Customer

SAP BW/4HANA

EDW Product Management
February 2017

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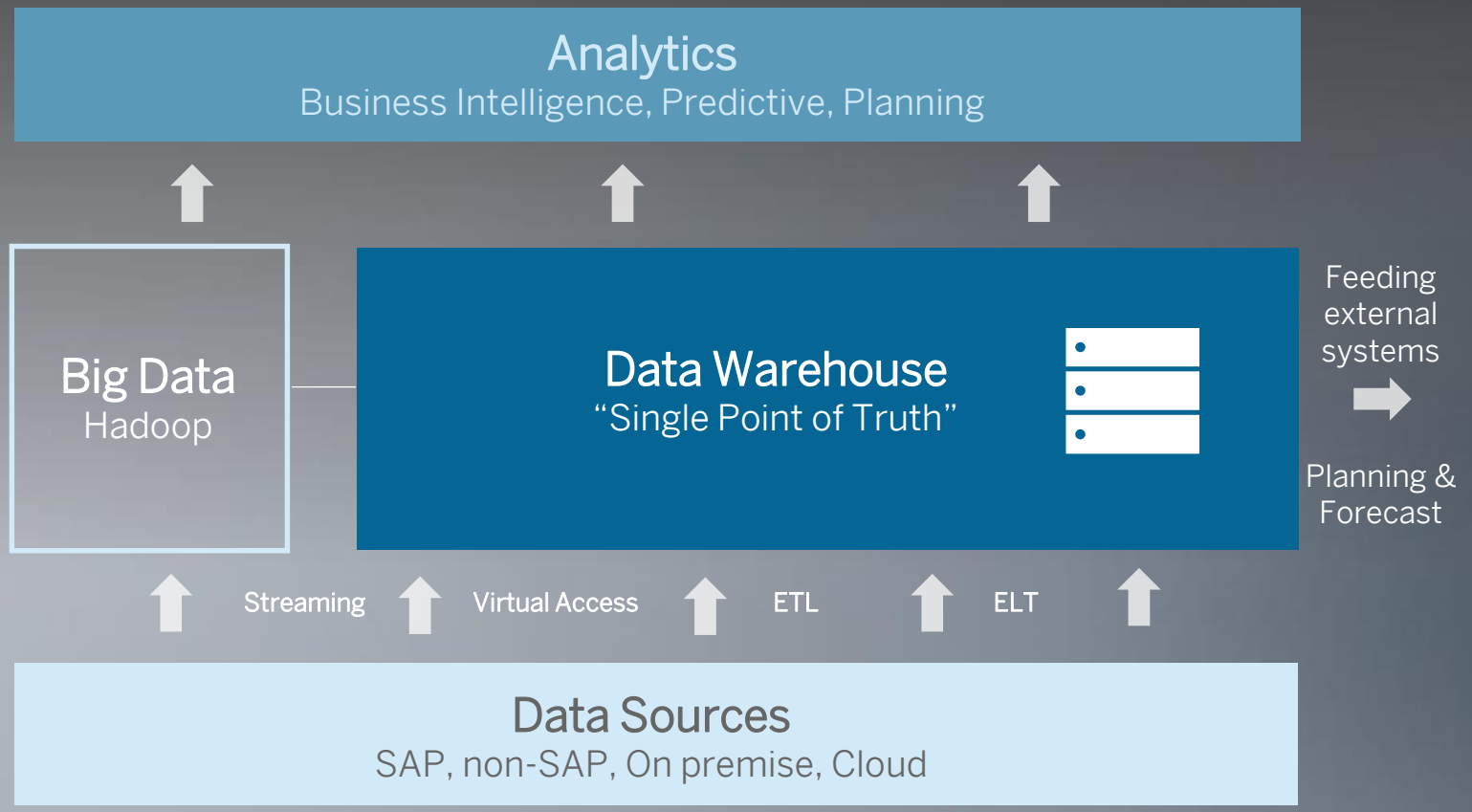
What is an Enterprise Data Warehouse?
Functions of the Enterprise Data Warehouse (EDW)



Characteristics

- Consolidates data across the enterprise
- Standardized data model
- Supports decision making

Main Tasks

- Define common semantics
- Harmonize data values
- Establish a 'single version of truth'
- Provide a single, comprehensive source of current and historical information
- Keep copy of source data to ensure independency of source and support the unknown

Modern Challenges for Enterprise Data Warehouses

Data

- **Different Locations –** cloud, data lakes
- **Additional Types –** behavioral data, IoT (Structured and Unstructured)
- **Higher Volumes –** > 40% growth YoY

People

- **Better Performance –** real-time results
- **Greater Scope –** predictive, agile analytics
- **Added Value –** new & unused data (> 85%)

SAP Business Warehouse - Today

16000+
SAP BW Customers

8000+
SAP BW 7.3 / 7.4 Customers

4000+
SAP BW on SAP HANA Customers

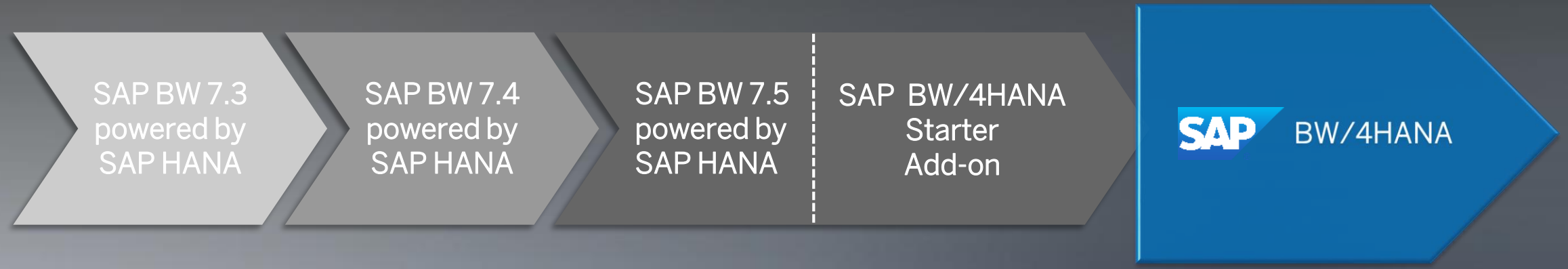
Vast majority use SAP BW as central EDW, harmonizing many source systems

Embedded into mission critical business processes

Continuously growing SAP HANA adoption

Strategy to run simple with SAP BW

SAP BW/4HANA – The Next Generation Data Warehouse



Performance optimization

Simplification and Virtualization

Simplification,

HANA platform integration

Big Data scenarios

For SAP BW/4HANA customers only

Use transfer tools to make system ready for SAP BW/4HANA

Requires SAP BW 7.5 SP 4 or higher

Introducing SAP BW/4HANA

The Next Generation Data Warehouse

Built for Cloud and on premise

Logical Data Warehousing

Internet of Things

Integrates with Big Data

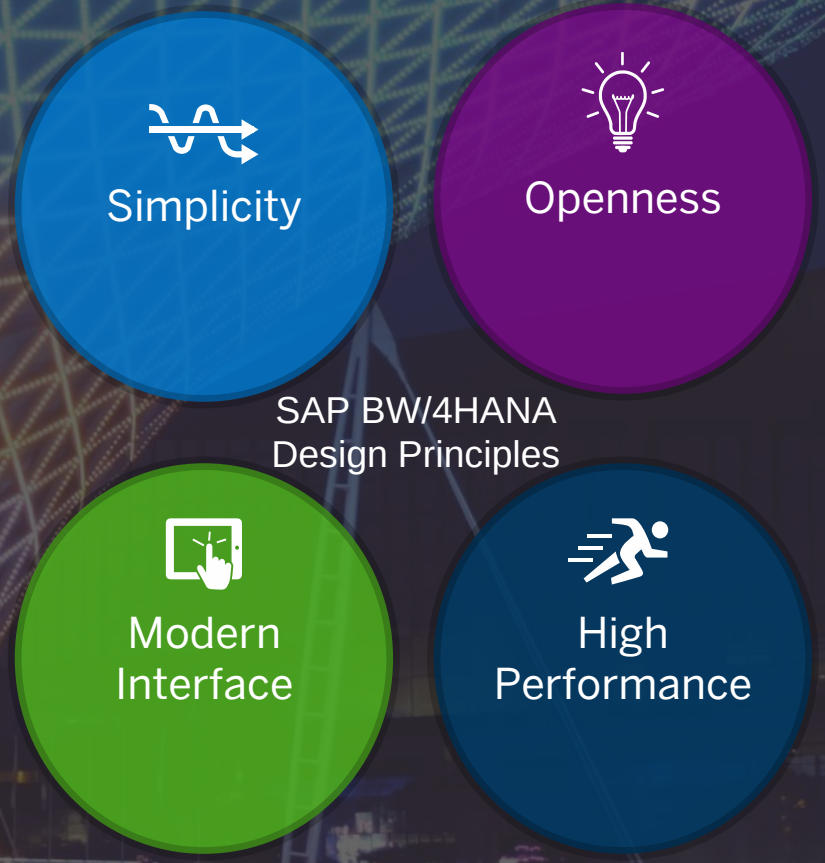
2012 — 2013 — 2015 — 2016

THE NEXT GENERATION DATA WAREHOUSE

ANNOUNCING SAP BW/4HANA

SAP BW/4HANA…

- is a new data warehouse solution
- is highly optimized for SAP HANA
- solves analytics problems in seconds that take other systems days
- accelerates solution development
- means you have one version of the truth
- is ready for the internet of things at petabyte scale



The transition from standard SAP BW to SAP BW/4HANA can be compared with the transition of the SAP Business Suite to SAP S/4HANA. As part of this transition, SAP BW/4HANA will drastically reduce the number of data objects to be stored and maintained, similar to the elimination of aggregates in SAP S/4HANA.

SAP BW/4HANA
Benefit from SAP Modern Data Warehouse Capabilities

Business Agility

The flexibility to compete in real time

Cloud Ready

Prototype new ideas on a Cloud that grows with your business

Modern Data Warehouse

High performance, future-proof platform for all new challenges

SAP BW/4HANA Highlights

Simplicity

- Simplified Data Structures
- Simplified Data Flows
- Data Lifecycle Management

Openness

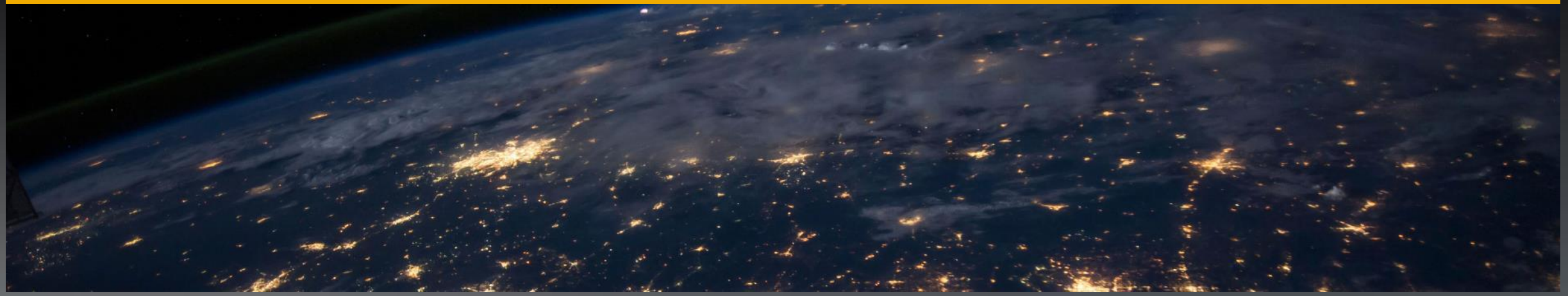
- Native SQL access
- Simplified Data Integration
- Consolidated Source Systems

