



BW/4HANA: Perspectives with the PBS Nearline Solution

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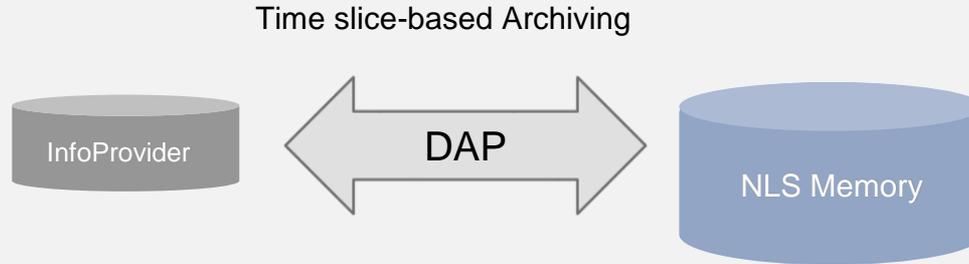


Agenda

- Starting Point: CBW NLS in SAP BW on AnyDB
- Problem when transferring to BW/4HANA
- Description of Migration Process for NLS
- Queries to NLS Data in BW/4HANA



Archiving Control by DAP



Performance usually significantly better than in classical primary DBs.

Data Compression up to 95%.

- DAP: Data Archiving Process
- Archiving by request for older datasets
- NLS Memory: SAP IQ, IBM DB2, MS SQL
- Continued support in BW/4HANA -> 'Cold Store'

Archiving in BW/4HANA

Data Archiving Process ZD_FIGL40

For DataStore Object (adva) ZD_FIGL40 <FI-GL: Einzelposten 3>

Long Description

Short Description

Version In Process Saved

Active Version Executable Edited Version

General Settings **'Cold Store'** Data Store

Cold Store Connection CBW_SAP...

Archiving Requests



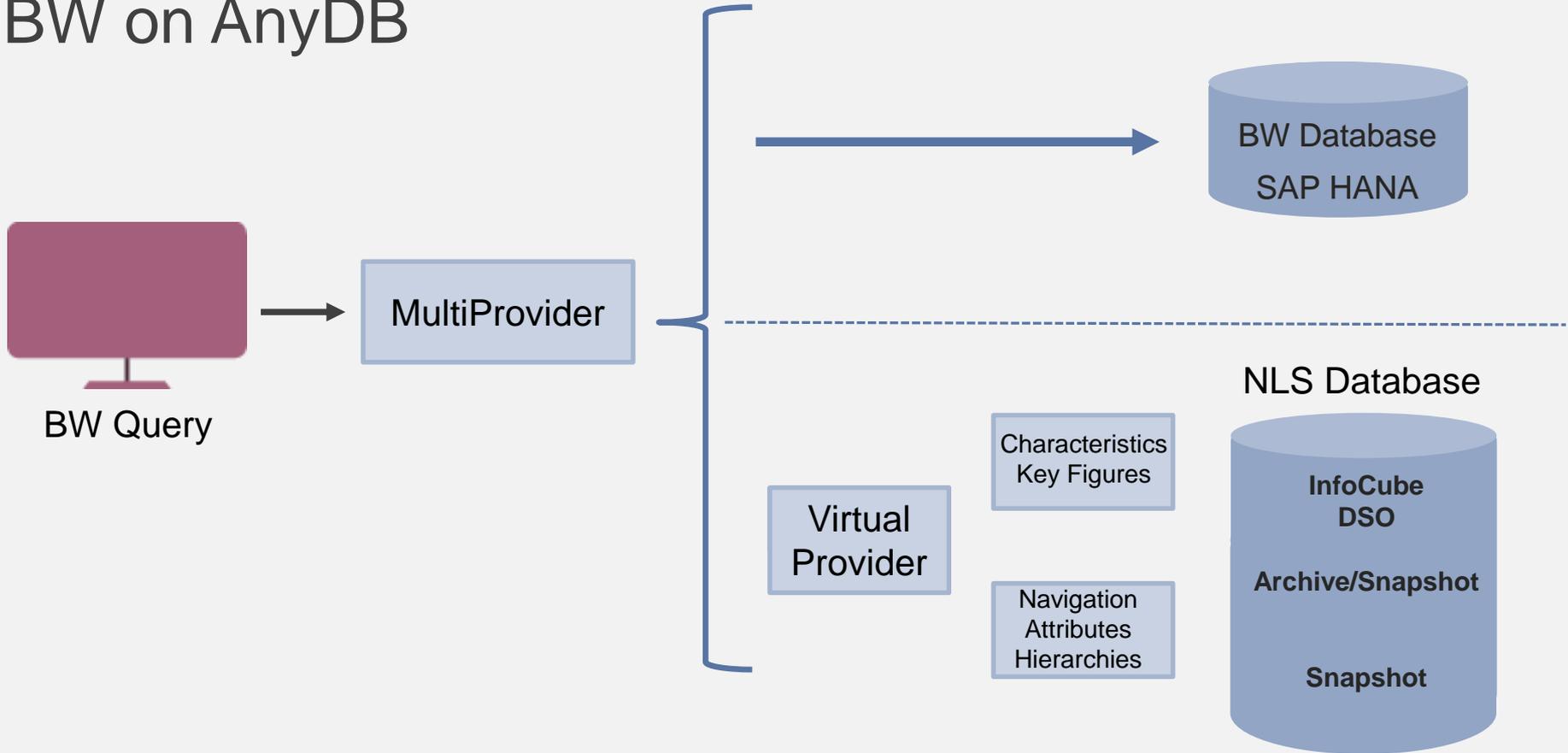
Overall Selection Condition VARNT = 'K4' AND FISCPER <= '2017002'

