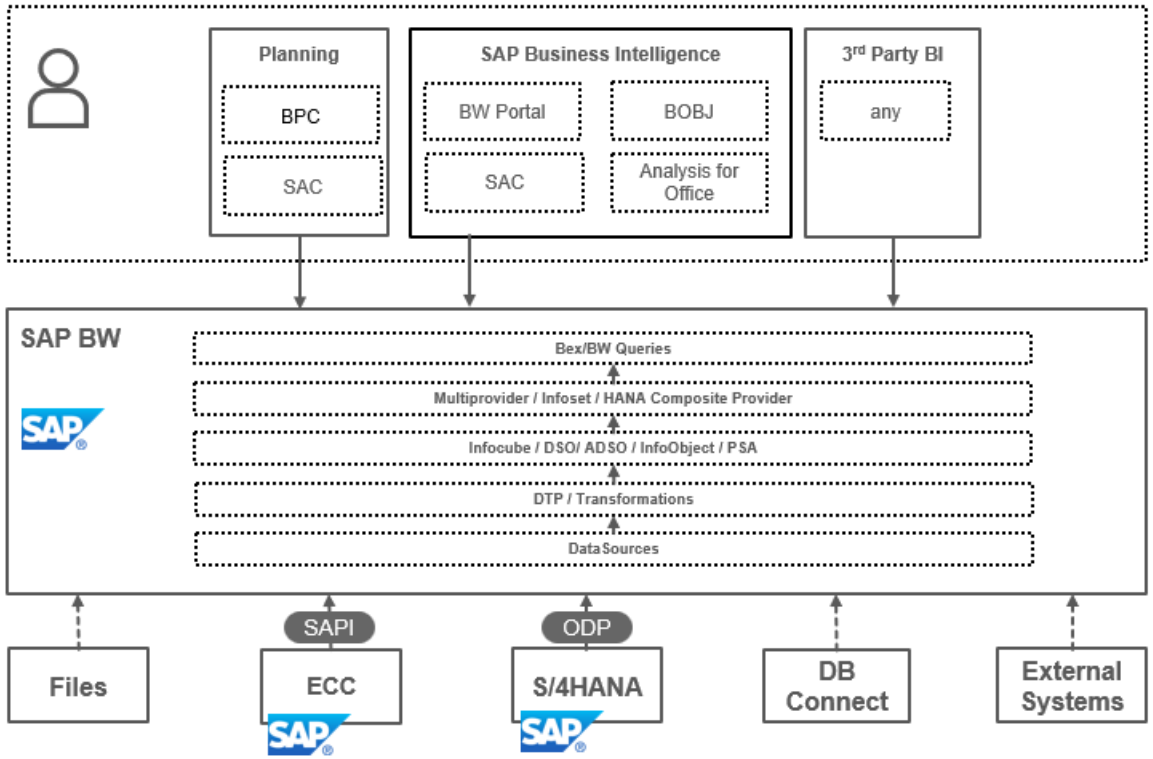
SAP BW Modernization Series
Session 5 – Part 1