Modern Interface

- New Business User UX
- New Modeler UX
- New Administrator UX

High Performance

- In-Memory Data Warehousing
- Algorithm Pushdown
- Advanced Analytics

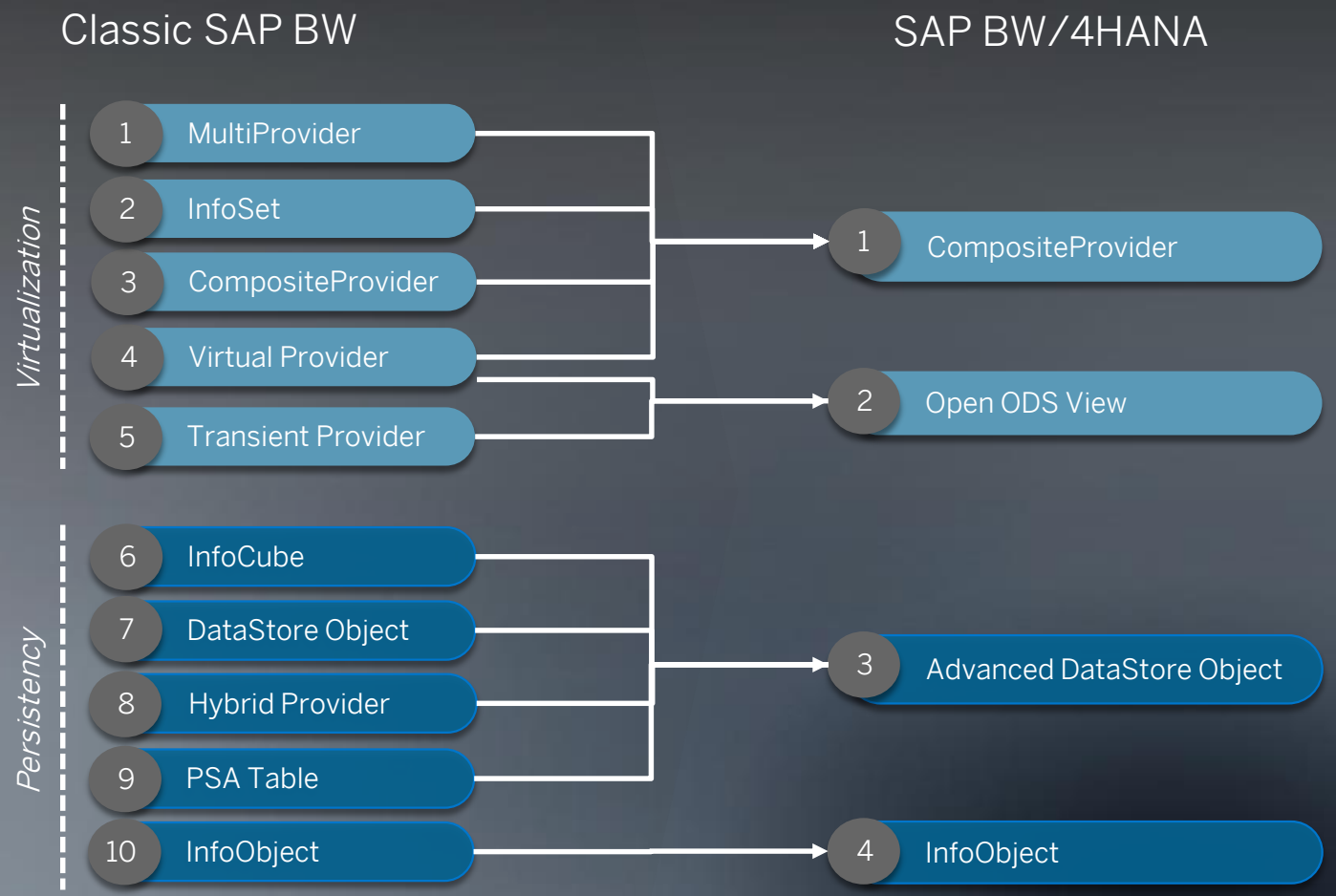


Simplicity

Simplified Data Structures
Simplified Data Flows
Data Lifecycle Management

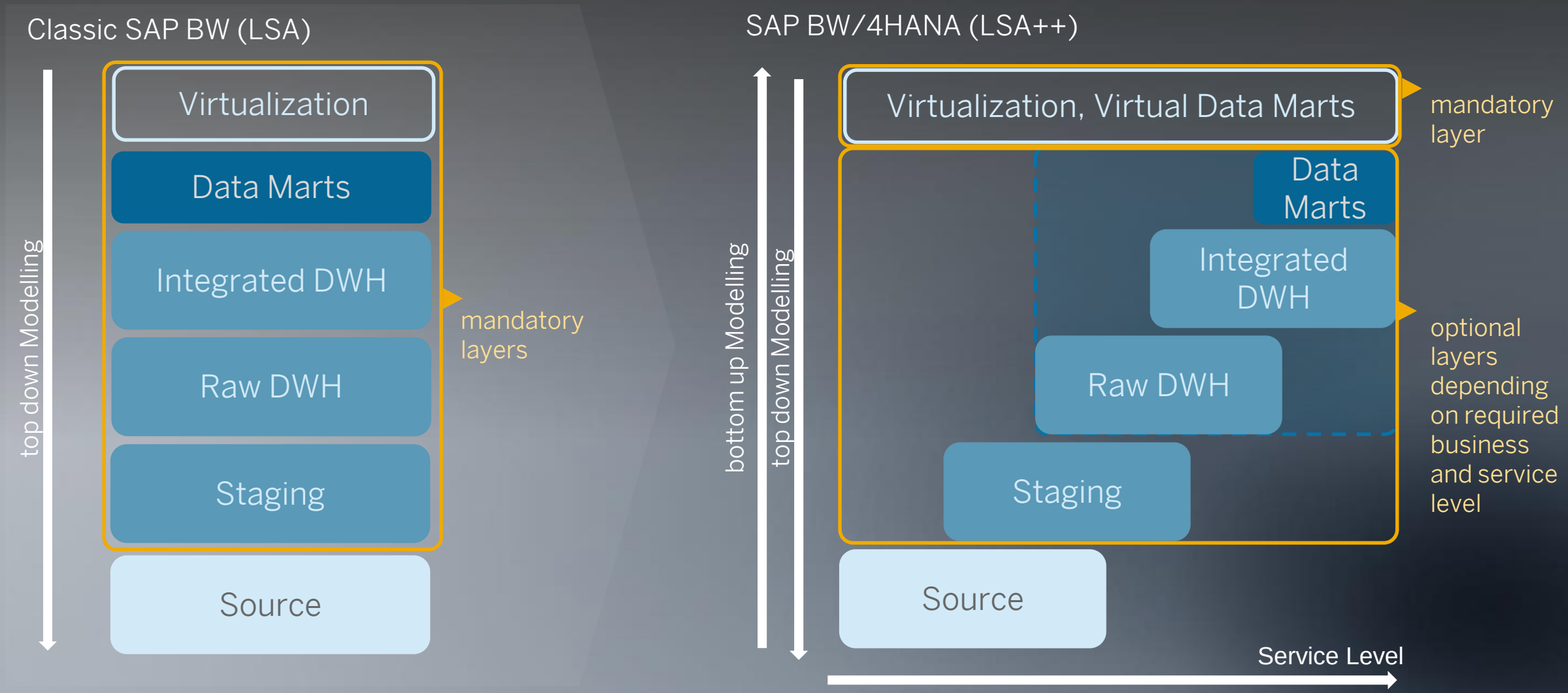
SAP BW/4HANA – Simplified Data Structures

- Number of Modelling object types reduced from 10 to 4
- No complex data structures (extended star schema)
- Field or InfoObject based Modelling
- Greater control of data persistency and virtualization
- Support for external, structured and unstructured data