TSN

Transaction Sequence Number of Request	Req Typ...	Lock St.	Copy St.	Ver. Stat.	Del. Stat.
{2018-03-13 15:21:16 000002 CET}					

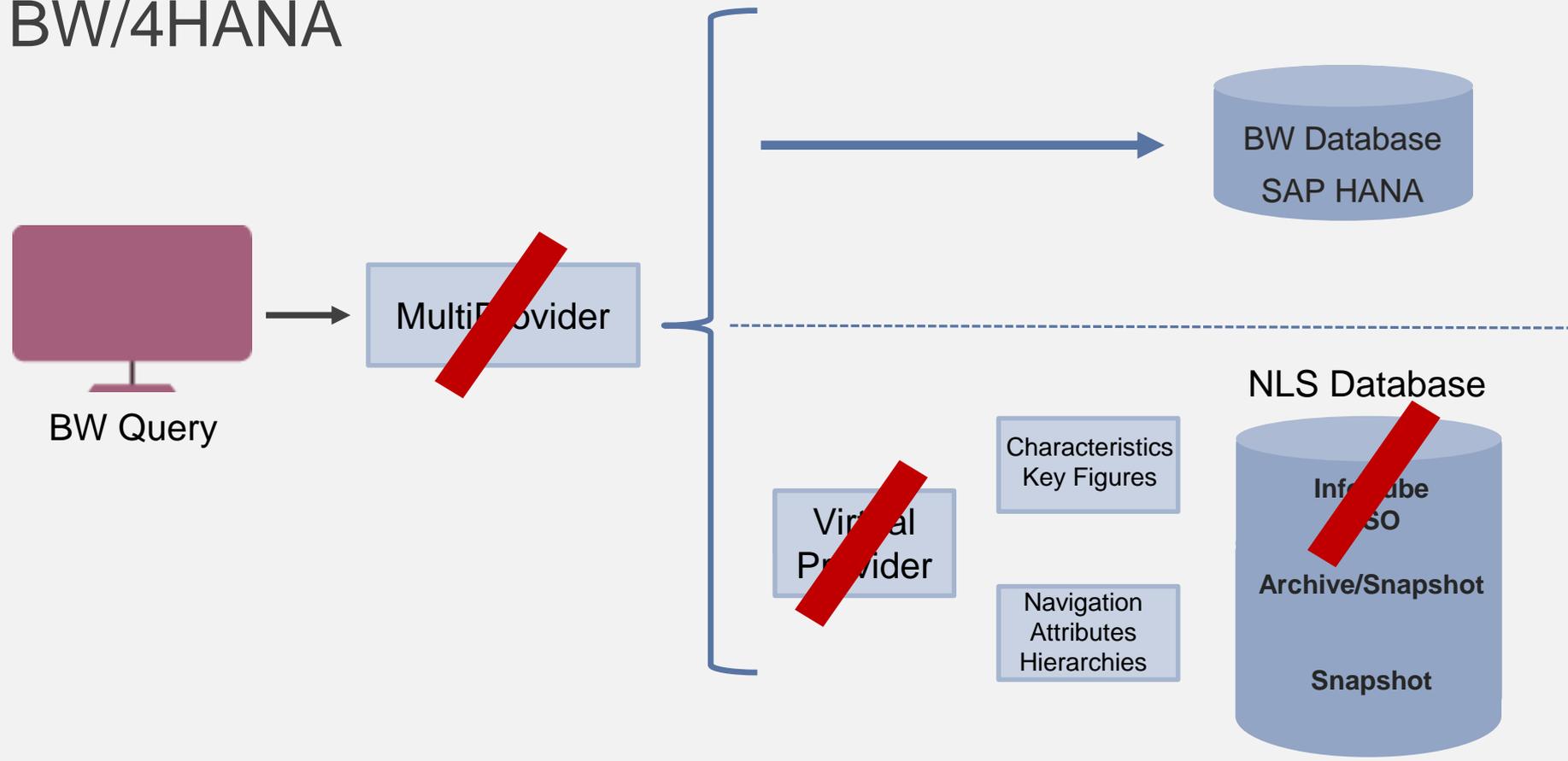
Data Selection CBW NLS

BW on AnyDB

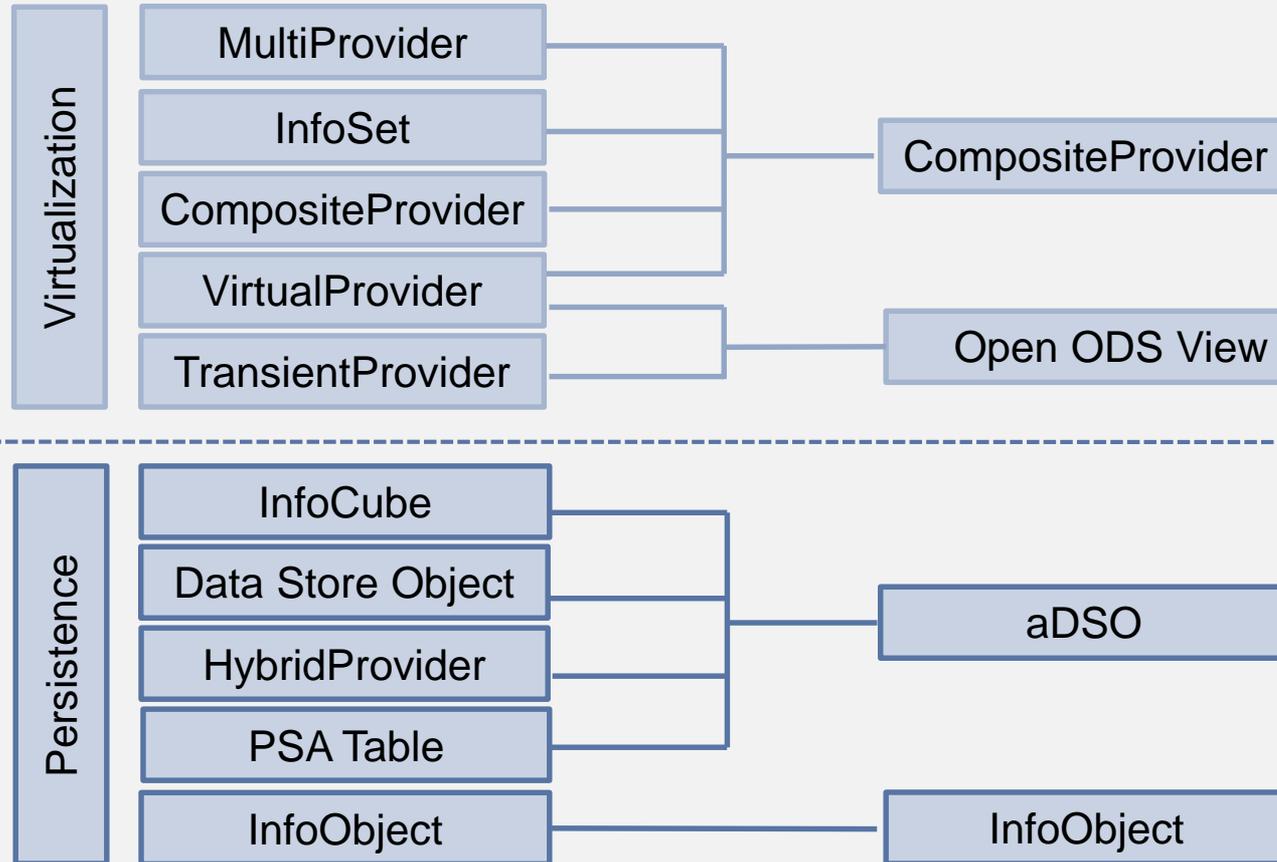


Data Selection CBW NLS

BW/4HANA



Simplification List in BW/4HANA



Modeling Types in BW/4HANA

According to the “Simplification List” the following types remain:

- CompositeProvider
- InfoObject
- Open ODS View
- advanced DataStoreObject (aDSO)

Effect on NLS:

1. NLS data of InfoCubes and DSOs -> NLS data of aDSOs
2. Replacement for VirtualProviders in queries

Definition aDSO

DataStore Object (advanced)

Technical Name: _____

Description: _____

External SAP HANA View

Modeling Properties

Activation:

Activate Data

- Write Change Log
- Keep Inbound Data, Extract from Inbound Table
- Unique Data Records
- Snapshot Support

Special Types:

- Direct Update
- All Characteristics are Key, Reporting on Union of Inbound and Active Table
- Planning Mode
- Inventory

The selected properties match template 'Data acquisition layer (including corporate memory)'.

