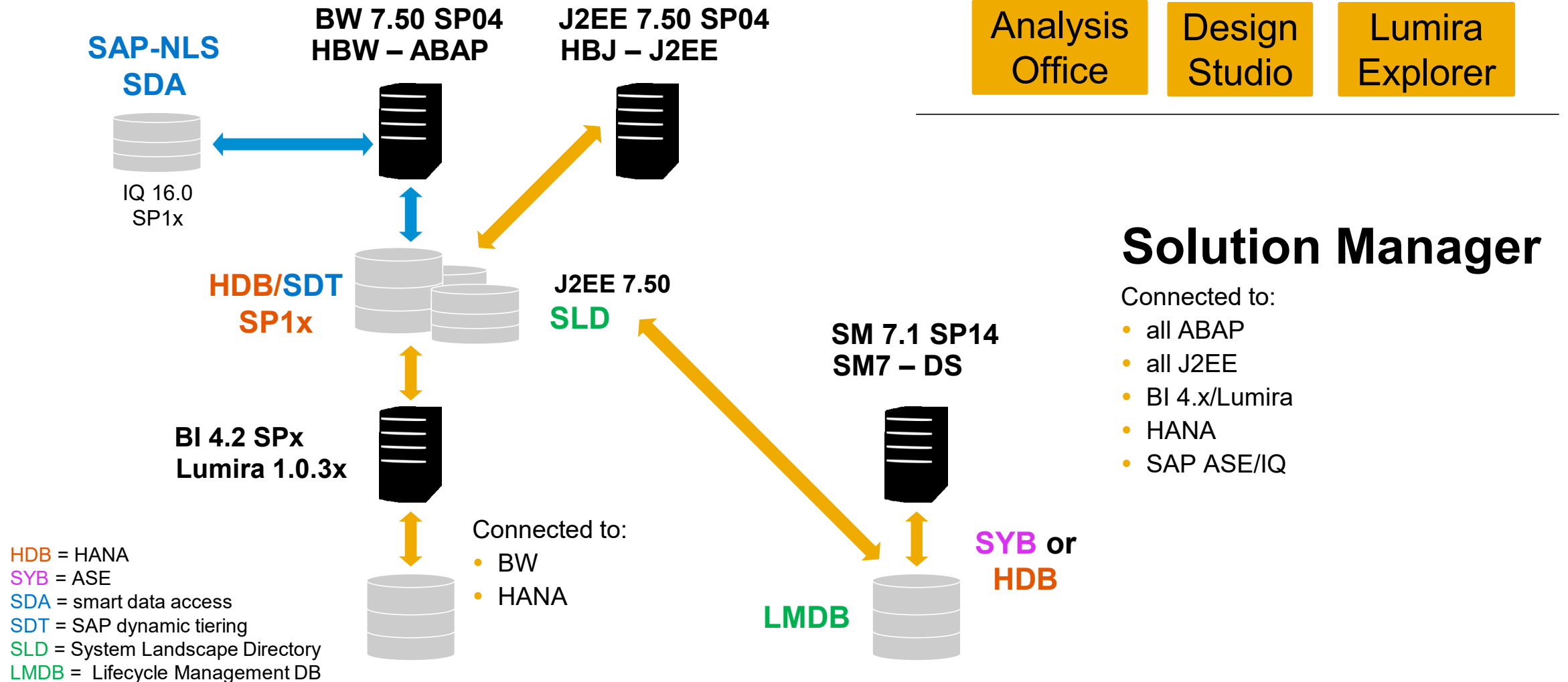
# SAP Business Intelligence Architecture