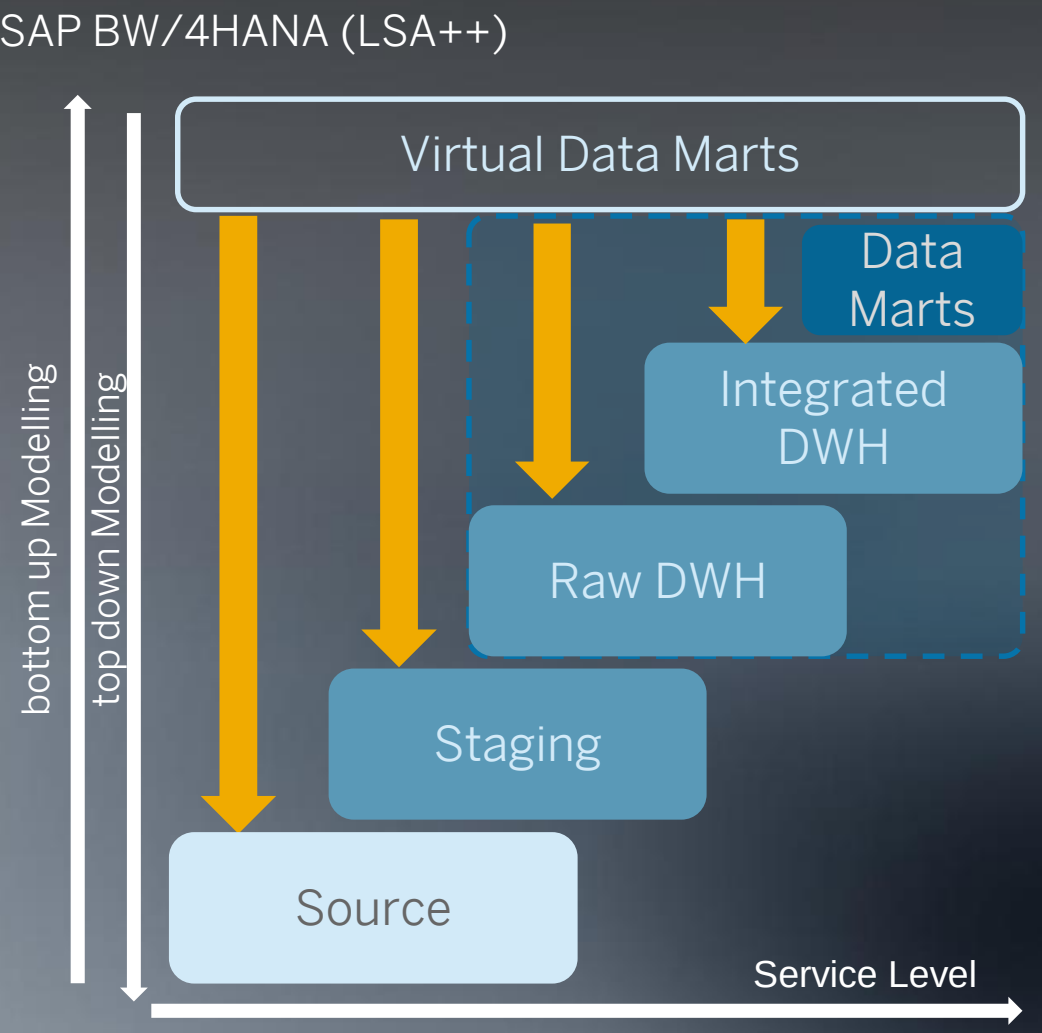
SAP BW/4HANA – Simplified Data Flows

From Layered Scalable Architecture (LSA) to LSA++



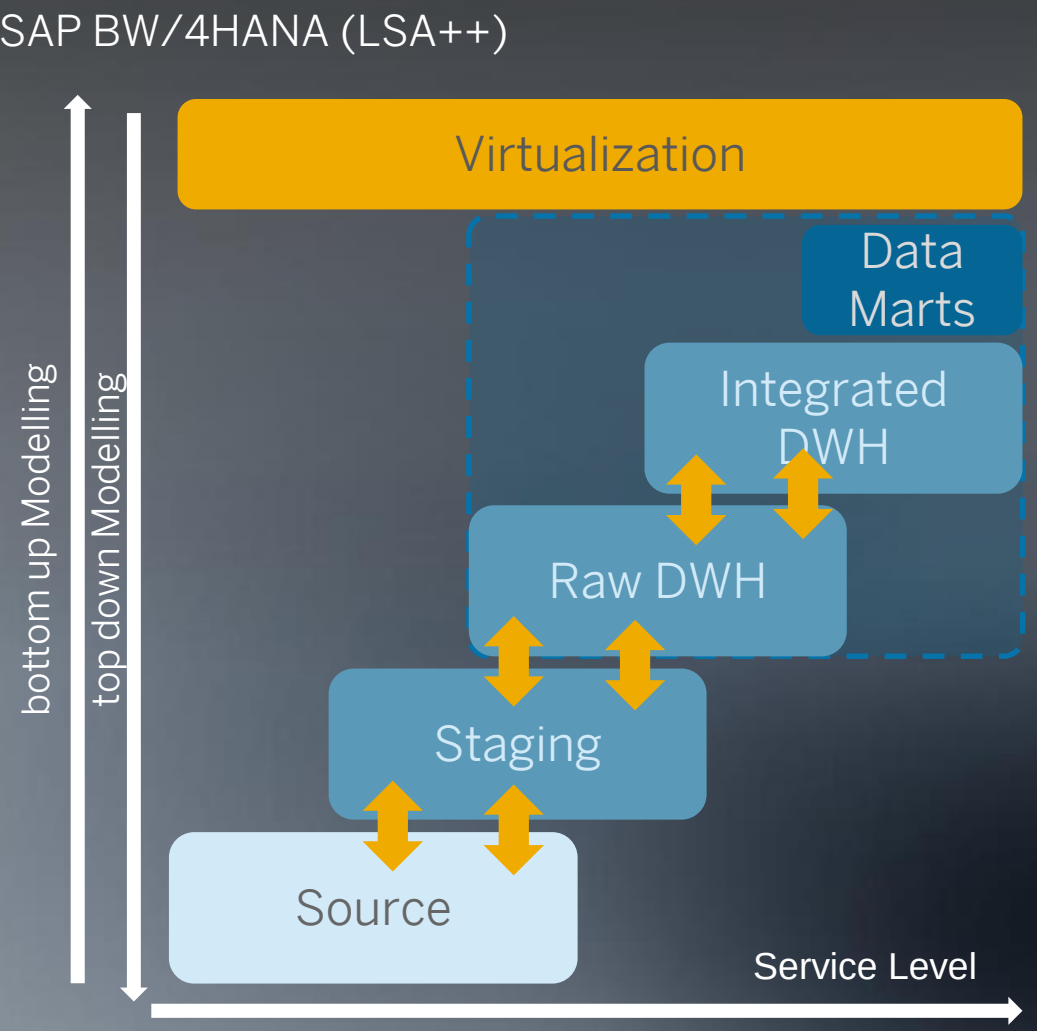
SAP BW/4HANA – Simplified Data Flows

- Report at any layer of the Data Warehouse with speed and flexibility



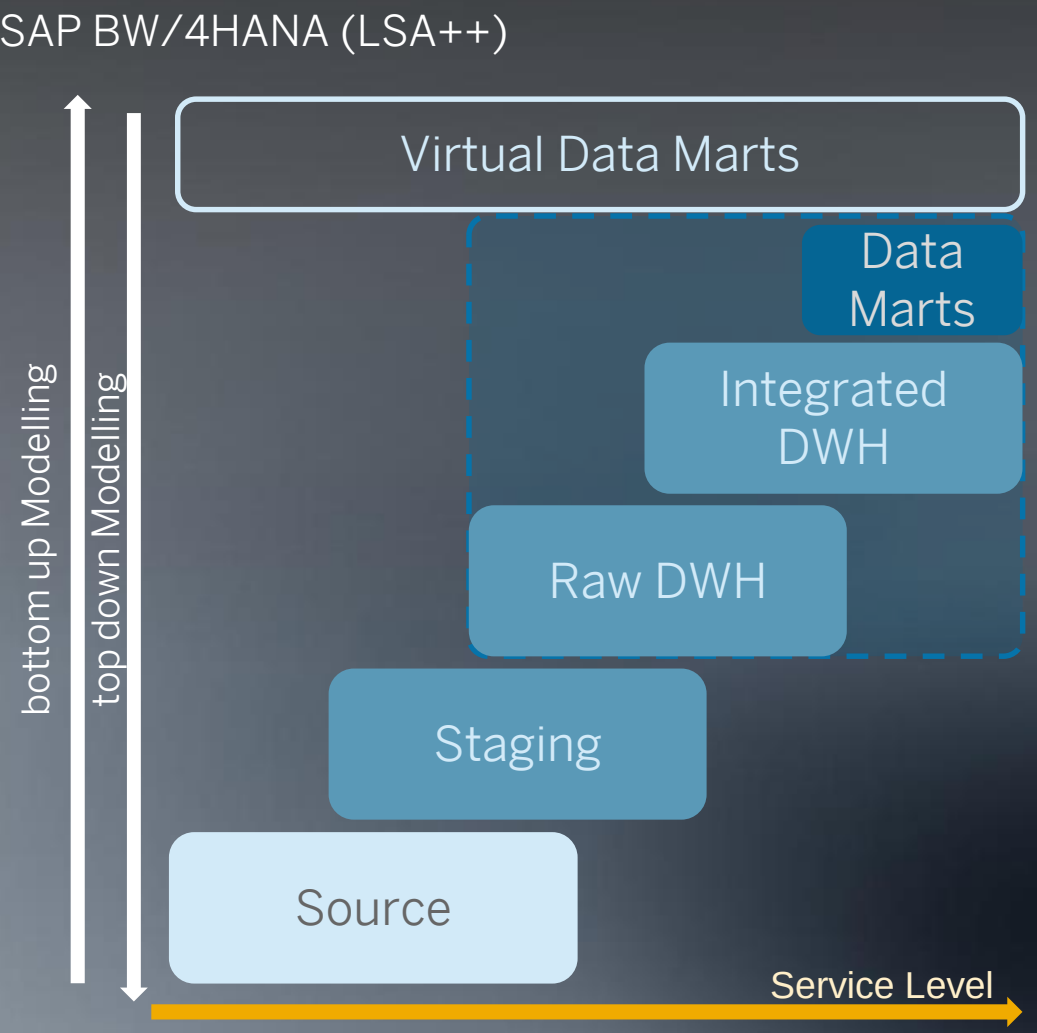
SAP BW/4HANA – Simplified Data Flows

- Report at any layer of the Data Warehouse with speed and flexibility
- Virtually combine data across layers



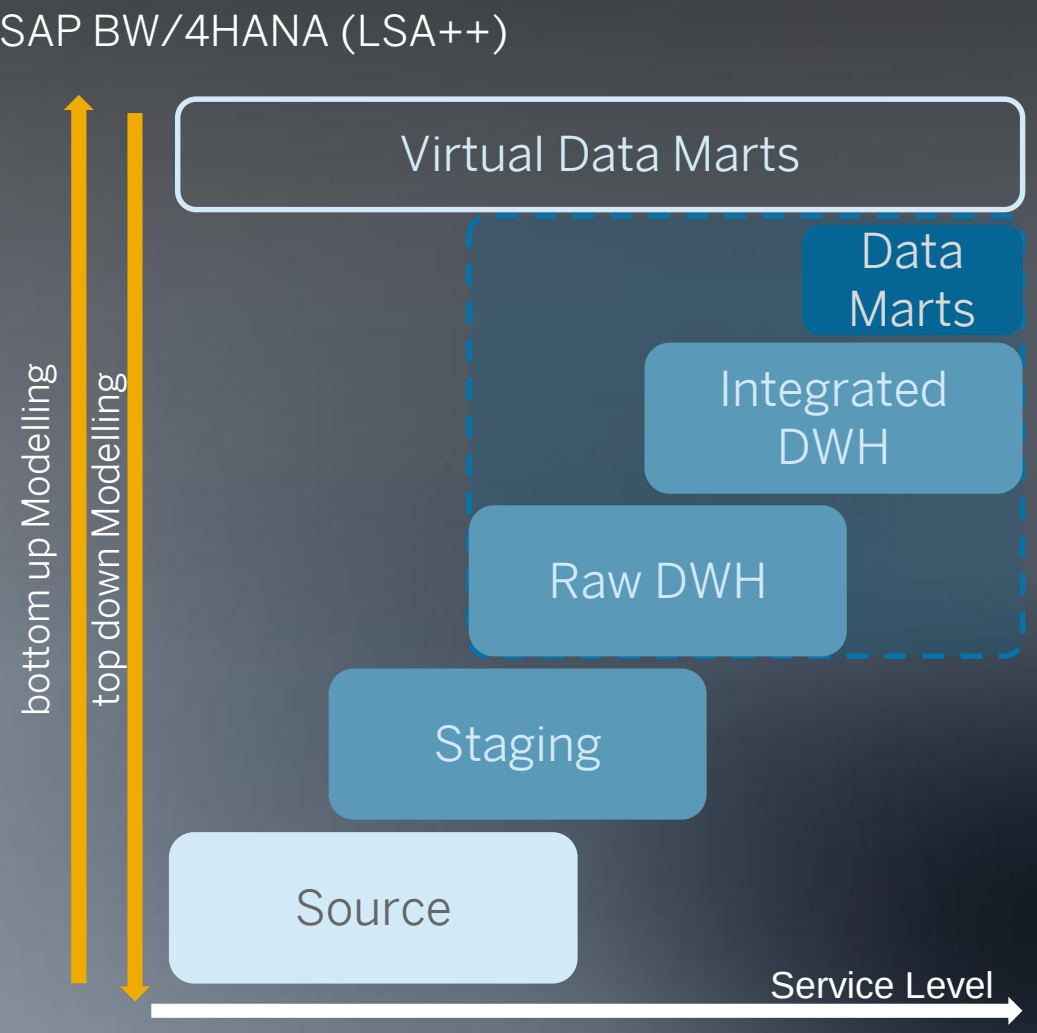
SAP BW/4HANA – Simplified Data Flows

- Report at any layer of the Data Warehouse with speed and flexibility
- Virtually combine data across layers
- Business and service level driven



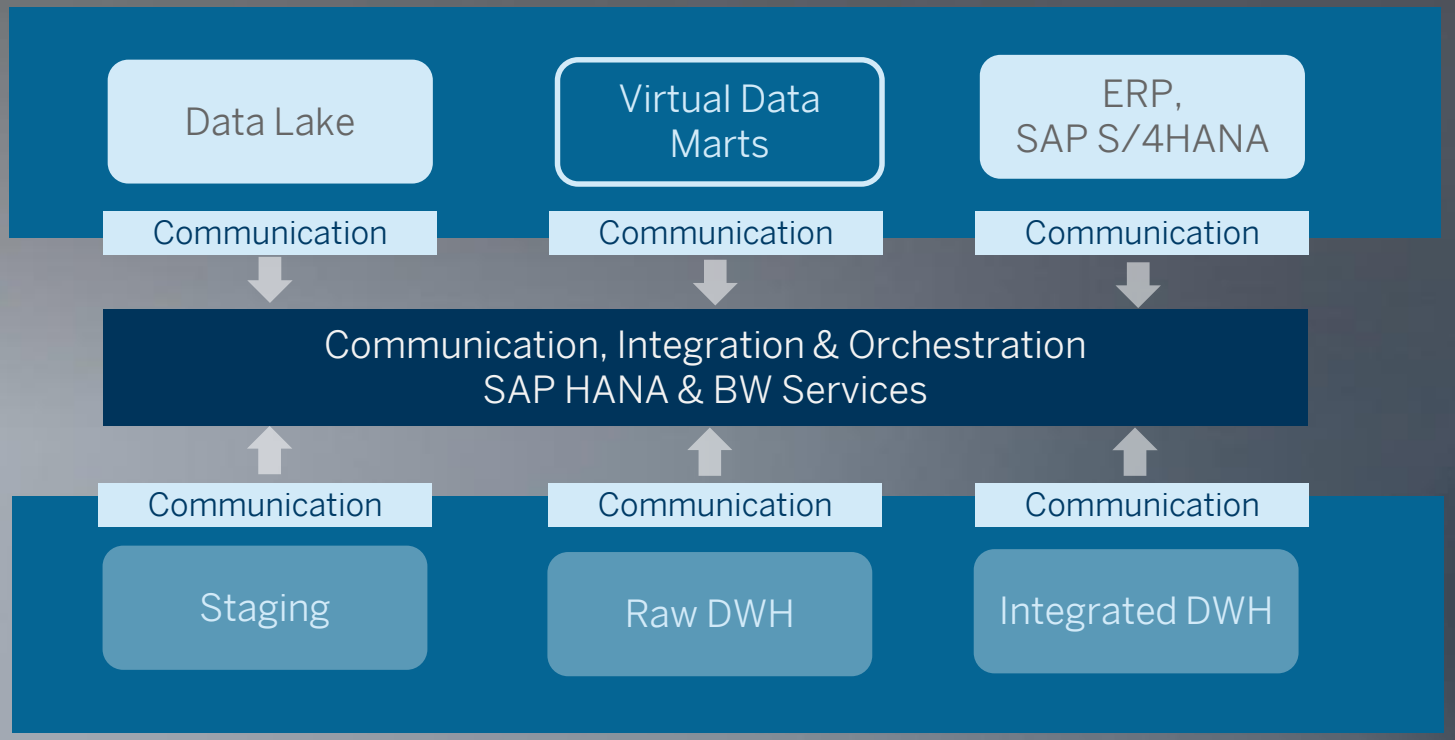
SAP BW/4HANA – Simplified Data Flows

- Report at any layer of the Data Warehouse with speed and flexibility
- Virtually combine data across layers
- Business and service level driven
- Combining bottom-up and top-down modelling approaches – allows for agile and flexible development



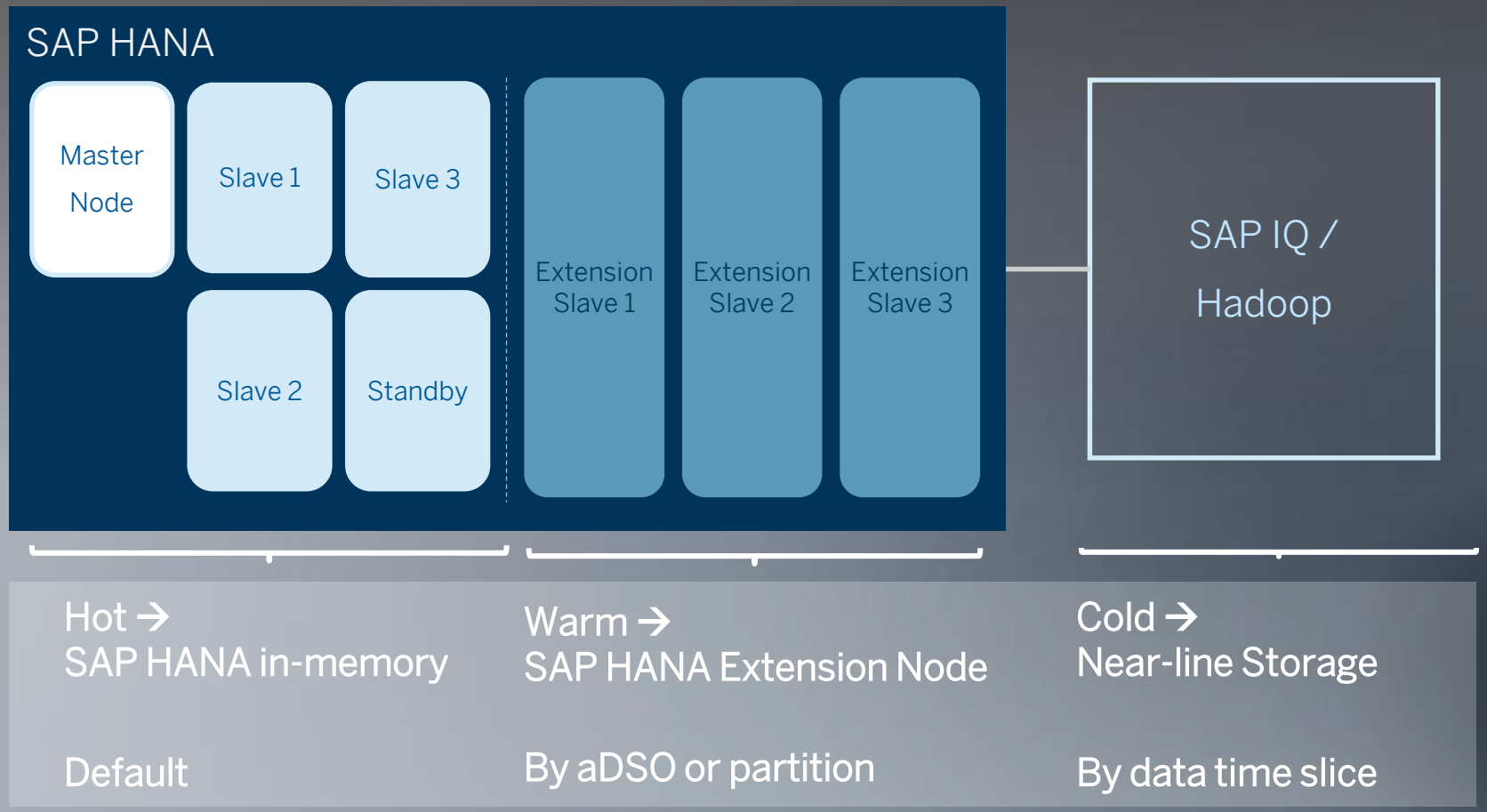
SAP BW/4HANA – Simplified Data Flows
Logical Data Warehousing with SAP BW/4HANA