Model Template

- Enterprise data warehouse architecture
 - Data acquisition layer (including corporate memory)**
 - Corporate memory - compression capabilities
 - Corporate memory - reporting capabilities
 - Data warehouse layer - delta calculation
 - Data warehouse layer - data mart
- Planning
 - Planning on InfoCube-like
 - Planning on Direct Update
- Classic objects
 - Standard DataStore Object
 - Write-optimized DataStore Object

/BIC/AXXX1
 /BIC/AXXX2
 /BIC/AXXX3
 /BIC/AXXX6
 /BIC/AXXX7

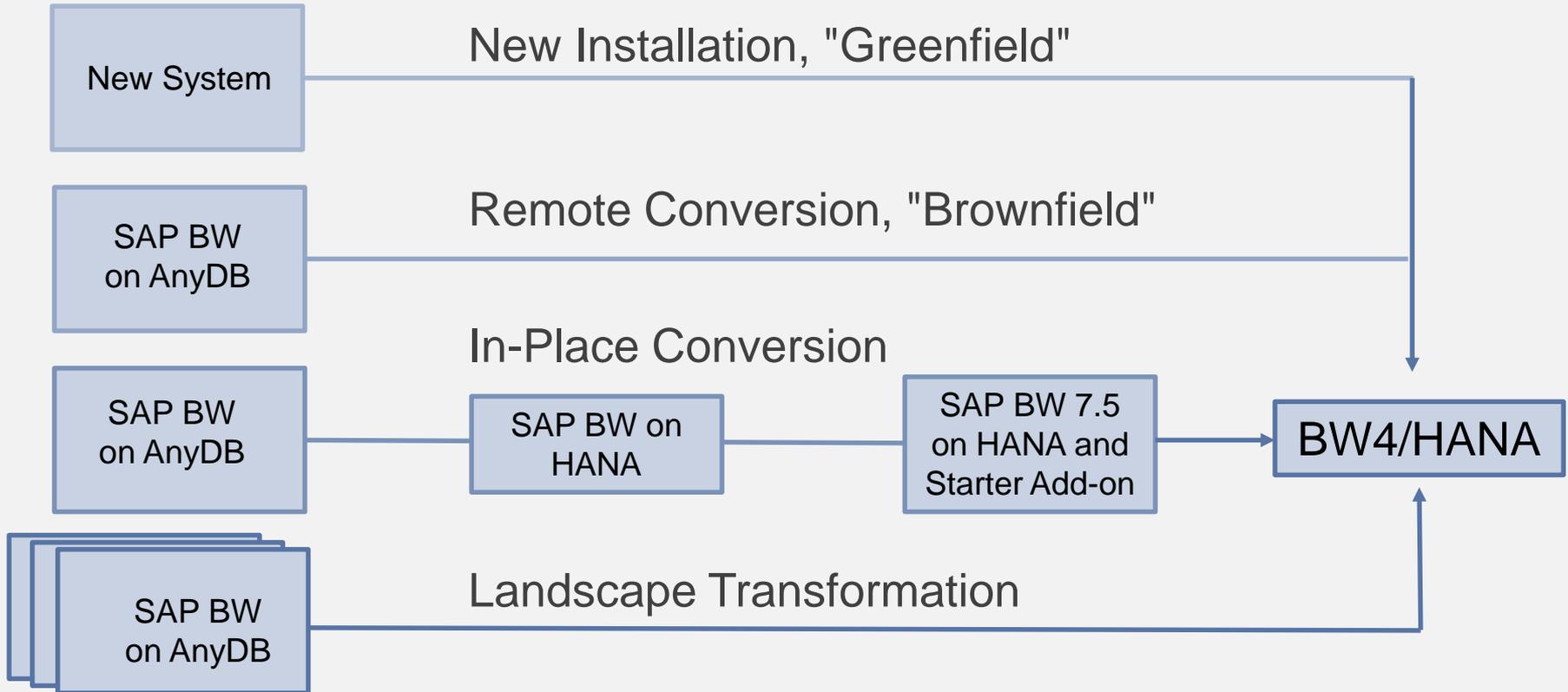
Inbound Table
 Active Table
 Change Log
 View for Extraction
 View for Reporting

