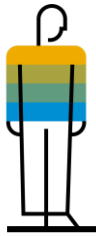
ANA211 – SAP BW/4HANA
Overview

EXTERNAL

SAP TECHED

Speakers 2017

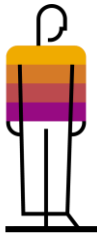


Las Vegas

September 25 - 29

Marc Bernard

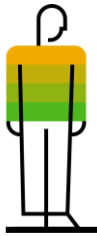
Lothar Henkes



Bangalore

October 25 - 27

Asima Pany



Barcelona

November 14 - 16

Lothar Henkes

Dr. Ulrich Christ

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Agenda

Introduction – why Data Warehousing

SAP BW/4HANA – Overview

SAP BW/4HANA – Roadmap

SAP BW/4HANA – Conversion paths

SAP BW/4HANA – Additional information

Introduction – Why Data Warehousing

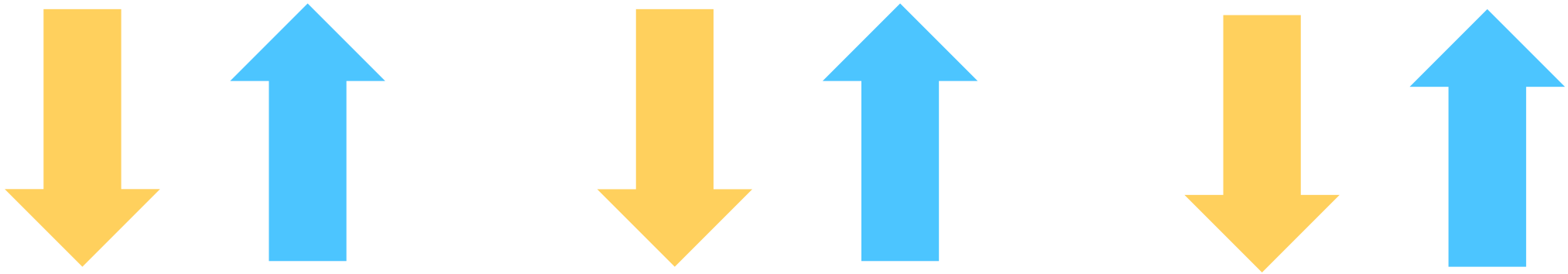
Why we need to talk about the data warehousing market

Higher Customer Expectations

Performance
Valuable real-time results

Scope
historical data AND Predictive, agile analytics

Value
Improved use of previously unused data



New Types
Behavioral data and the Internet of Things

Larger Volumes
Petabytes with a two digit annual growth rate

New Locations
Cloud and data lakes

Data

Are data warehouses still the appropriate solution?