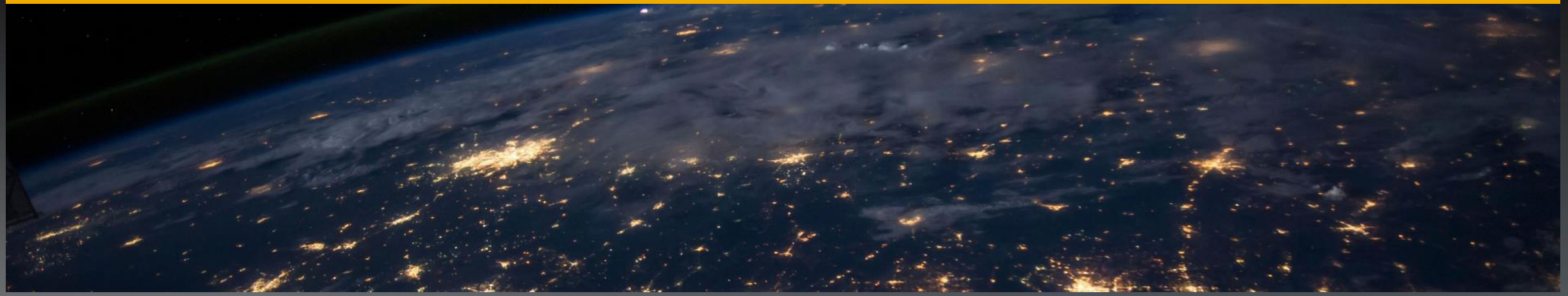
- Non-hierarchical, loosely coupled Information Areas
- Clear service definitions
- Communication, Integration, Orchestration rules



SAP BW/4HANA – Data Lifecycle Management

Scale SAP BW/4HANA using in-built data temperature management





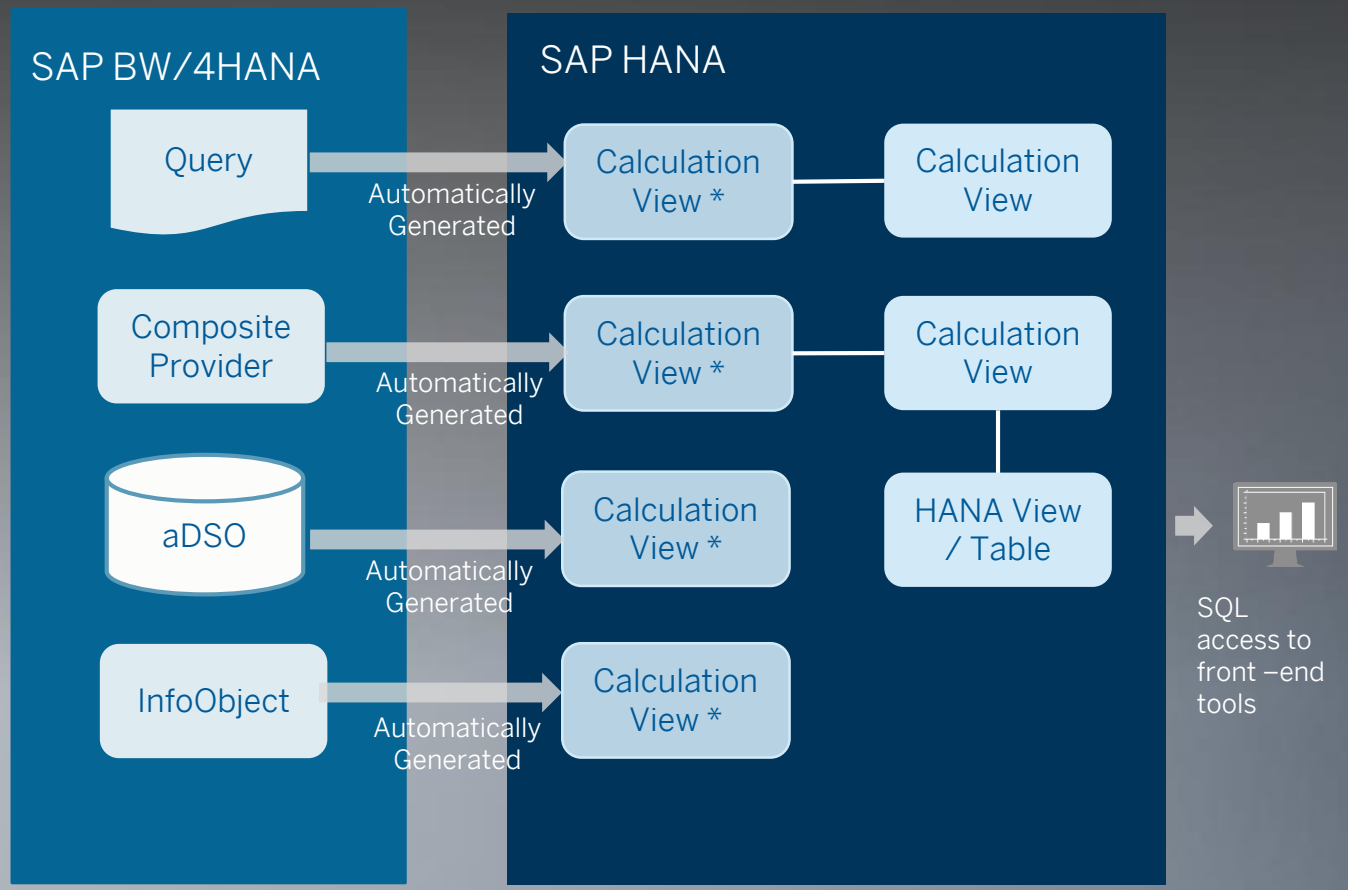
Openness

Native SQL access

Simplified Data Integration

Simplified Source Systems

SAP BW/4HANA – Native SQL Access



* SAP BW/4HANA Generated HANA view

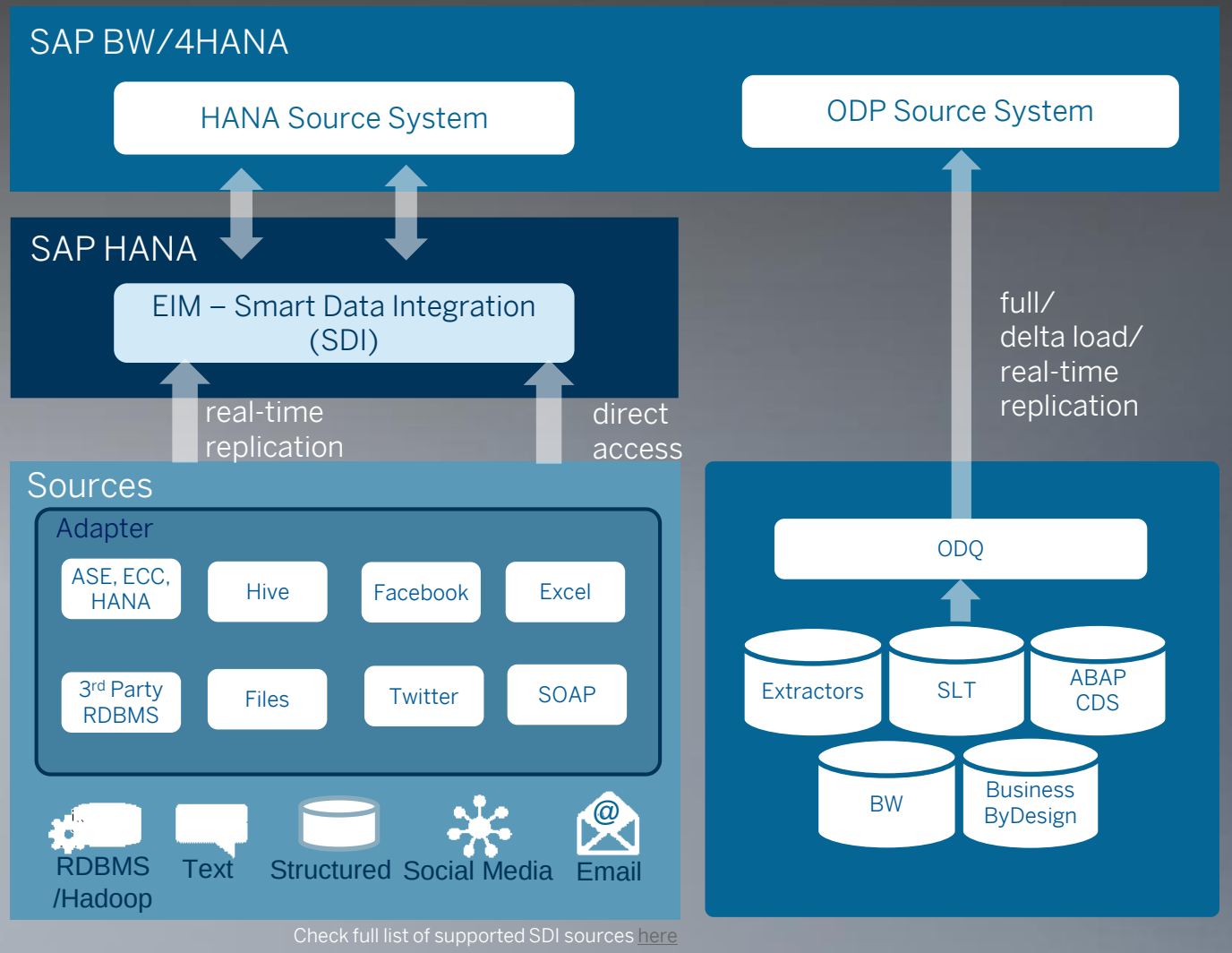
SAP BW/4HANA logic and data can be exposed to SAP HANA

Automatic generation of SAP HANA views allows:

- SQL logic on top of generated views
- Combined data from native SAP HANA
- SQL access for front-end tools

Generated SAP HANA views are part of SAP BW/4HANA lifecycle *and* SAP BW/4HANA security

SAP BW/4HANA – Simplified Data Integration



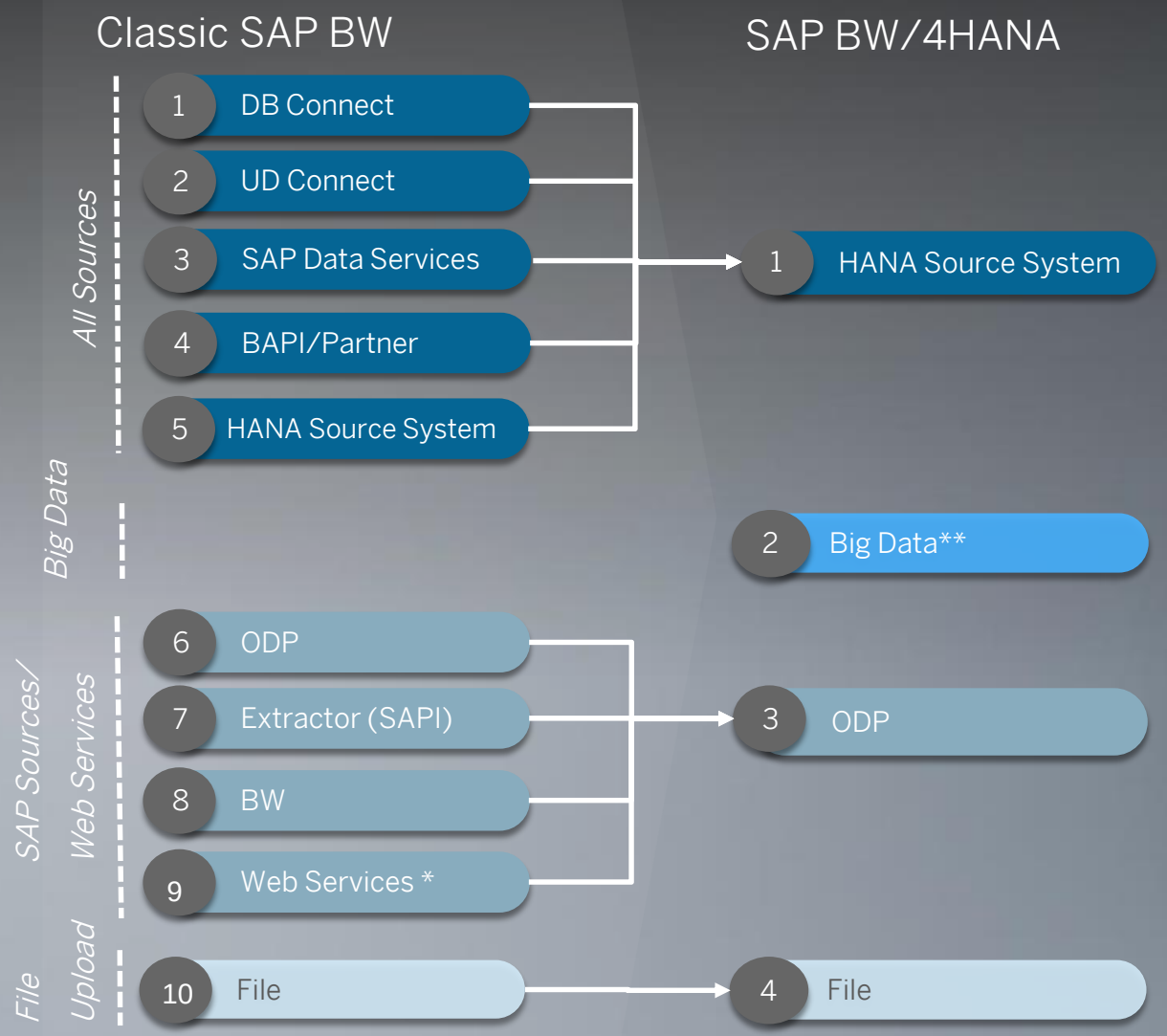
Check full list of supported SDI sources here