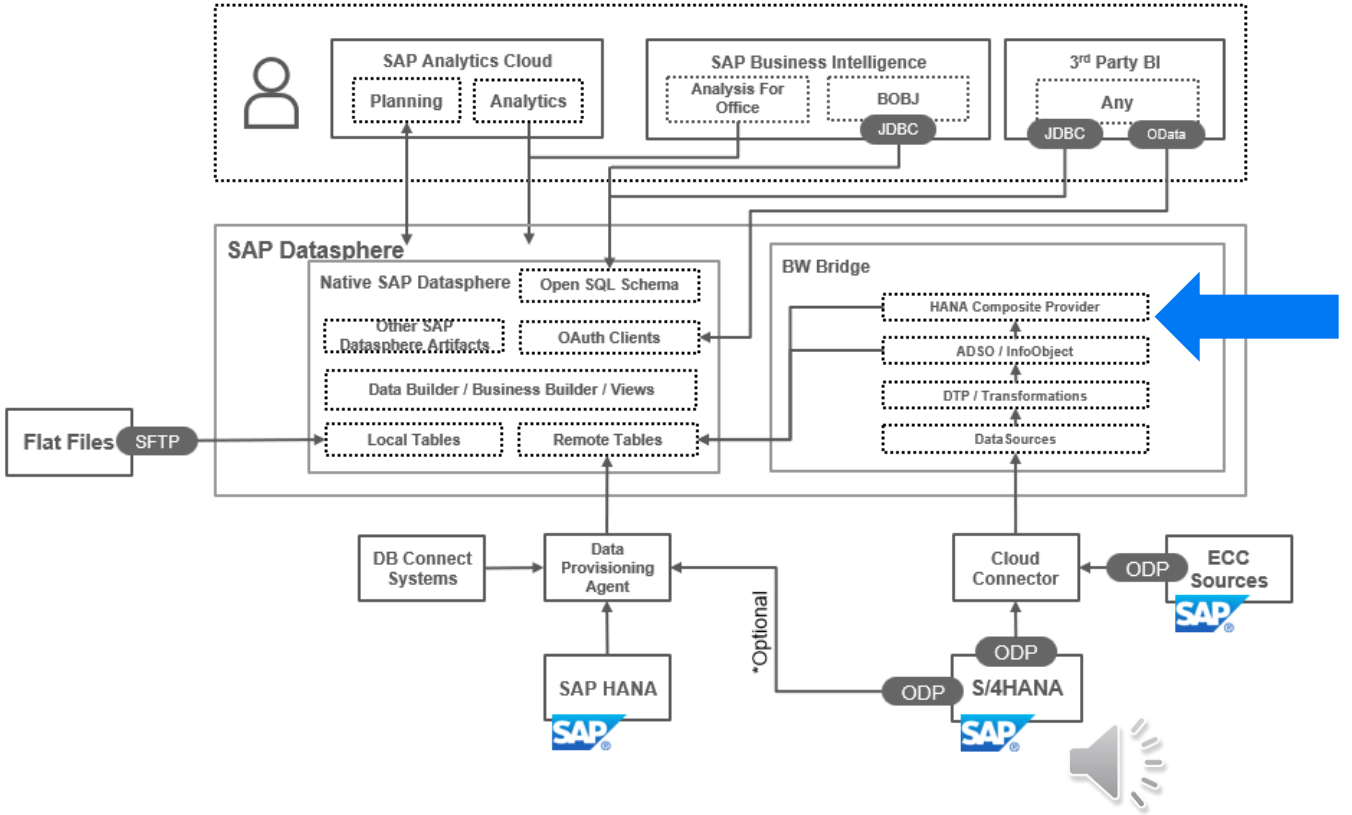
Justin Lynch, SAP

Understanding the SAP BW Bridge

As Is Landscape



Target Landscape



Understanding the SAP BW Bridge

System Preparation Overview

Prepare Phase for the SAP Datasphere, BW Bridge

SAP Datasphere, SAP BW Bridge

- SAP BW Modeling Tools version 1.24 Patch 2 (=1.24.17) or higher must be installed
- Check the availability of Cloud Data Centers
- Check the Target SAP Datasphere release
- Perform a proper sizing for BW Bridge tenant
- Check the BW source system release
- Provisioning SAP BW Bridge tenant
- Prepare BW Modeling Tools and ABAP Development Tools
- Set up the Communication System in the SAP BW bridge cockpit
- Preparing Connectivity for SAP BW Bridge and check the all Prerequisites
- Create the Source System in the BW Modeling Tools

BWM Tool | ABAP Development Tools | Connectivity for SAP BW Bridge | Set up the Communication System | Provisioning SAP BW Bridge tenant

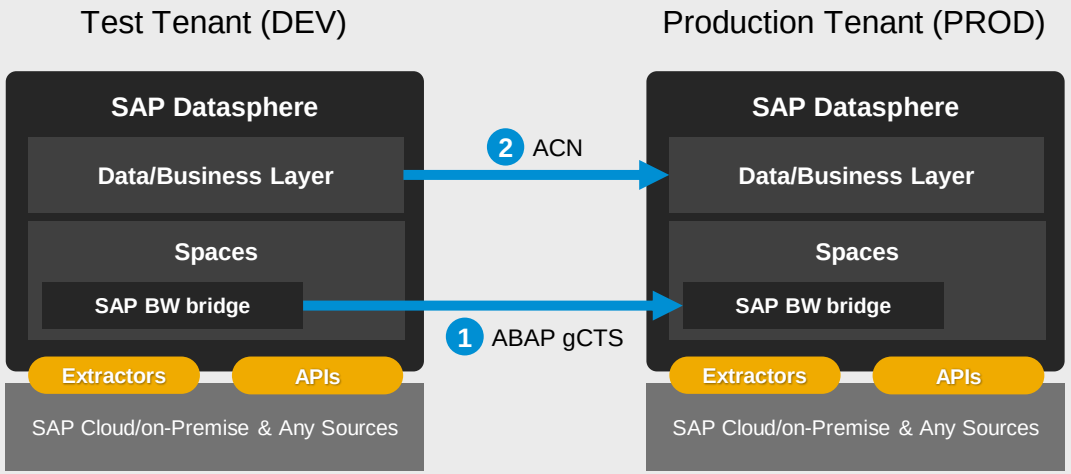
The tools required to perform a shell conversion are available for SAP Datasphere, SAP BW bridge 2202 or higher.

The tools required to perform a remote conversion are available for SAP Datasphere, SAP BW bridge 2205 or higher.

3141688 - Conversion from SAP BW or SAP BW/4HANA to SAP Datasphere, SAP BW Bridge

SAP BW bridge: Multi-tier landscape support

- Define your landscape setup **BEFORE** you order the provisioning of the SAP Datasphere tenants.
  Single-tier setups cannot be converted!
- DEV tenant of the SAP BW bridge instance is automatically set to “development enabled = TRUE” 👉 do not change this!
- PROD tenant of the SAP BW bridge must be configured as “development enabled = FALSE”
- Then you can start transporting from DEV to PROD between the SAP BW bridge instances
- Both transport mechanisms work independently, therefore
  1. transport the SAP BW bridge objects first, expose the data and objects in the SAP BW bridge space. In SAP Datasphere, SAP BW bridge, transports are carried out via gCTS (git-based Change and Transport System, see SAP Help for details). This is controlled via the software component. Initially, all objects assigned to a software component are transferred to other systems in the system landscape and subsequently a delta mechanism is available in gCTS.
  2. transport the SAP Datasphere objects on top. In SAP Datasphere, transports between tenants are carried out using the transport and CSN/JSON methods. The transports are controlled via the SAP Analytic Content Network (ACN), see SAP Help for more details.