based on SAP BW 7.40 and additional components



# SAP Business Intelligence Architecture

Based on SAP BW 7.50, HANA, IQ and additional components



## Solution Manager

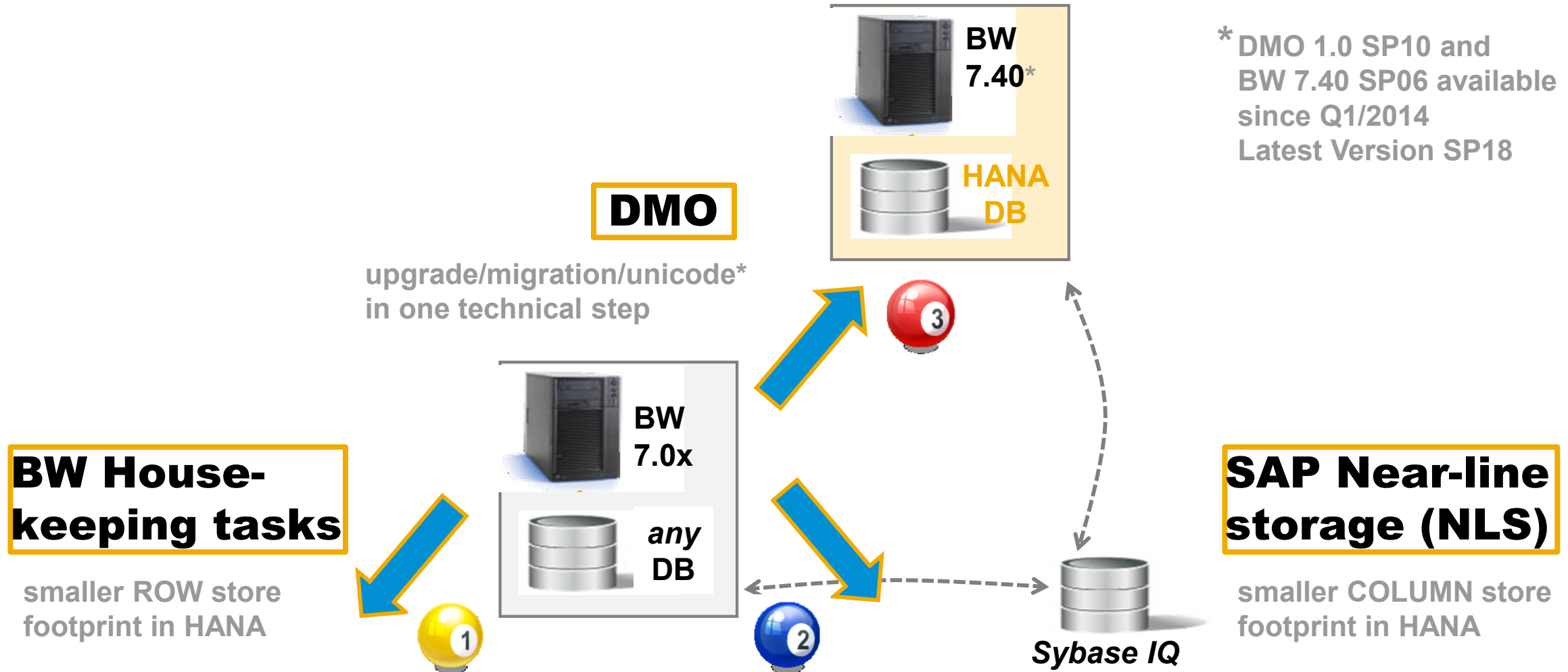
Connected to:

- all ABAP
- all J2EE
- BI 4.x/Lumira
- HANA
- SAP ASE/IQ



# Three things to know – Migration BW on HANA

Blog: [Three things to know when migrating to SAP BW on HANA](#)



## Conclusion: [SAP BW? - three things to know ...](#)

**1**

Three Things to know when migration BW on HANA

Blog: [Three Things to Know when Migrating SAP NetWeaver BW on SAP HANA](#)

**2**

The Upgrade from 7.0x to 7.50 is possible directly/one step including SEM

Blog: [Good News - Easier Modeling of the SEM Add-On in Solution Manager](#)

**3**

The SAP BW 7.40/7.50 Released (on HANA)

Our Customers know the (Business) Value - [Features per Release 7.40/7.50](#)

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