Higher Customer Expectations

Performance
Valuable real-time results

Scope
historical data AND Predictive, agile analytics

Value
Improved use of previously unused data

New Types
Behavioral data and the Internet of Things

Larger Volumes
Petabytes with a two digit annual growth rate

New Locations
Cloud and data lakes

Data

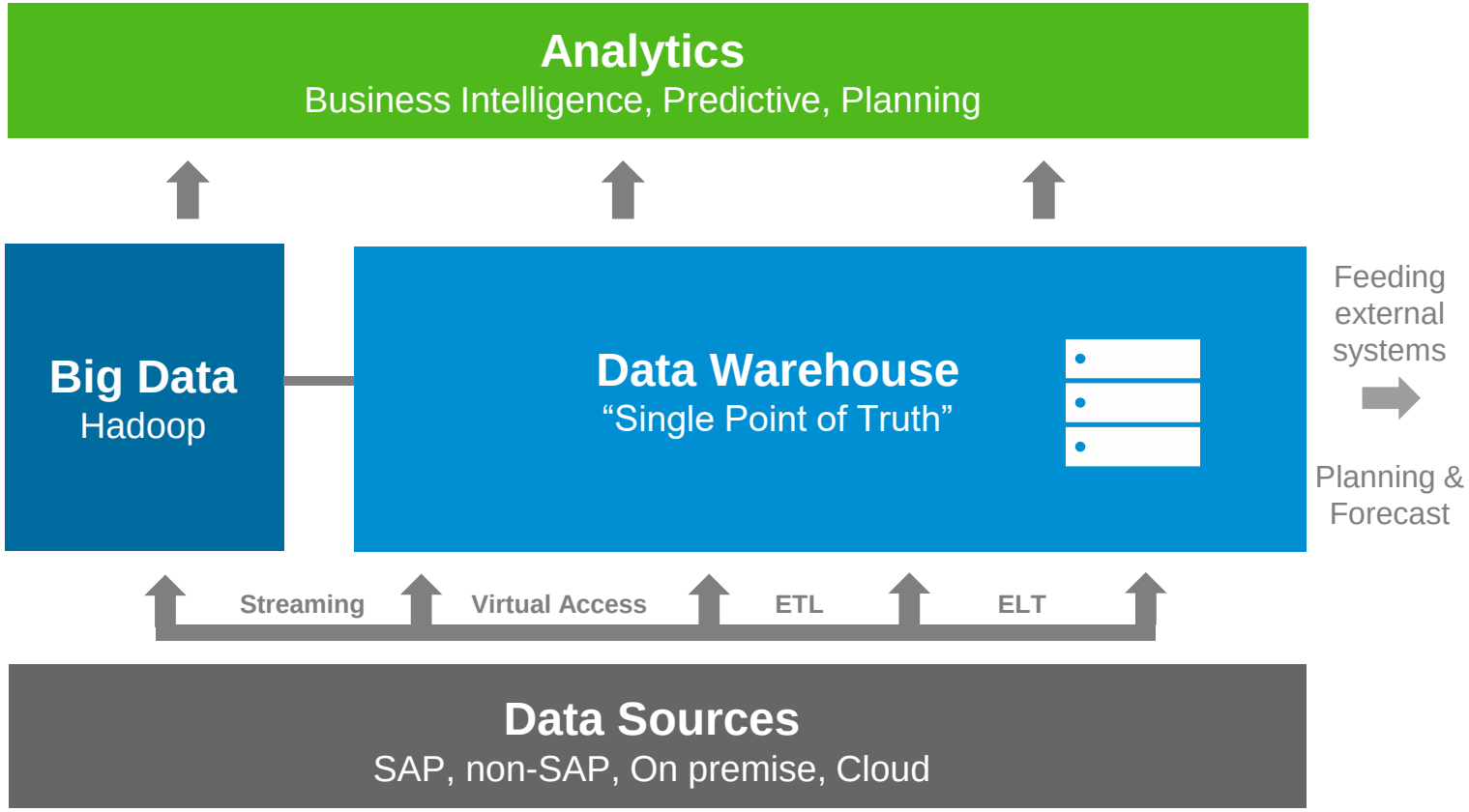
What is an Enterprise Data Warehouse (EDW)?