Flexible Tenant Configuration
development enabled = **TRUE**

Flexible Tenant Configuration
development enabled = **FALSE**

For more information, see also SAP Note 3130759

Blog on the topic:
https://blogs.sap.com/2023/06/21/how-to-transport-in-an-sap-bw-bridge-system-landscape/

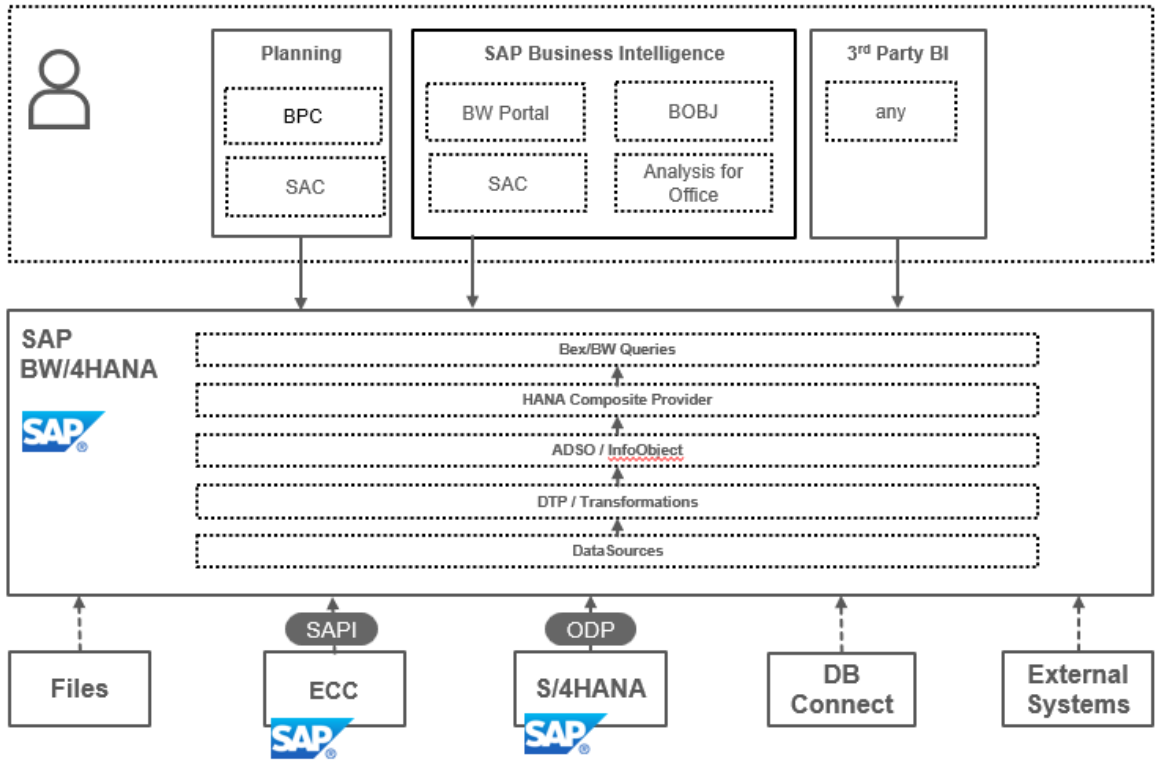
Developer tutorial:
https://developers.sap.com/tutorials/abap-environment-abapgit.html

Required Skillsets

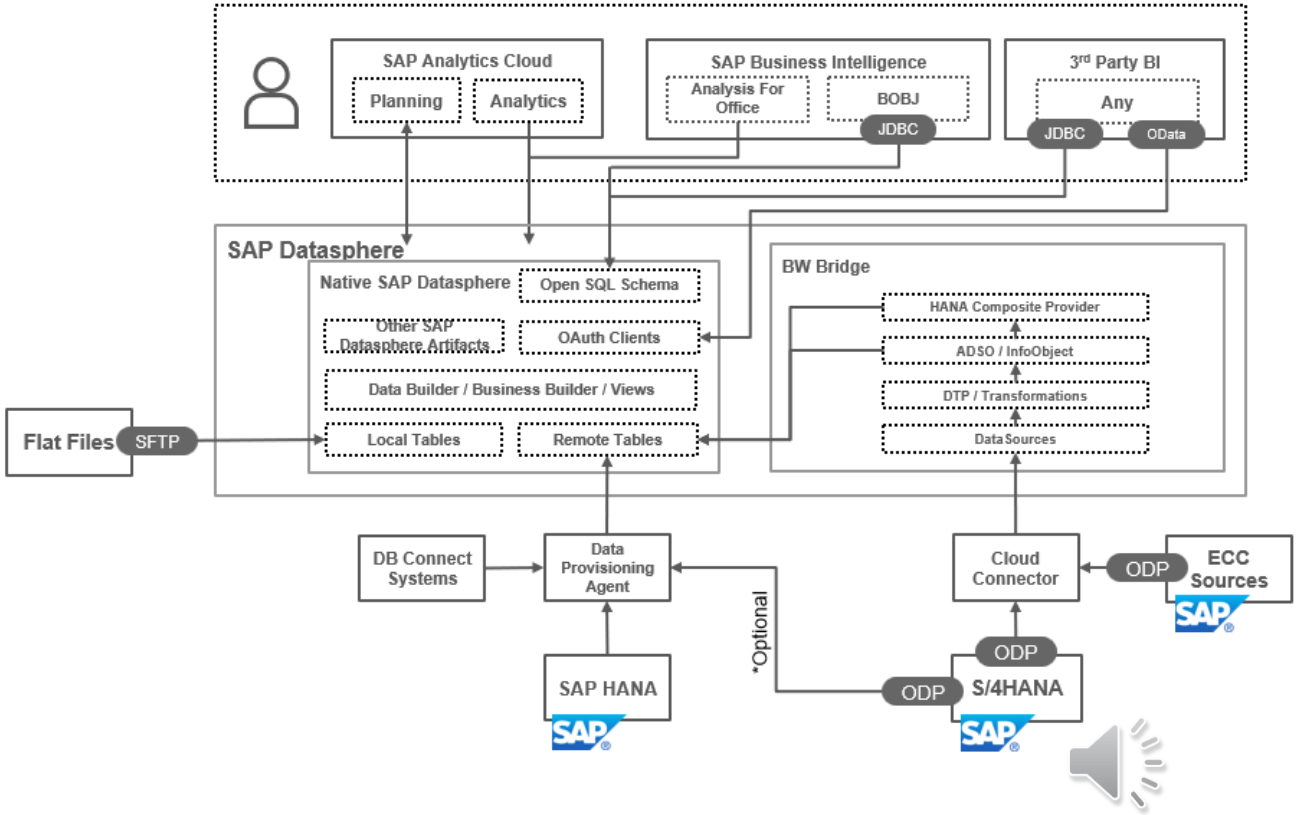
- BW Skillsets (Data Modeling, Data Loading, Process Chains, Monitoring)
- Conversion Background: Shell and/or Remote Conversion
- New Skillsets (Topics to Learn)
  - BW (Bridge) Modeling Tools
  - BW Bridge Cockpit
  - Datasphere Core Features
    - Modeling
    - Data Integration
    - Monitoring
    - Space Concepts
    - Analytic Model