Key: SID replaced by TSN
 no star scheme anymore

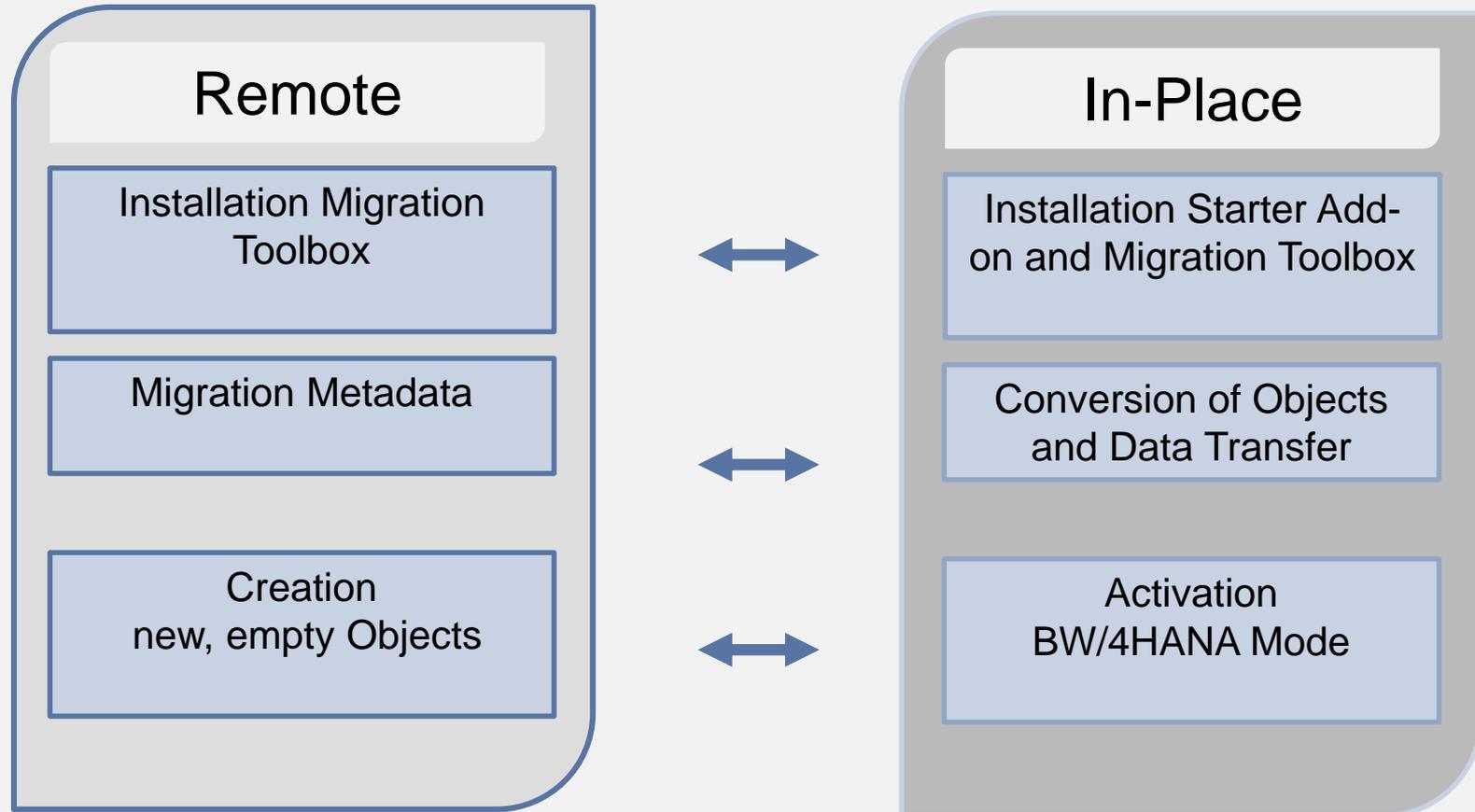
Overview: aDSO Types

Template	Classical BW Object	Activation	Change Log	Keep Inbound Data	Unique Data Records	Snapshot Support	Direct Update	All Characteristic Keys	Planning Mode	Inventory
Data Acquisition Layer	PSA / write-optimized DSO									
Corporate Memory compr.		✓								
Corporate Memory Reporting		✓		✓						
DW Layer Delta	Standard DSO	✓	✓							
DW Layer Data Mart	InfoCube	✓						✓		
Planning InfoCube	RealTime Cube	✓						✓	✓	
Planning Direct Update	Direct Update DSO						✓		✓	