Leverages SAP HANA EIM to provide new data provisioning opportunities

- Replicate data in real-time (HANA SDI based replication or via ODP - especially with ODP-SLT)
- Access data virtually
- Load data using optimized processing

Or automatically switch between the different methods

SAP BW/4HANA – Simplified Source Systems

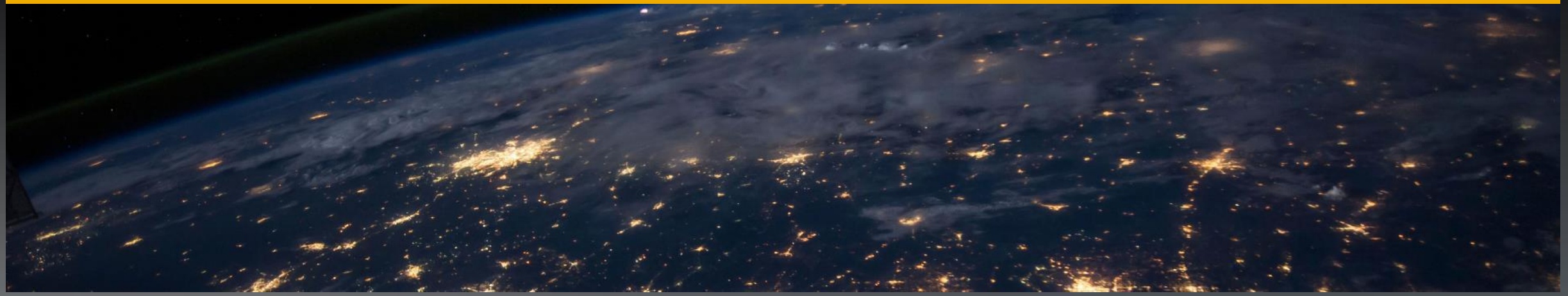


Number of Source System Types reduced from **10 to 4**

- HANA Source System for all database and file connectivity
- ODP Source System for SAP backend systems and SLT
- File Source System
- Big Data Source System

* Planned

** Connectivity to Spark (SQL) Destination already possible with the HANA Source System in BW 7.50 on HANA



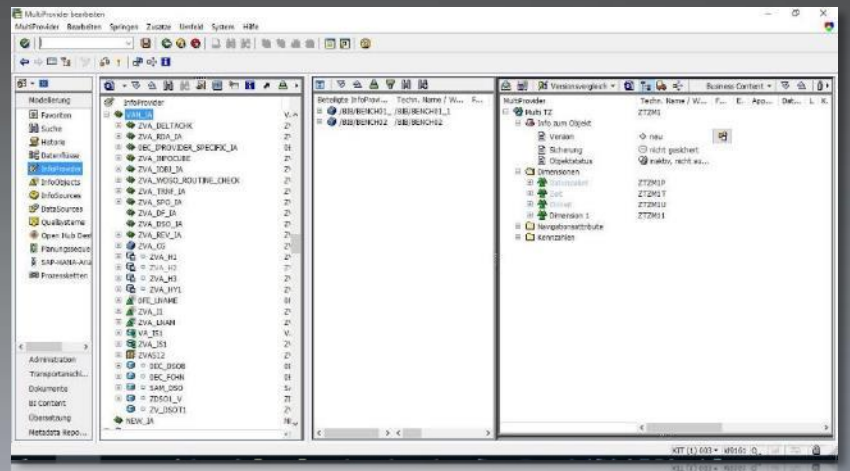
Modern Interface

New Business User UX

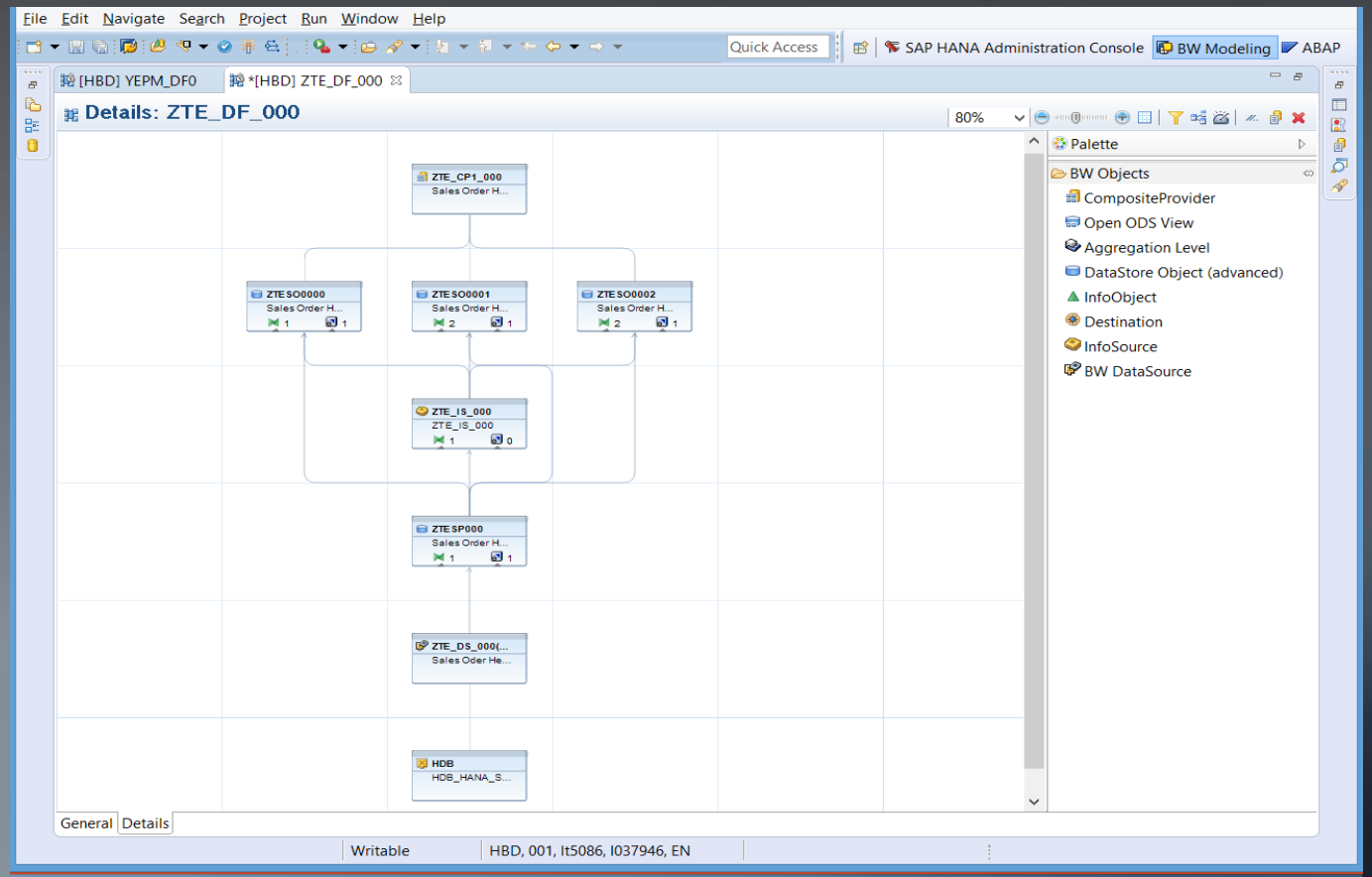
New Modeler UX

New Administrator UX

SAP BW/4HANA – New Modelling User Interface

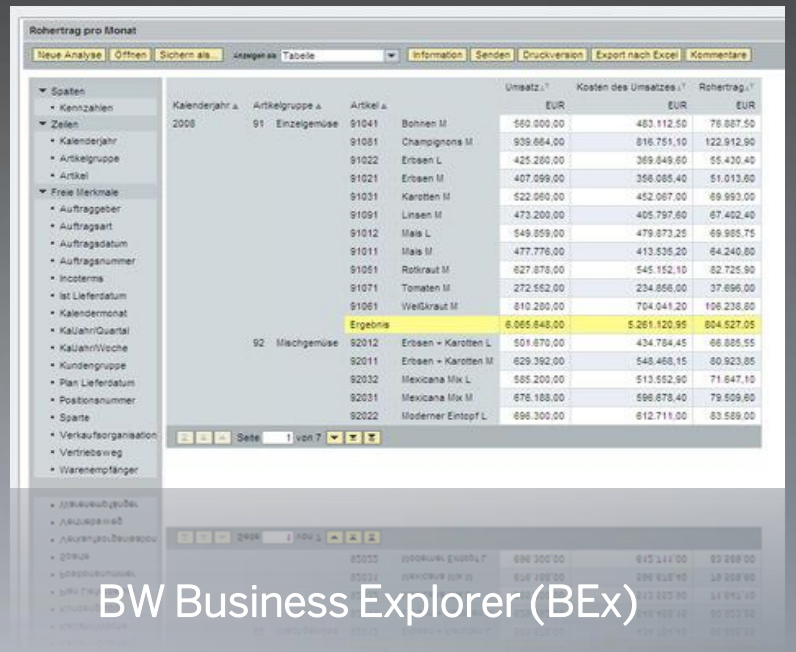


SAPGUI

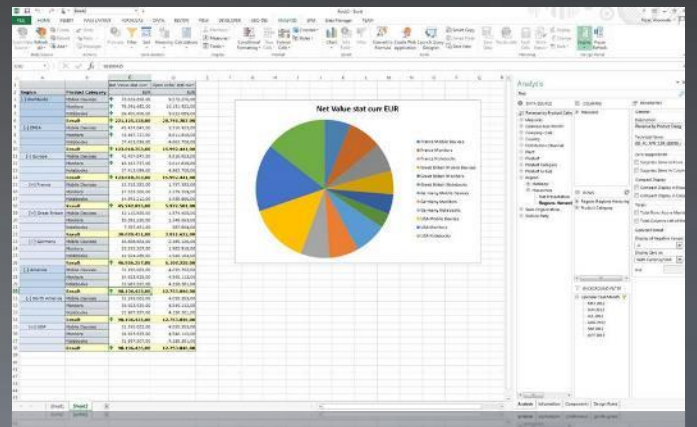


SAP BW/4HANA Modelling Tools integrated with SAP HANA Studio

SAP BW/4HANA – New Business User Interface



BW Business Explorer (BEx)