Comparing BW/4HANA vs. BW Bridge

BW/4HANA Landscape



BW Bridge Landscape



SAP BW/4HANA - Removed Legacy Functionality


Tool-Based


Manual


Semi-Automated

SAP BW

SAP BW/4HANA

BEx Analyzer, BEx Web Templates, BEx Tools		SAP Analytic Cloud or SAP BusinessObjects clients & tools
BW Query (BEx Query Designer)		BW Query (Eclipse Query Designer)
Classic Object Types (InfoCube, DSO, MultiProvider, InfoSet, …)		Advanced DataStore Object & CompositeProvider
SAP GUI Modeling & Workbench		Eclipse-based BW Modelling tools
Source System types DB Connect, Extractor (S-API), BW		HANA Source System & ODP
Source System types UD Connect, Data Services, Partner ETL		HANA Source System
BI Content Packages		SAP BW/4HANA Content Packages
PSA / InfoPackages		Operational Delta Queue, field-based DataStore Object (adv.)
Easy Query		OData Query
Analysis Process Designer		Process Chains + SAP Data Warehouse Cloud
Virtual InfoProvider		HANA Calculation Views, Open ODS View
Near-line Storage Partner Solutions		Data Tiering Optimization (DTO) with SAP IQ & Hadoop

Conversion Paths to SAP Datasphere, SAP BW Bridge

SAP BW

SAP Datasphere, SAP BW Bridge

BEx Analyzer, BEx Web Templates, BEx Tools	Manual	SAP Analytics Cloud
BW Query (BEx Query Designer)	Semi-Automated	Model Transfer
Classic Object Types (InfoCube, DSO, MultiProvider, InfoSet, …)	Tool-Based	DataStore Object (adv.) & CompositeProvider
Object Type InfoObject	Tool-Based	InfoObject
Loading Object Types (Transformation, DTP, Process Chain)	Tool-Based	Transformation, DTP, BW Bridge Process Chain
SAPGUI Modeling & Workbench	Tool-Based	Eclipse based BW Modelling Tools & BW Bridge Cockpit (UI5)
Source System ERP Extractors (S-API), BW	Tool-Based	Consolidation to ODP
Source System types UD/DB Connect, Data Services, Partner ETL	Manual	Consolidation to SAP Datasphere
Source Systems types HANA, File	Manual	Consolidation to SAP Datasphere
PSA / InfoPackages	Tool-Based	Operational Delta Queue, field-based DataStore Object (adv.)
BI Content Packages	Semi-Automated	SAP BW bridge Content
Near-line Storage Partner Solutions, Near-line Storage SAP, DTO	Manual	New Cold Store planned

Comparing SAP BW, SAP BW/4HANA, SAP Datasphere, SAP BW Bridge

SAP BW

BEx Analyzer, BEx Web Templates, BEx Tools

BW Query (BEx Query Designer)

Classic Object Types (InfoCube, DSO, MultiProvider, InfoSet, …)

Object Type InfoObject

Loading Object Types (Transformation, DTP, Process Chain)

SAPGUI Modeling & Workbench

Source System ERP Extractors (S-API), BW

Source System types UD/DB Connect, Data Services, Partner ETL

Source Systems types HANA, File

PSA / InfoPackages

BI Content Packages

Near-line Storage Partner Solutions, Near-line Storage SAP, DTO

SAP BW/4HANA

SAP Analytic Cloud or SAP BusinessObjects clients & tools

BW Query (Eclipse Query Designer)

Advanced DataStore Object & CompositeProvider

Object Type InfoObject

Loading Object Types (Transformation, DTP, Process Chain)

Eclipse-based BW Modelling tools

HANA Source System & ODP

HANA Source System

HANA Source System

Operational Delta Queue, field-based DataStore Object (adv.)