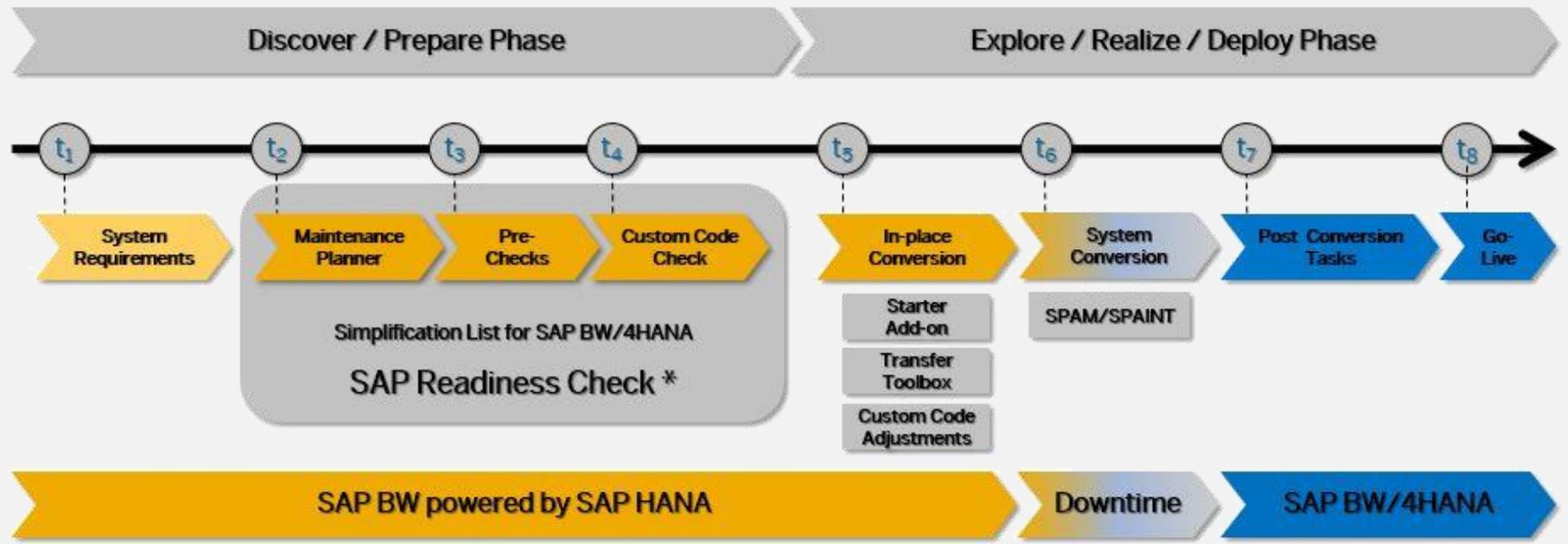
Migration Paths to SAP BW/4HANA



Remote vs. In-Place Conversion



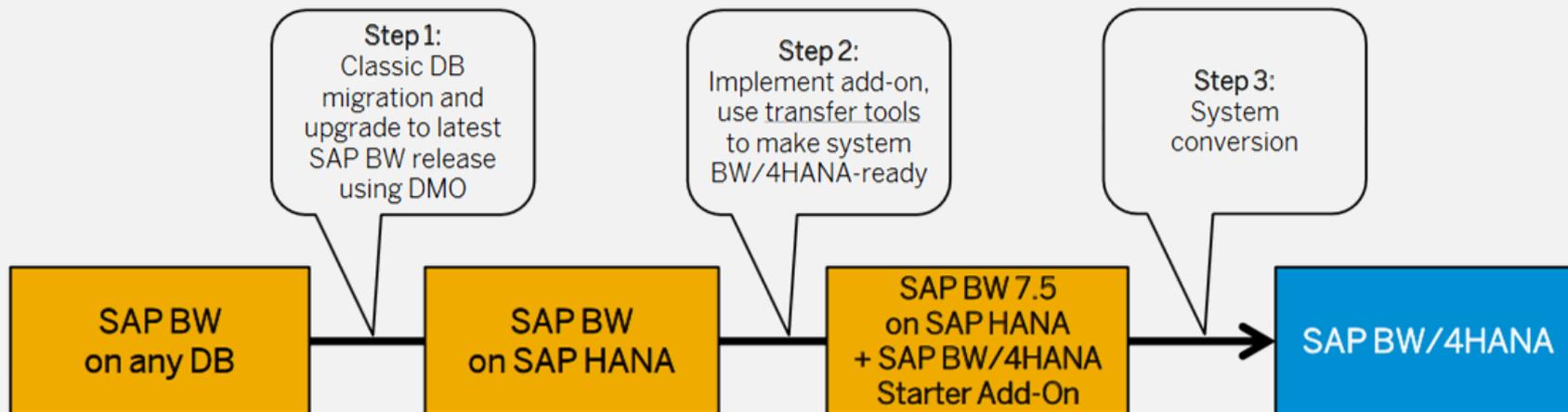
In-Place Conversion



Source: <https://blogs.sap.com> Roland Kramer

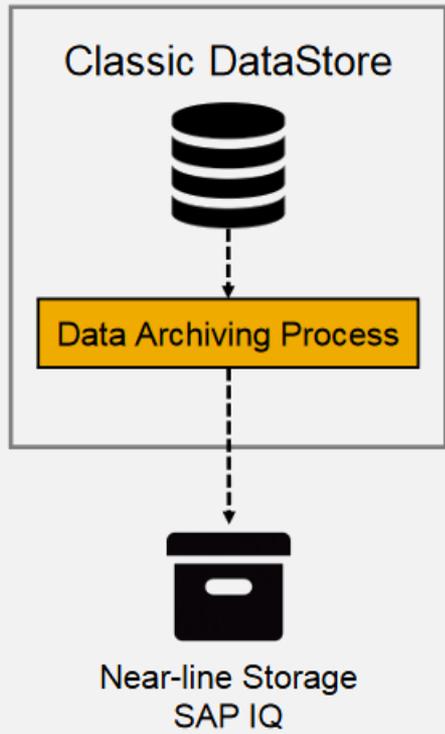
In-Place Conversion

In-place Conversion Path to Convert Your System

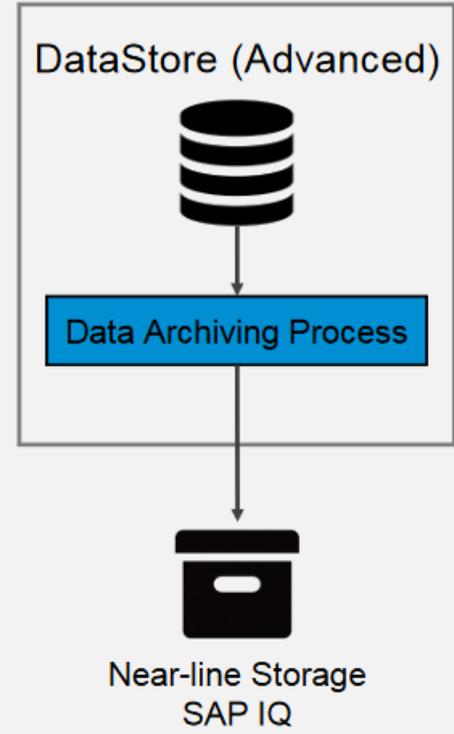


In-Place Conversion

In-Place Conversion Near-line Storage (SAP IQ)



- 1 Switch NLS to read-only
- 2 Convert NLS Request Management
- 3 Delete Data Archiving Process
- 4 Transfer Classic to Advanced DSO
- 5 Create new Data Archiving Process
- 6 Convert NLS Archive (Request ID → Request TSN)



Processing Nearline Data

Conversion Request SID => Request TSN :

1. Conversion of Request Management in the SAP System
2. Field Replacement in the Nearline Tables

Since SAP standard tables are changed in particular, the NLS migration must be carried out with the SAP Transfer Toolbox.

Data needs to be in the format that can be processed by the toolbox.

PBS Data Transfer Cockpit (DTC)

SAP Format: Prerequisite for Conversion to aDSO

⇒ Data Migration with the PBS Data Transfer Cockpit (DTC)

Time: before the aDSO Conversion