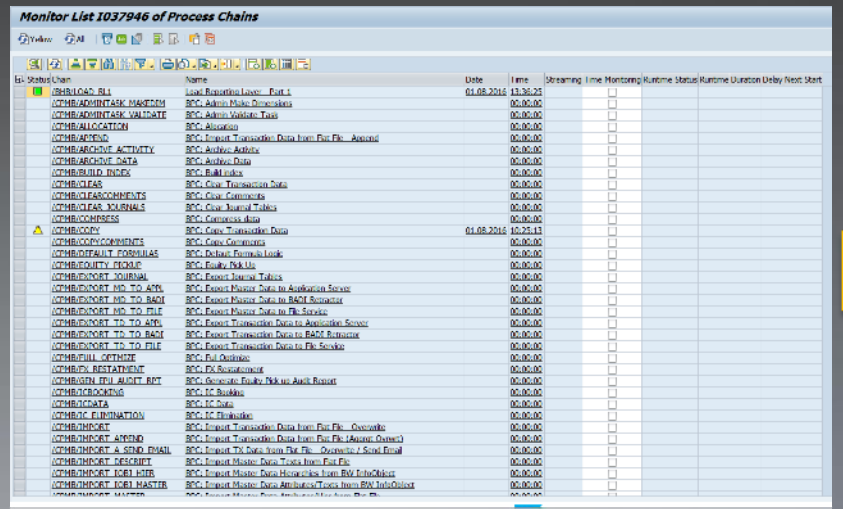


SAP BusinessObjects Analysis Office

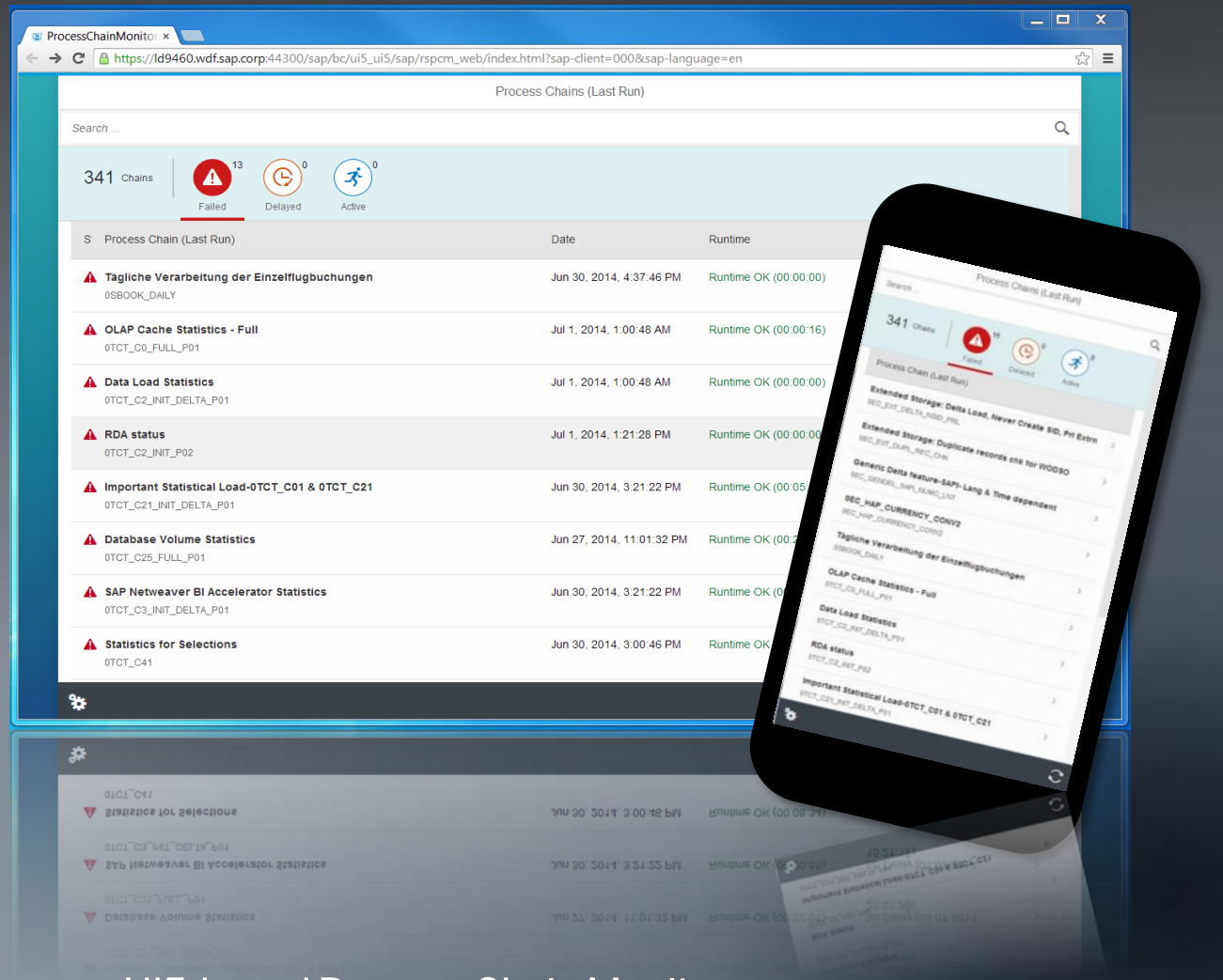
SAP BusinessObjects Cloud

SAP BusinessObjects Design Studio

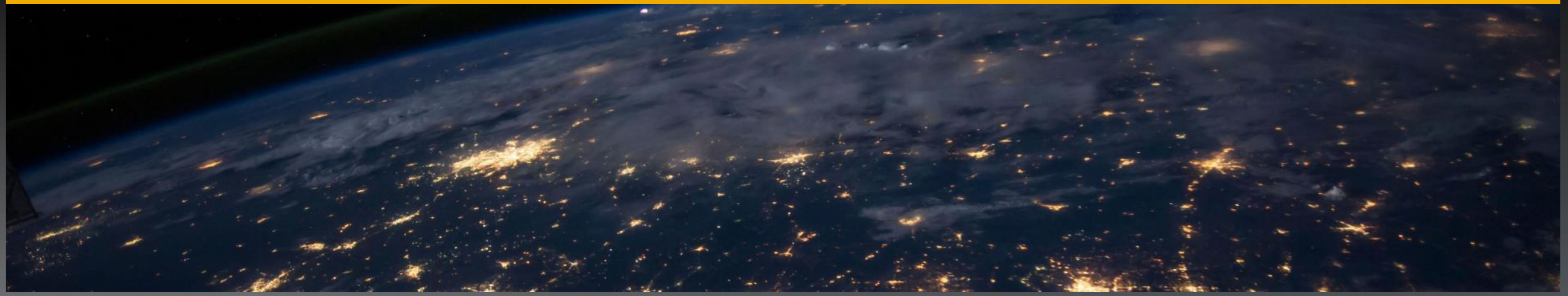
SAP BW/4HANA – New Interface for Administrators



ABAP Process Chain Monitor



UI5-based Process Chain Monitor



High Performance

In-Memory Data Warehousing

Algorithm Pushdown

Advanced Analytics

SAP BW/4HANA – In-memory Data Warehousing

Query all data at the speed of SAP HANA

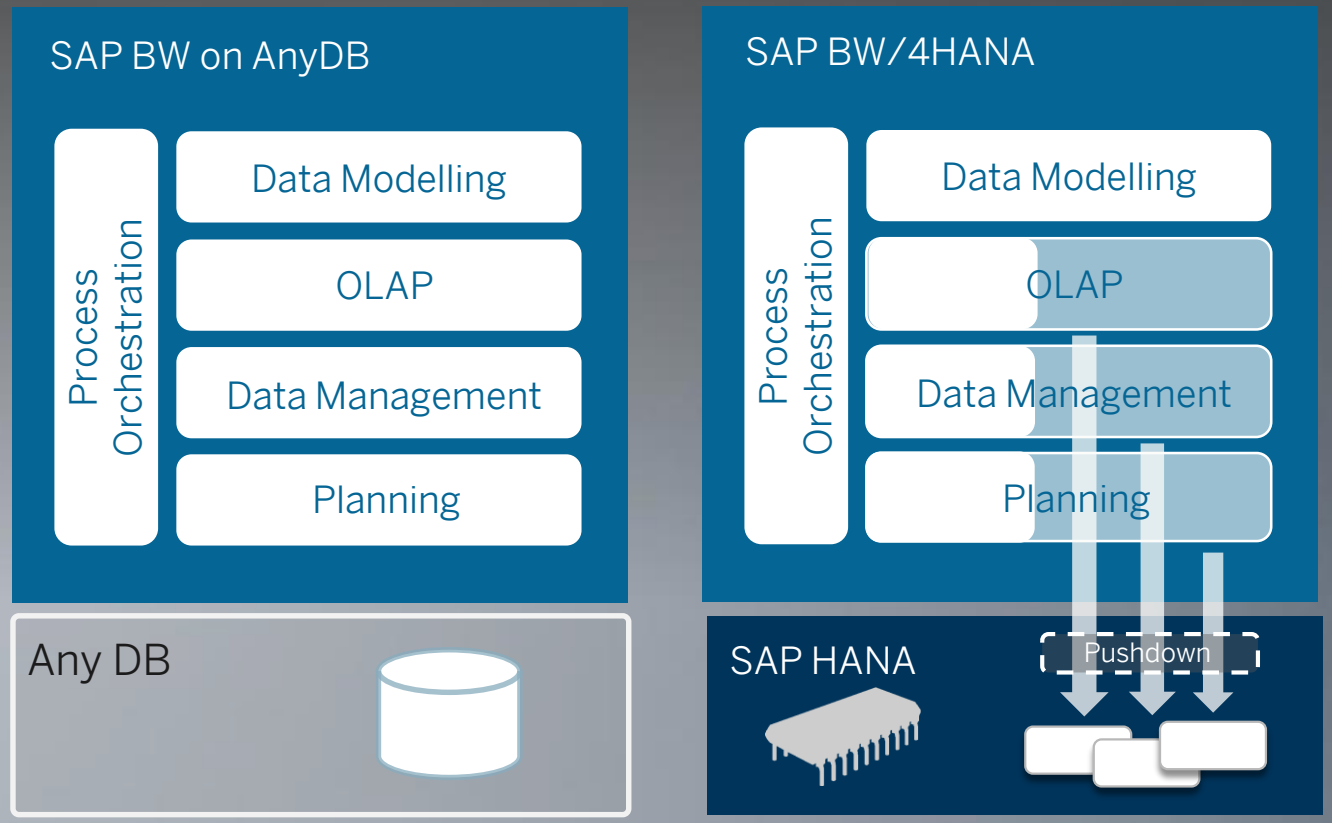
No Aggregates or Roll-up Processes

No Performance Specific Objects

Fewer Indexes

Faster Loading and Processing

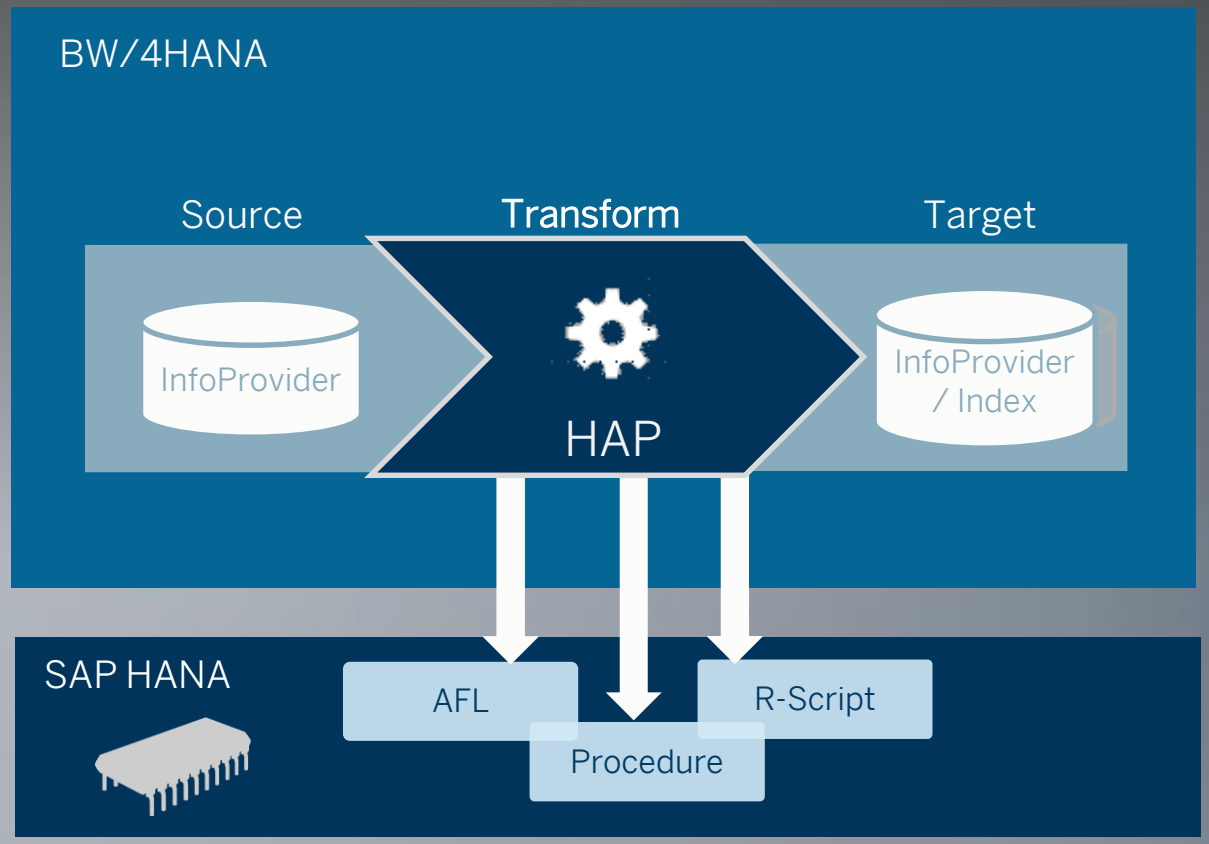
SAP BW/4HANA – Algorithm Push-down



Significant performance gain through push-down of operations/calculations

- OLAP Engine, complex query calculations (e.g. exception aggregation)
- Planning functions (e.g. disaggregation)
- Data management (e.g. transformation logic)