SAP BW/4HANA Content Packages

Data Tiering Optimization (DTO) with SAP IQ & Hadoop

SAP Datasphere, SAP BW Bridge

SAP Analytics Cloud

Model Transfer

DataStore Object (adv.) & CompositeProvider

InfoObject

Transformation, DTP, BW Bridge Process Chain

Eclipse based BW Modelling Tools & BW Bridge Cockpit (UI5)

Consolidation to ODP

Consolidation to SAP Datasphere

Consolidation to SAP Datasphere

Operational Delta Queue, field-based DataStore Object (adv.)

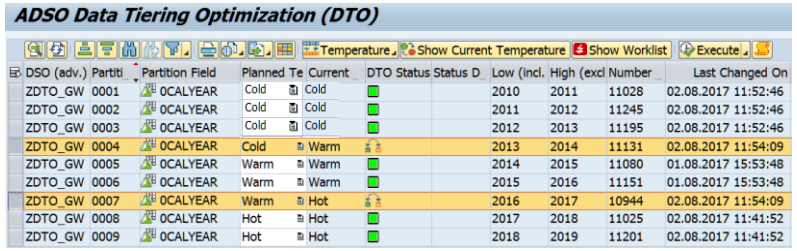
SAP BW bridge Content

New Cold Store planned

SAP BW/4HANA Data Tiering Optimization (DTO)

Native Storage Extension (NSE) Example

Partition Temperature in SAP BW/4HANA (“Plan”)