- Source: NLS Data in PBS Format
- Target: NLS Data in SAP Format

Both Formats differ in:

- a. Unicode Format (UTF-8 <-> CESU-8)
- b. Table Names
- c. Field Definitions

Processing of Data Transfer

NLS Data Transfer Start of Total Transfer

Transfer data Verify data Delete data Job

Nearline connection

Source	CBW_IQ	Target	H75NLS
log. destination	PBSRIQ_E_SAPNLSDB01@GONZO	log. destination	

Target connection Requests Customizing

DAP		Transfer	
InfoProvider	ZCCA_09N	Status	Transfer completed
	CO-OM-CCA: Ist - Einzelposten	created by	BEDAU
created by	LÖW	created on	13.04.2017 15:13:14
created on	21.04.2016 11:56:42		
Object			

Access Control

Connection

... to read	H75NLS	User group	2
... to write	CBW_IQ		

Start of Single Request

Transfer data Verify data Delete data Job Data Browser

4 Requests

ID	Data Archiving Process	Number	Size/Bytes	Session NL requ...	Last Changed By	Date	Status	Time stamp	Last Change
ZCCA_09N		119.100	125.769...	249	LÖW	21.04.2016	13.04.201...	BEDAU	
ZCCA_09N		141.852	149.795...	251	LÖW	21.04.2016	13.04.201...	BEDAU	
ZCCA_09N		348.664	368.189...	253	LÖW	21.04.2016	13.04.201...	BEDAU	
ZCCA_09N		422.229	445.873...	255	LÖW	21.04.2016	13.04.201...	BEDAU	