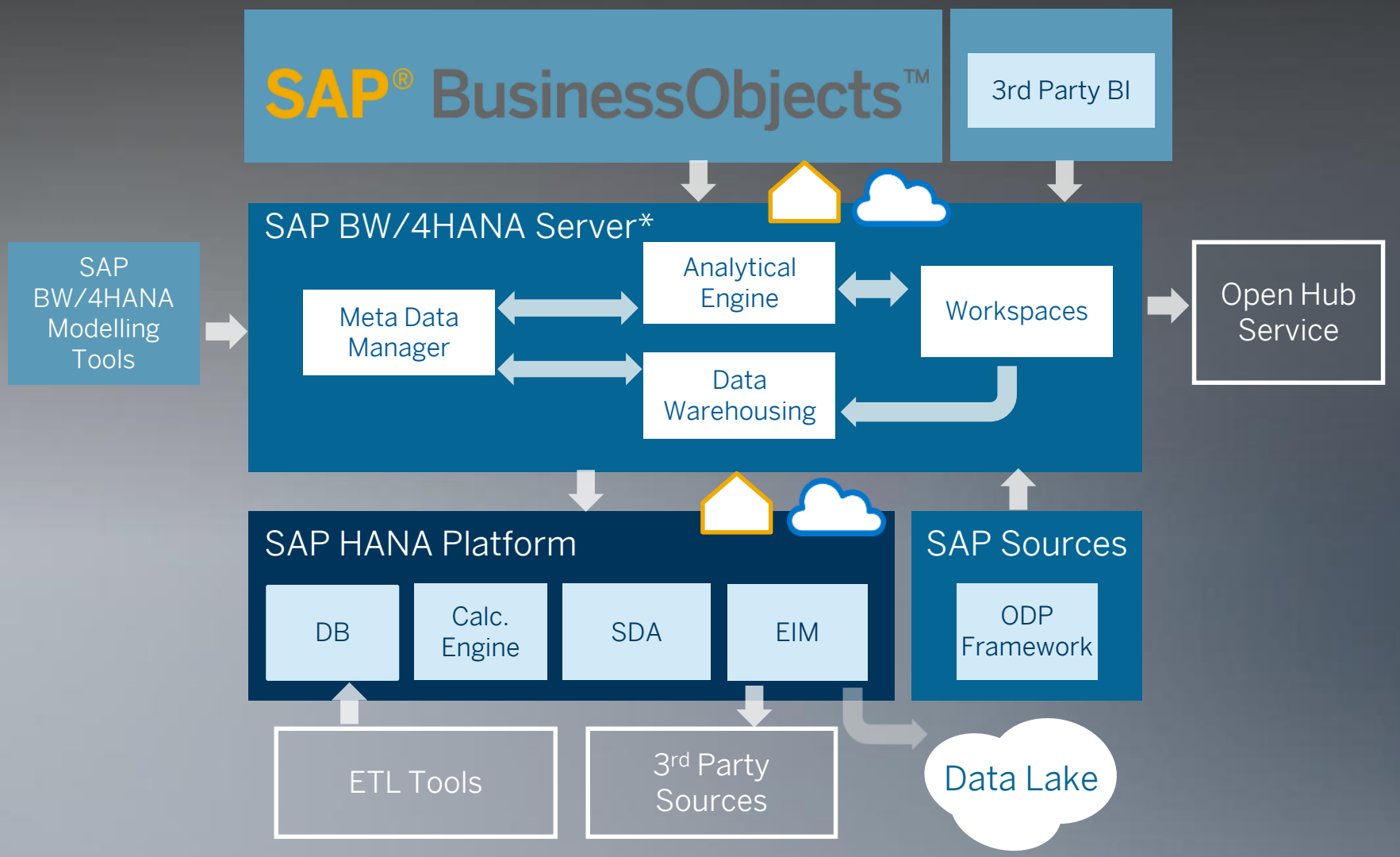
SAP BW/4HANA – Advanced Analytics



Enhance data with Advanced Analytics using HANA specific libraries (AFL), R-Script or a custom HANA procedure

- Predictive
- Text Analysis
- Data Mining
- Machine Learning

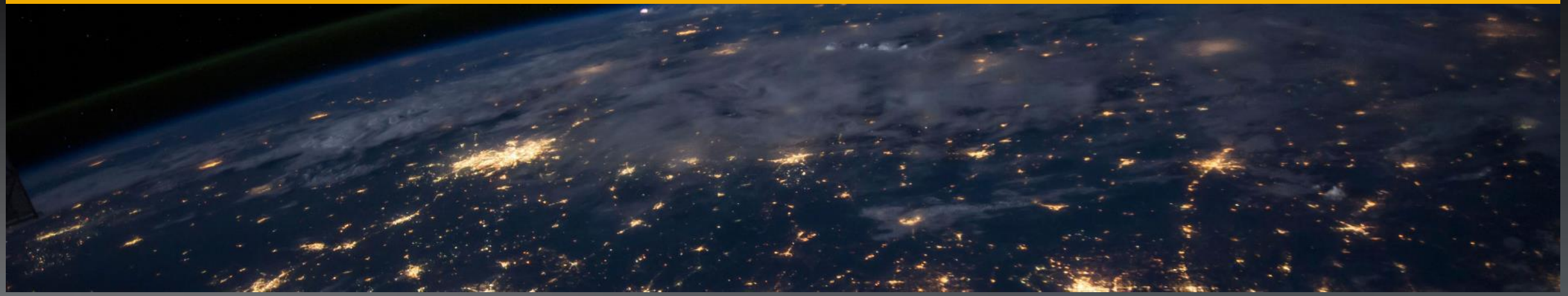
SAP BW/4HANA – Architecture



Key Features

- Lean application server
- SAP BW/4HANA Modelling environment built to run on SAP HANA
- No Java stack required
- SAP BW/4HANA - On-Premise or in the Cloud

* Lean ABAP Application Server



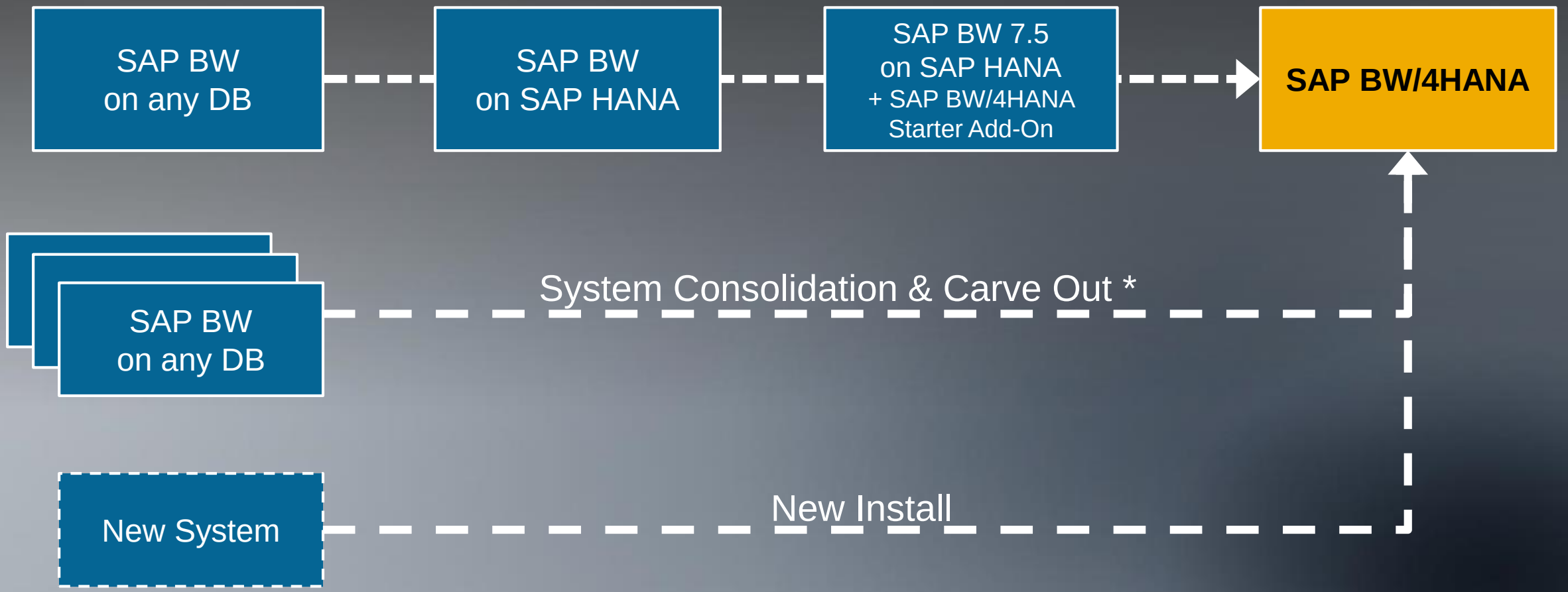
Paths to SAP BW/4HANA

New Installation

System Conversion

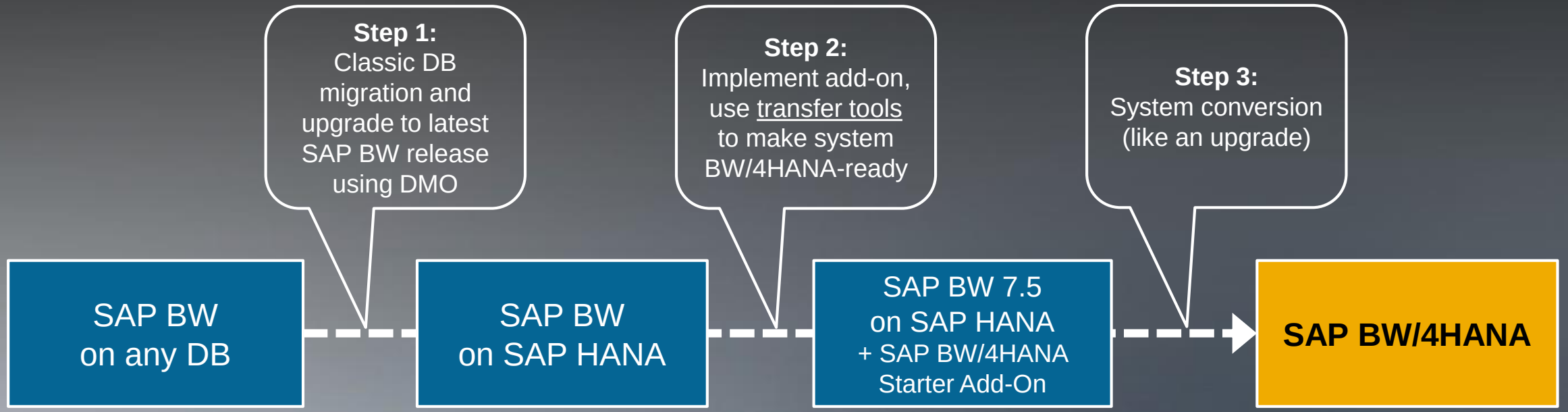
Landscape Transformation

Paths to SAP BW/4HANA



* Planned for piloting in Q1 2017

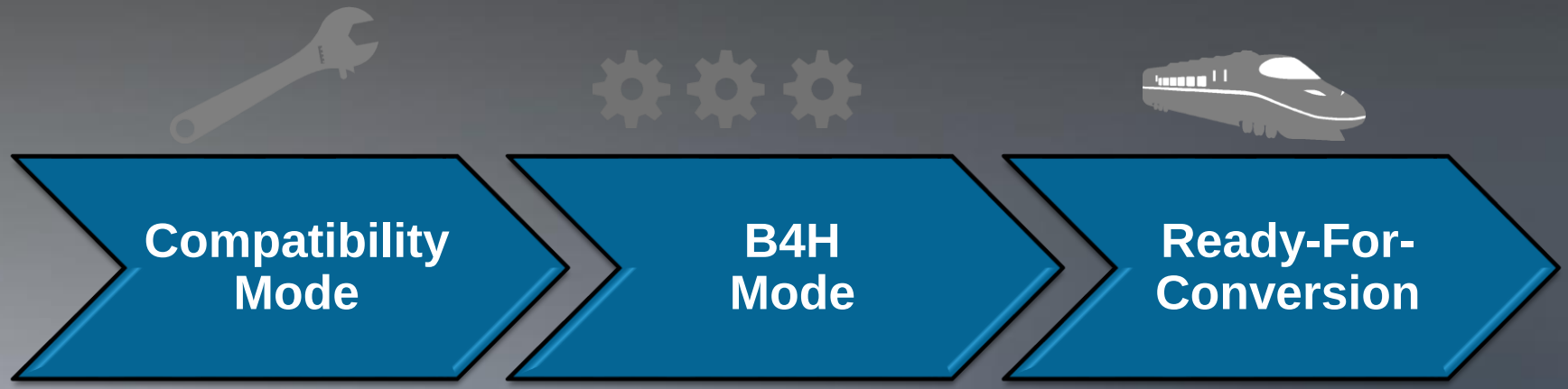
Path to Convert Your System



- All BW customers can start NOW
- Customers on SAP BW powered by SAP HANA have a head-start
- Customers can convert at their own pace – benefiting gradually from HANA-optimizations

SAP BW/4HANA Starter Add-On

Add-On “SAP BW/4HANA Starter” (f.k.a. “SAP BW, Edition for SAP HANA”) is prerequisite for In-Place Conversions

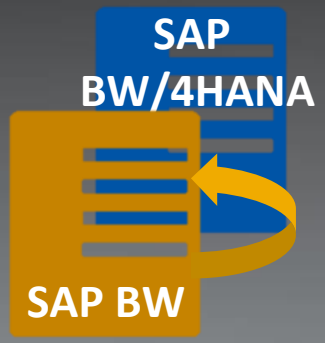


- Unsupported object types cannot be created
- Existing scenarios can continue running as before
- Unsupported objects can be changed when adding them to a white list

- No imports of unsupported object types
- White list is not relevant any more

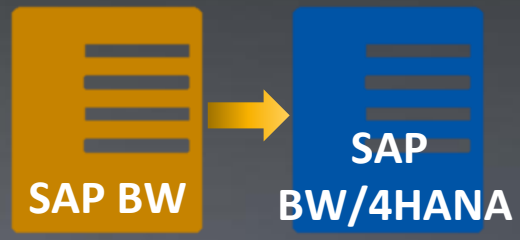
- System is ready for component upgrade

Next Steps
SAP BW/4HANA Transfer Toolbox *



In-Place Conversion

- Full system conversion of an existing SAP BW installation (keep same SID)
- Step-by-step in-place transfer of classic objects into their HANA-optimized counterparts
- Followed by a component upgrade to SAP BW/4HANA
- Start release:
  SAP BW 7.50 SP 6 powered by SAP HANA



Remote Conversion

- Start with SAP BW/4HANA as green field installation (new SID)
- Support of carve-out and consolidation scenarios
- Transport data models and remote data transfer
- Risk mitigation due to parallel system
- Start release:
  SAP BW 7.0 or higher on AnyDB