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



Market Expectations

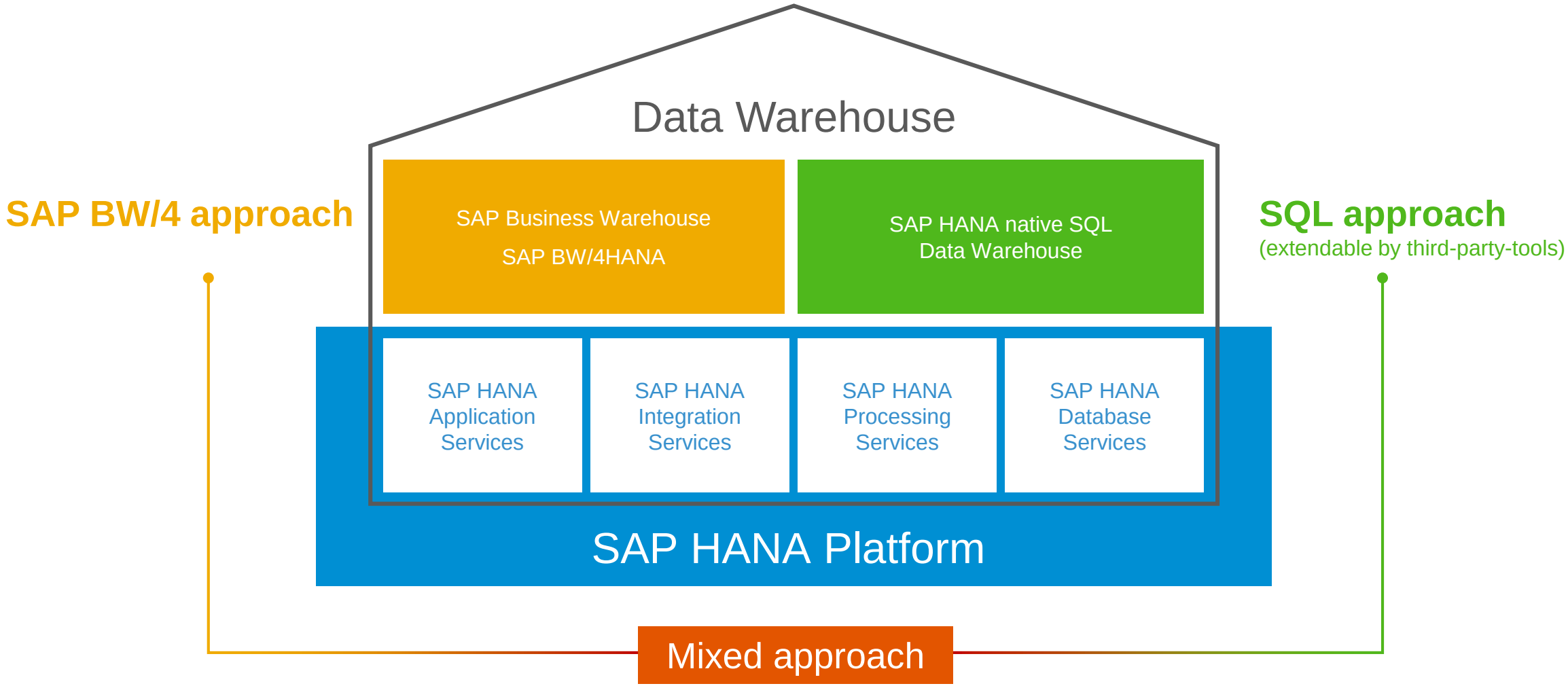
Gartner [1] "**Emerging data sources, trends and technologies** challenge the effectiveness of data warehouses in supporting analysis and decision making."

IDC [2]: " **The data warehousing market based on relational databases will continue to be disrupted** by several non-relational and/or non-schematic information management software categories**.** **Data warehouses will not disappear** as they have a key place in an organization's data architecture."

*[1] "2016 Strategic Roadmap for Modernizing Your Data Warehouse Initiatives" Mark Beyer and Lakshmi Randall, Gartner, October 2016

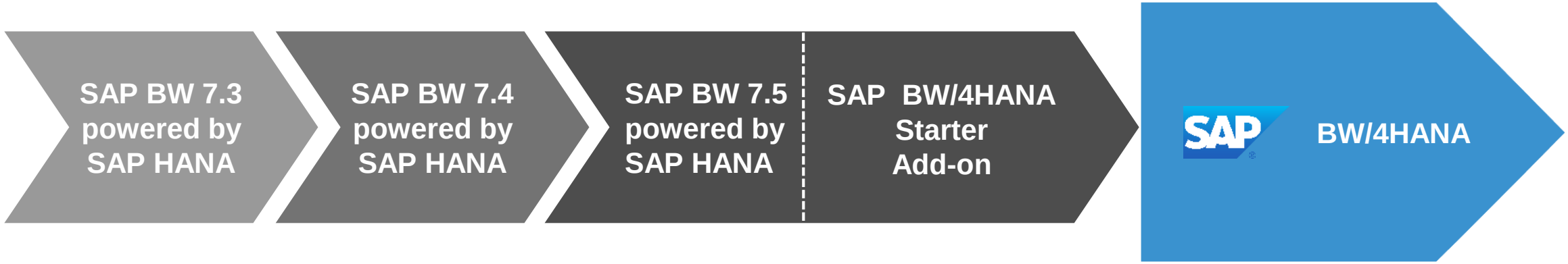
*[2] Worldwide Business Analytics Software Forecast, 2016–2019 by Dan Vesset et al, IDC, July 2016. Doc # 257402