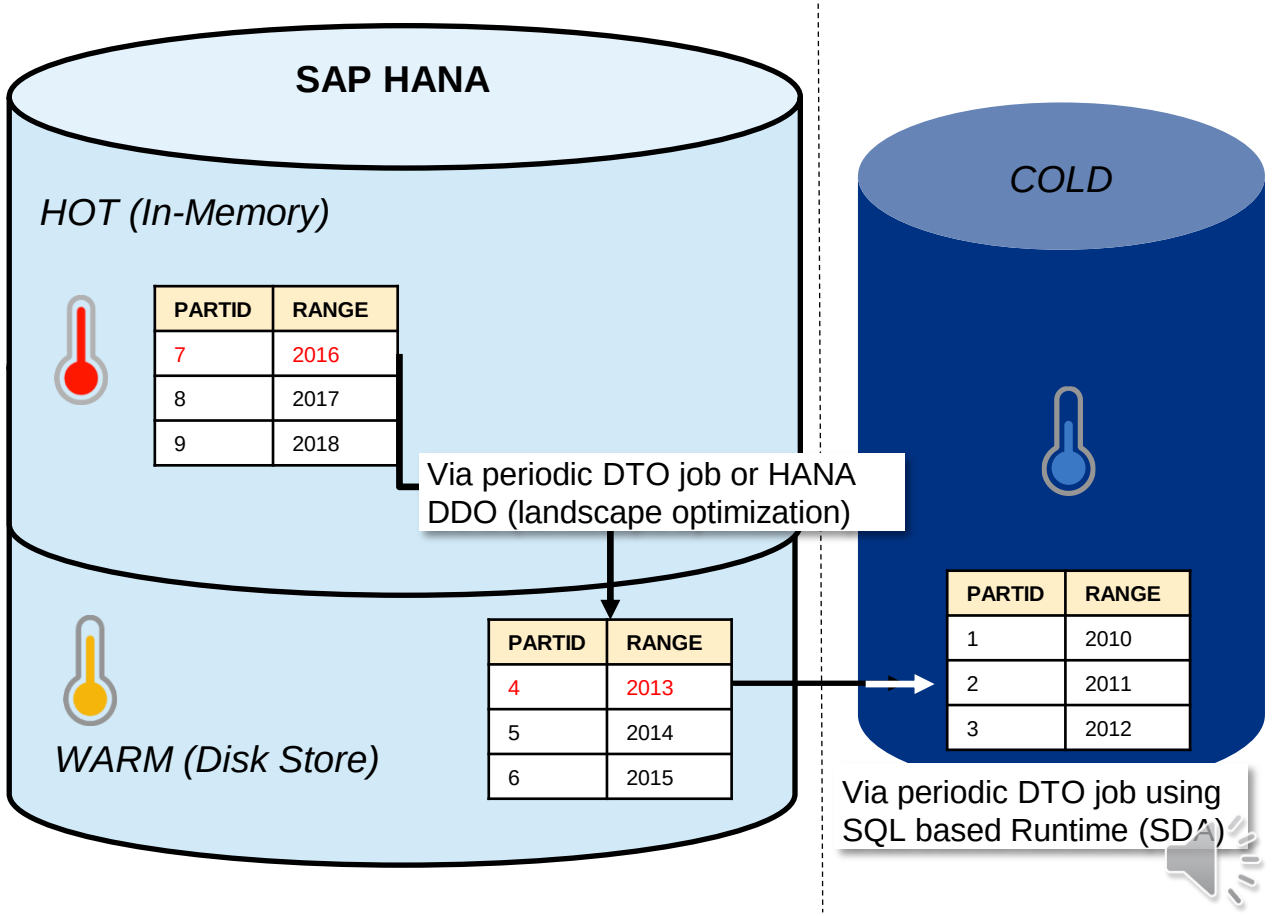


DSO (adv.)	Partiti	Partition Field	Planned Te	Current	DTO Status	Status D	Low (incl.	High (excl	Number	Last Changed On
ZDTO_GW	0001	0CALYEAR	Cold	Cold			2010	2011	11028	02.08.2017 11:52:46
ZDTO_GW	0002	0CALYEAR	Cold	Cold			2011	2012	11245	02.08.2017 11:52:46
ZDTO_GW	0003	0CALYEAR	Cold	Cold			2012	2013	11195	02.08.2017 11:52:46
ZDTO_GW	0004	0CALYEAR	Cold	Warm			2013	2014	11131	02.08.2017 11:54:09
ZDTO_GW	0005	0CALYEAR	Warm	Warm			2014	2015	11080	01.08.2017 15:53:48
ZDTO_GW	0006	0CALYEAR	Warm	Warm			2015	2016	11151	01.08.2017 15:53:48
ZDTO_GW	0007	0CALYEAR	Warm	Hot			2016	2017	10944	02.08.2017 11:54:09
ZDTO_GW	0008	0CALYEAR	Hot	Hot			2017	2018	11025	02.08.2017 11:41:52
ZDTO_GW	0009	0CALYEAR	Hot	Hot			2018	2019	11201	02.08.2017 11:41:52

Updated entries made by DTO Admin…

2013 and 2016 to be moved….

PARTID	RANGE	TEMPERATURE
1	2010	COLD
2	2011	COLD
3	2012	COLD
4	2013	COLD
5	2014	WARM
6	2015	WARM
7	2016	WARM
8	2017	HOT
9	2018	HOT



HANA Scale Up*

External Storage SAP IQ

***Scale out planned**

SAP BW bridge - Data tiering optimization (DTO)

SAP HANA Cloud Data as Cold-Storage

Partition Temperature in SAP BW bridge (“Plan”)

Updated entries made by DTO Admin…

2013 and 2016 to be moved….

PARTID	RANGE	TEMPERATURE
1	2010	COLD
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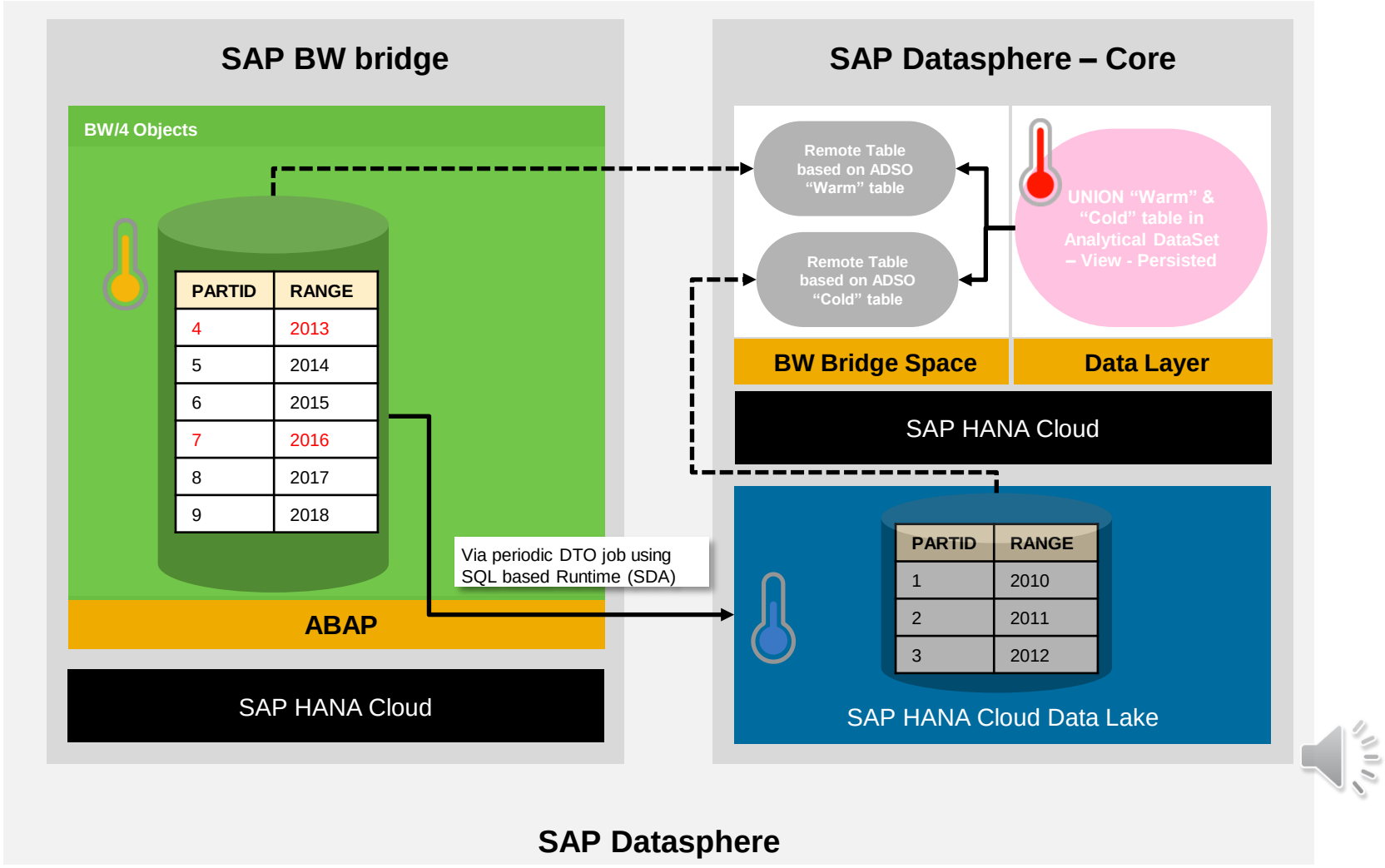
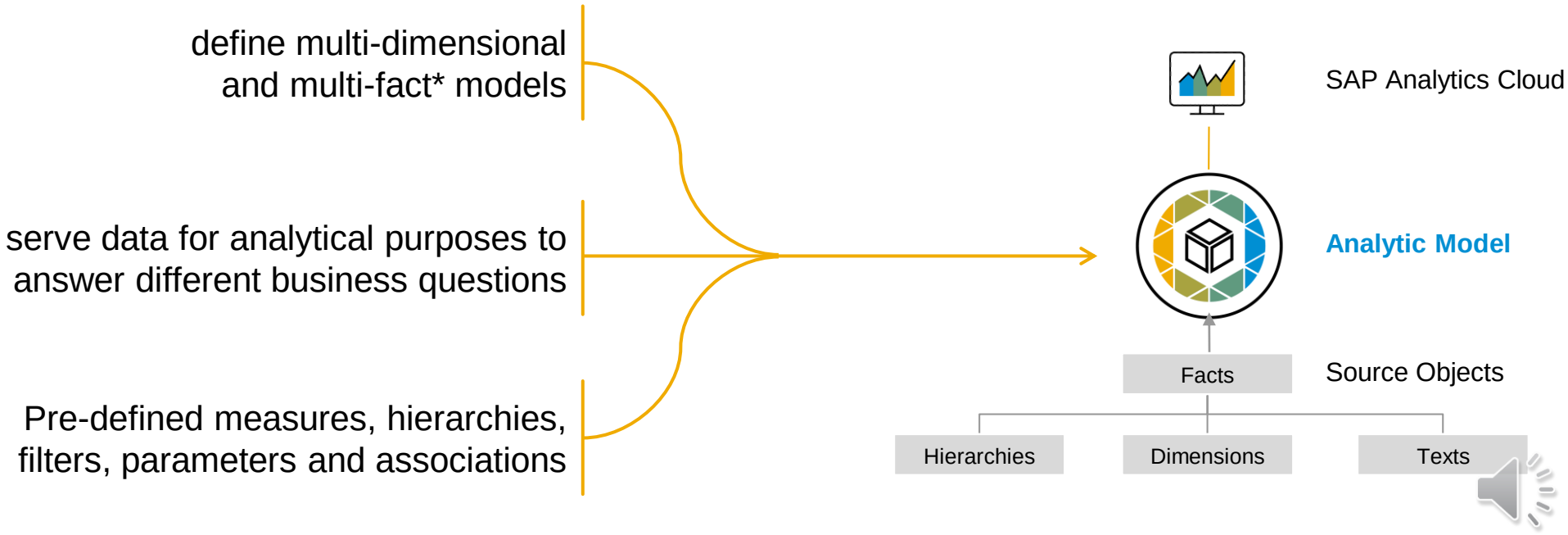
6	2015	WARM
7	2016	WARM
8	2017	WARM
9	2018	WARM