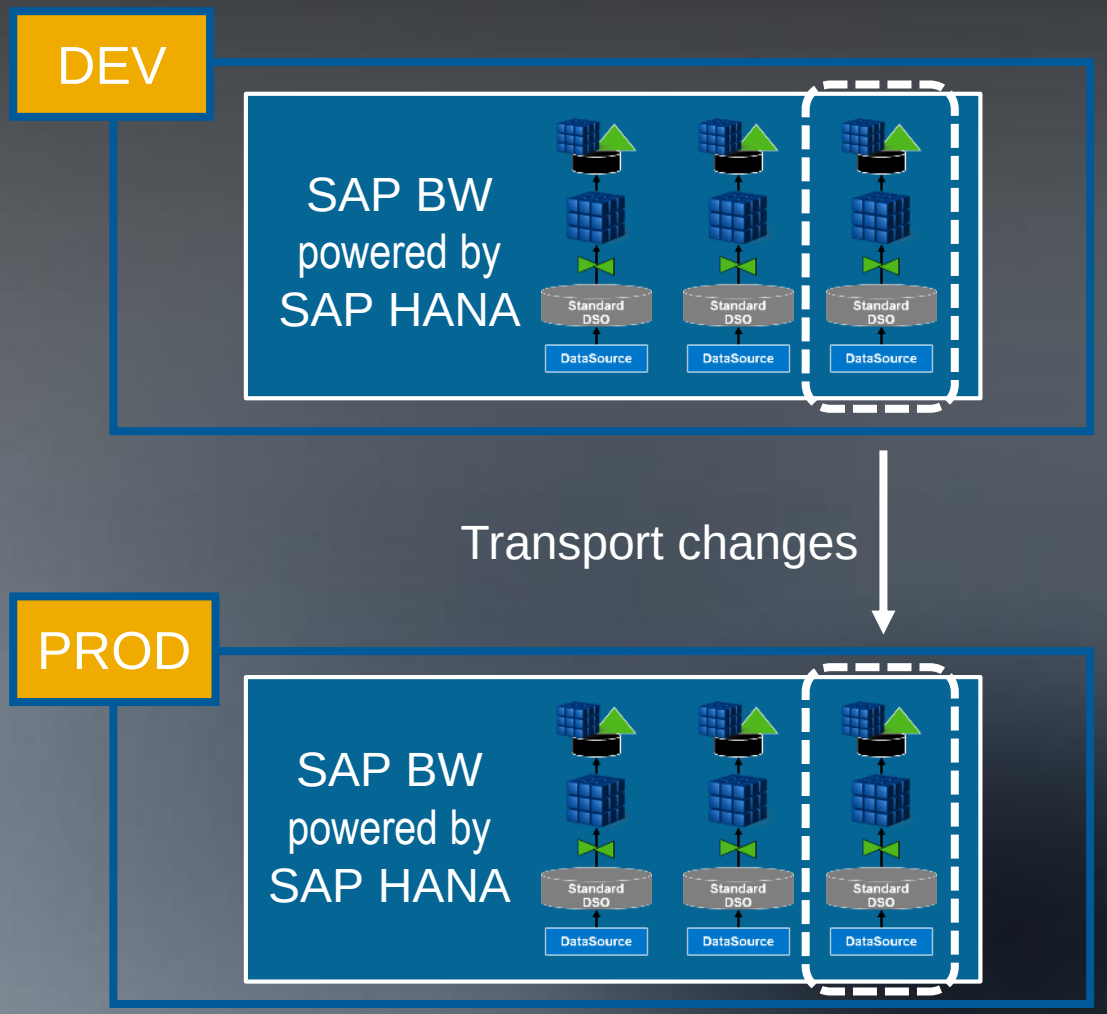
* Availability Planned for Q2/2017

Migration to SAP BW/4HANA

Outlook – Conversion Support – In-Place Conversion

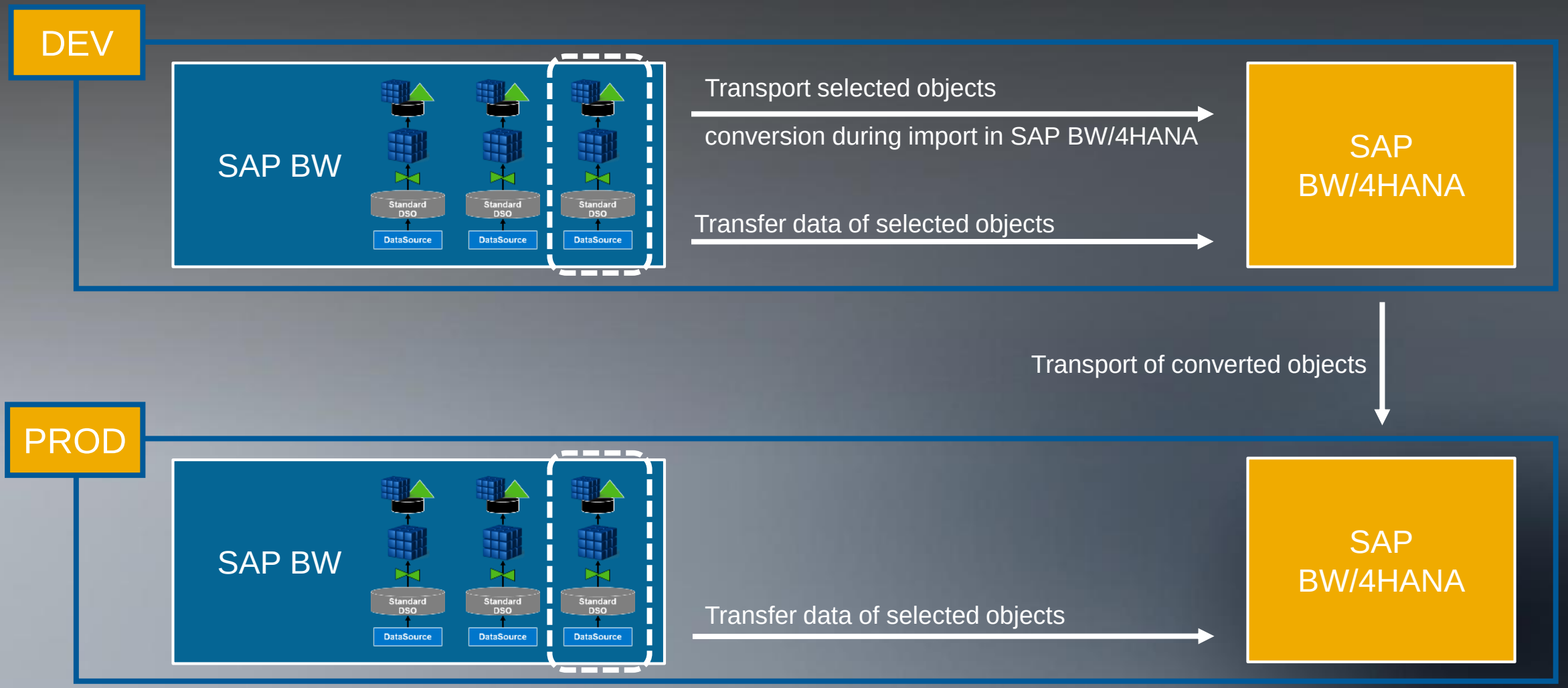
- Select scope
- Convert classic objects – including data – and adjust DTPs/Transformations
- System is ready for conversion? → Upgrade to SAP BW/4HANA

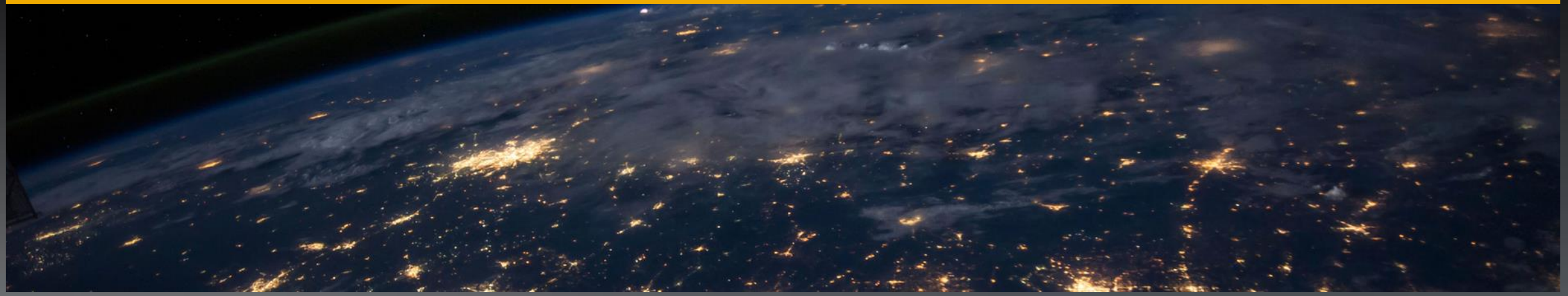
- Import transport – moving data to new objects
- System is ready for conversion? → Upgrade to SAP BW/4HANA



Migration to SAP BW/4HANA

Outlook – Conversion Support – Remote Conversion





SAP BW/4HANA

Further Information

More Information about SAP BW4/HANA

SAP BW/4HANA Landing Page
http://sap.com/bw4hana

SAP BW/4HANA Community – Product Page
http://sap.com/bw4hana10

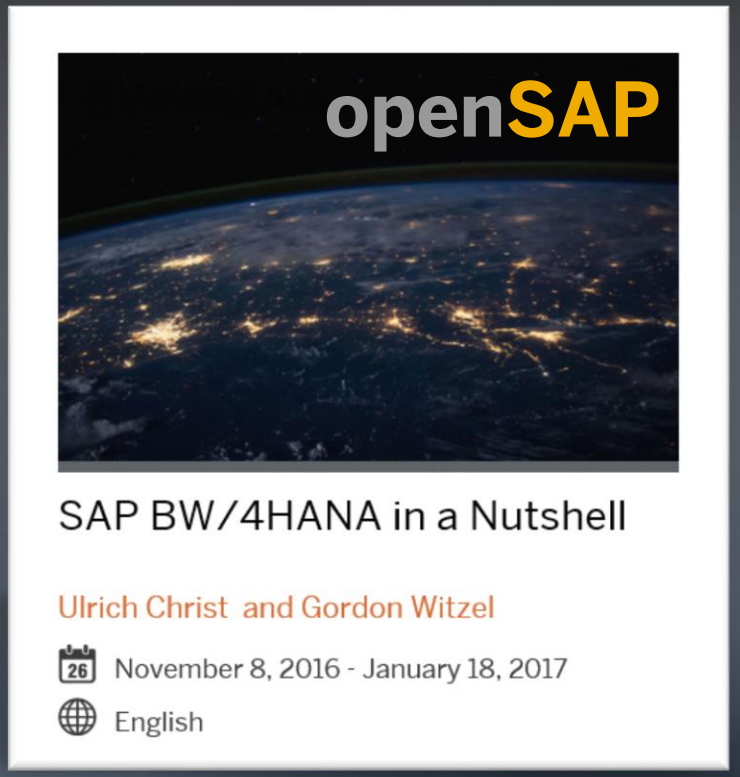
SAP BW/4HANA Documentation
http://help.sap.com/bw4hana10

Why #BW/4HANA?
http://scn.sap.com/community/bw-hana/blog/2016/09/05/why-bw4hana

SAP BW/4HANA FAQ
http://go.sap.com/documents/2016/08/c4458a08-877c-0010-82c7-eda71af511fa.html

SAP First Guidance – SAP BW/4HANA complete functional scope (CFS)
http://www.sap.com/documents/2016/09/b001a9de-8a7c-0010-82c7-eda71af511fa.html

Replay of the SAP BW/4HANA Launch Event
http://events.sap.com/sap-amazon-web-services/en/home



SAP BW/4HANA in a Nutshell

- Starting November 8, 2016
- 4 Units – 2-3 hours in total
- Free Participation & Certification

https://open.sap.com/courses/bw4h1

Thank you

Abbreviations

ABAP	Advanced Business Application Programming
ADSO	Advanced DataStore Object
AFL	Application Function Library
AGS	SAP Active Global Support
ASE	SAP Adaptive Server Enterprise Database
AWS	Amazon Web Services
BAPI	Business Application Programming Interface
BEx	Business Explorer
BI	Business Intelligence
BW	Business Warehouse
C4C	Cloud for Customers
CRM	Customer Relationship Management
DB	Database (Connect)
DLM	Data Lifecycle Management
DMO	Database Migration Option
DSO	DataStore Object
DW	Data Warehouse
DWH	Data Warehouse
DWaaS	Data Warehouse as a Service
ECC	Enterprise Core Component
EDW	Enterprise Data Warehouse
EIM	Enterprise Information Management
ELT	Extract, Load, Transform
ERP	Enterprise Resource Planning
ETL	Extract, Load, Transform
FI,CO,SD,MM,HR	Financials, Controlling, Sales & Distribution, Material Management,, Human Resources
HAP	SAP HANA Analytic Process
HEC	SAP HANA Enterprise Cloud
HTML	Hypertext Markup Language
IQ	SAP IQ Database
IoT	Internet of Things
LSA	Layered Scalable Architecture
LSA++	Layered Scalable Architecture for SAP HANA
ML	Machine Learning
NLS	Near-line Storage
ODP	Operational Data Provisioning
ODQ	Operational Delta Queue
ODS	Operational DataStore
OLAP	Online Analytic Processing
PSA	Persistent Staging Area
RDBMS	Relational Database Management System
SDI	SAP HANA smart data integration
SLO	System Landscape Optimization
SLT	SAP Landscape Transformation
SOAP	Simple Object Access Protocol
SP	Support Package
SPS	Support Package Stack
SQL	Structured Query Language
SUM	Software Update Manager
SWPM	Software Provisioning Manager
UD	Universal Data (Connect)
UI	User Interface
UI5	SAP UI Development Toolkit for HTML5
UX	User Experience

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