The three approach-strategy for SAP HANA Data Warehousing



SAP BW/4HANA – Overview

SAP BW/4HANA – The Next Generation Data Warehouse

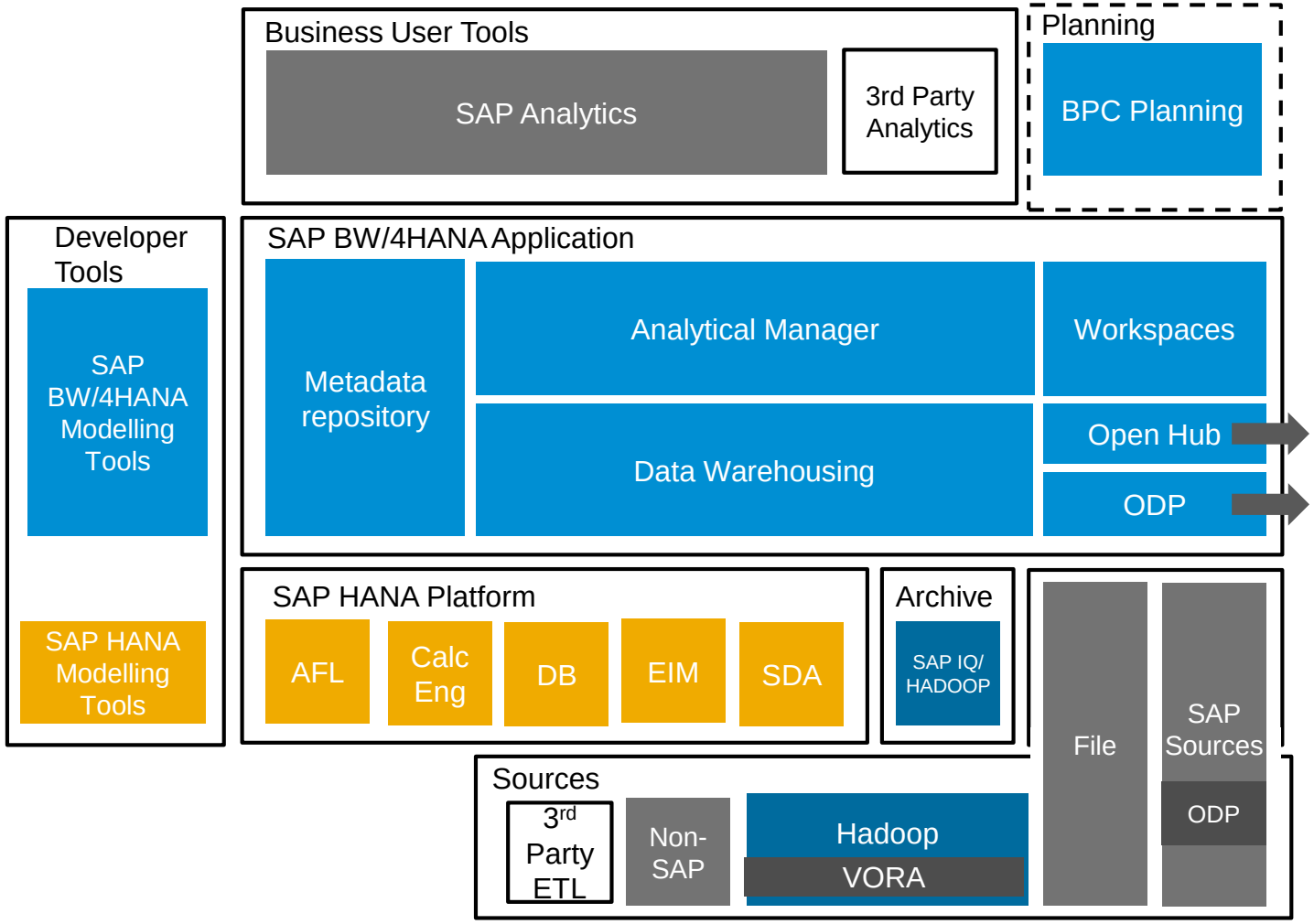


2012	2013	2015	2016+
Performance optimization	Simplification and Virtualization	Simplification, HANA platform integration Big Data scenarios	For SAP BW/4HANA customers only Use transfer tools to make system ready for SAP BW/4HANA Requires SAP BW 7.5 SP 4 or higher	**Introducing SAP BW/4HANA** **The Next Generation Data Warehouse** **Built for Cloud** **Logical Data Warehousing** **Internet of Things** **Integrates with Big Data**

SAP BW/4HANA Architecture

SAP BW/4HANA is…

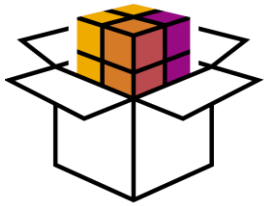
- a new (innovation) code line
- not part of and does not depend on a NetWeaver delivery
- based on the ABAP application server and SAP HANA
- running on premise or in the cloud
- not the legal successor of SAP BW powered by SAP HANA
- the “logical successor” of SAP BW powered by SAP HANA