Transfer Status by Request

Data Selection in BW/4HANA

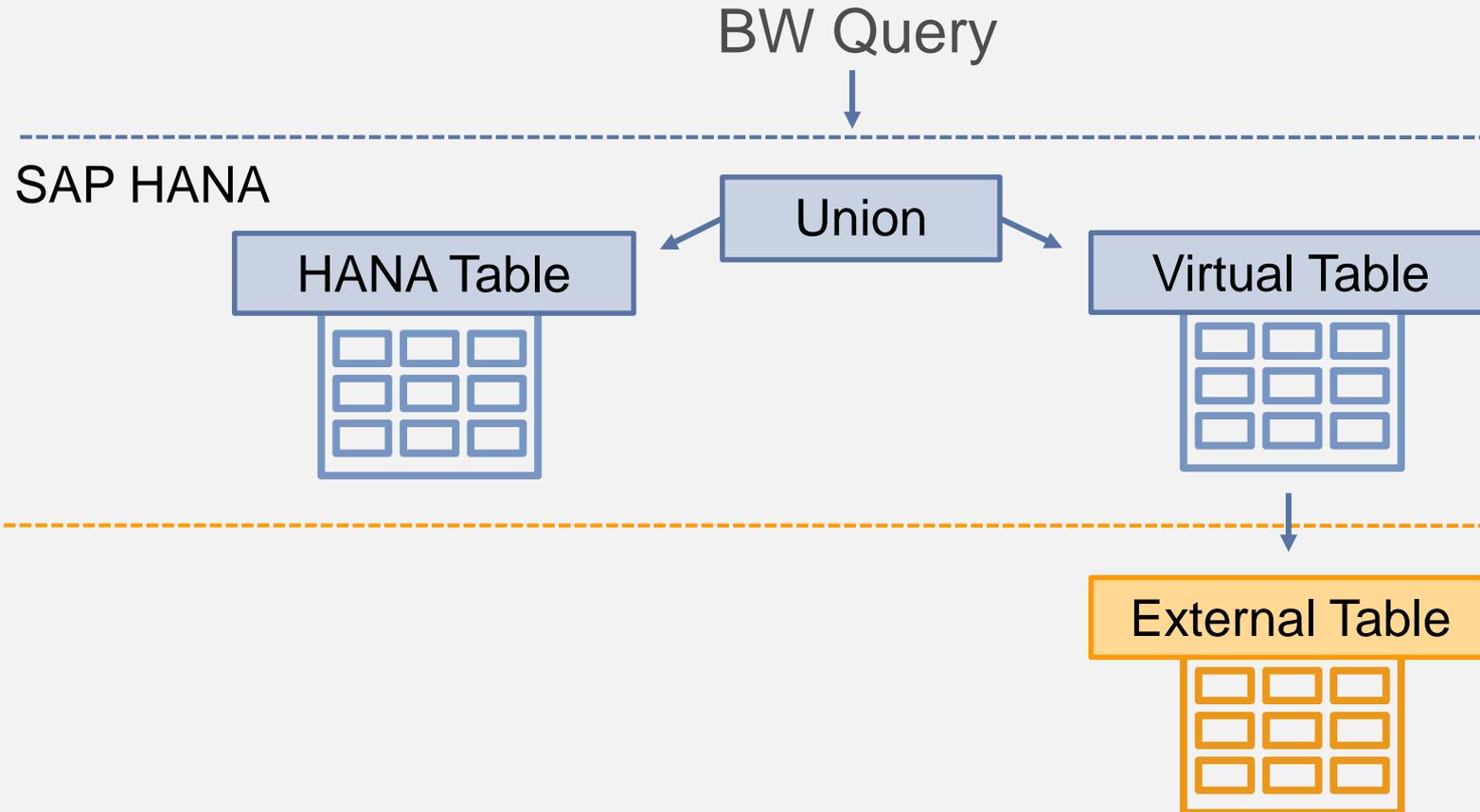
Integration of virtual Providers is not possible.

SDA: Smart Data Access, integration in evaluation by virtual table

=> NLS data is selected via SDA view

=> SDA view is also generated in the data transfer

Functionality of Smart Data Access (SDA)



Summary

- Nearline data can be integrated in the SAP Transfer Toolbox after format conversion
- Like in BW on AnyDB, archiving can be efficiently implemented in BW/4HANA using the PBS solutions
- Nearline data in queries is taken into account via SDA in BW/4HANA



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