Manage. Analytic Model Overview

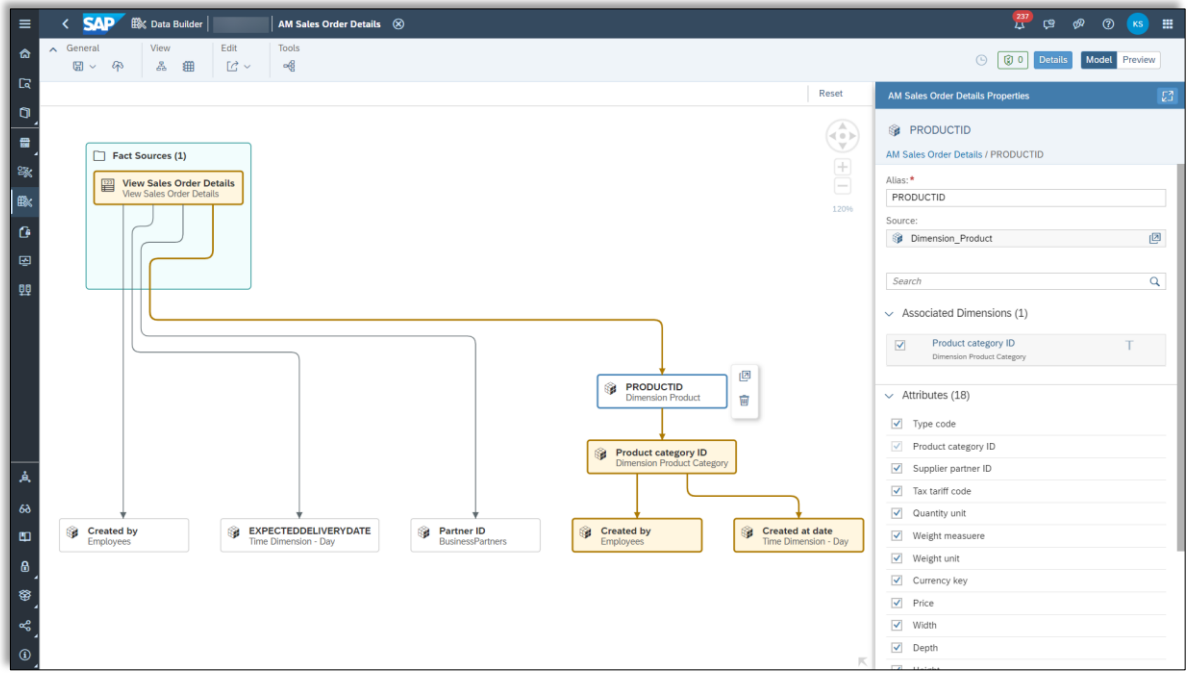
Analytic Models are the analytical foundation to make data ready for consumption in SAP Analytics Cloud.



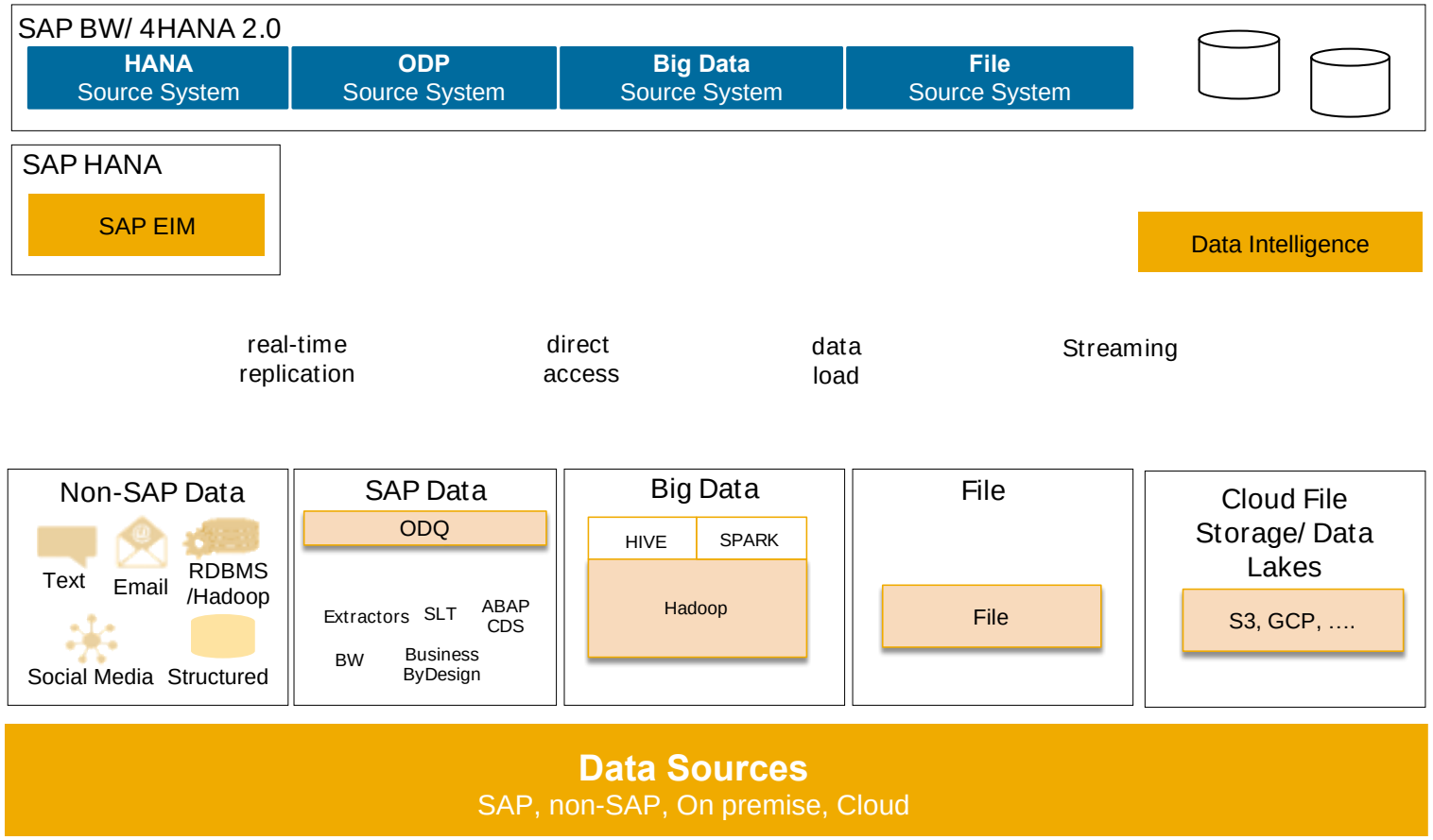
* According to the Roadmap

Manage. Analytic Model Features

- The Analytic Model allows multi-dimensional and rich analytical modelling with less effort to answer business questions easier, faster and more efficiently
- It offers many features like
  - Calculated & restricted measures incl. constant selection
  - Exception aggregation
  - Pruning of attributes and measures
  - Nested dimensions & variable support
  - Compound keys
  - Time-dependency for dimensions & texts
  - Currency conversion after aggregation
  - Multi-dimensional analytical preview incl. filtering, pivoting, hierarchies, etc.
  - Repository integration for impact & lineage analysis, model export/import, change management and transports
  - Migration support from Analytical Data Set



SAP BW/4HANA – Comprehensive Access to all Data



SAP BW/4HANA simplifies data integration, offering comprehensive access to external systems

- Number of source system types reduced from 10 to 4 to improve TCO
- Replicate data in real-time (HANA SDI or ODP-SLT)
- Access data virtually
- Load data using optimized processing in SAP HANA

Integrate. Data Integration Architecture

- For the Data Flow functionality the Data Intelligence Embedded environment is used:
  - Data Intelligence Connectors are used to connect to the remote sources
- For Remote Tables the SAP HANA Federation based on Smart Data Integration (SDI) or Fabric Virtual Tables is used
  - SDI uses the dpServer to connect to the remote sources
  - Fabric Virtual Tables uses Smart Data Access (SDA)
- This causes different functionality, prerequisites and user experience