SAP BW/4HANA Design Principals and Values

simplicity

Reduce development efforts



openness

Easier access to information for all users

modern Interface

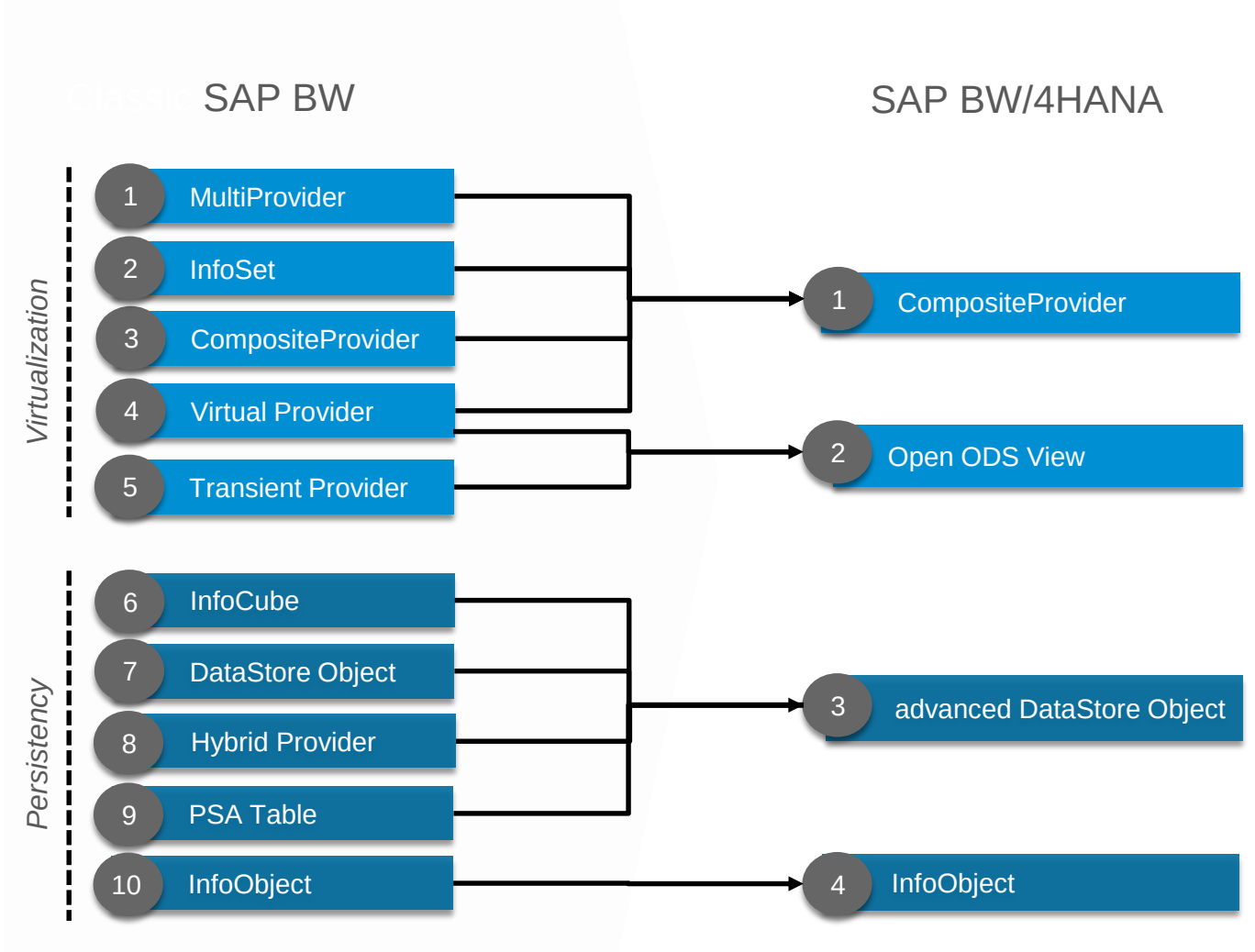
New UX for all users

high performance

Leverage huge amounts of data in real time without compromise

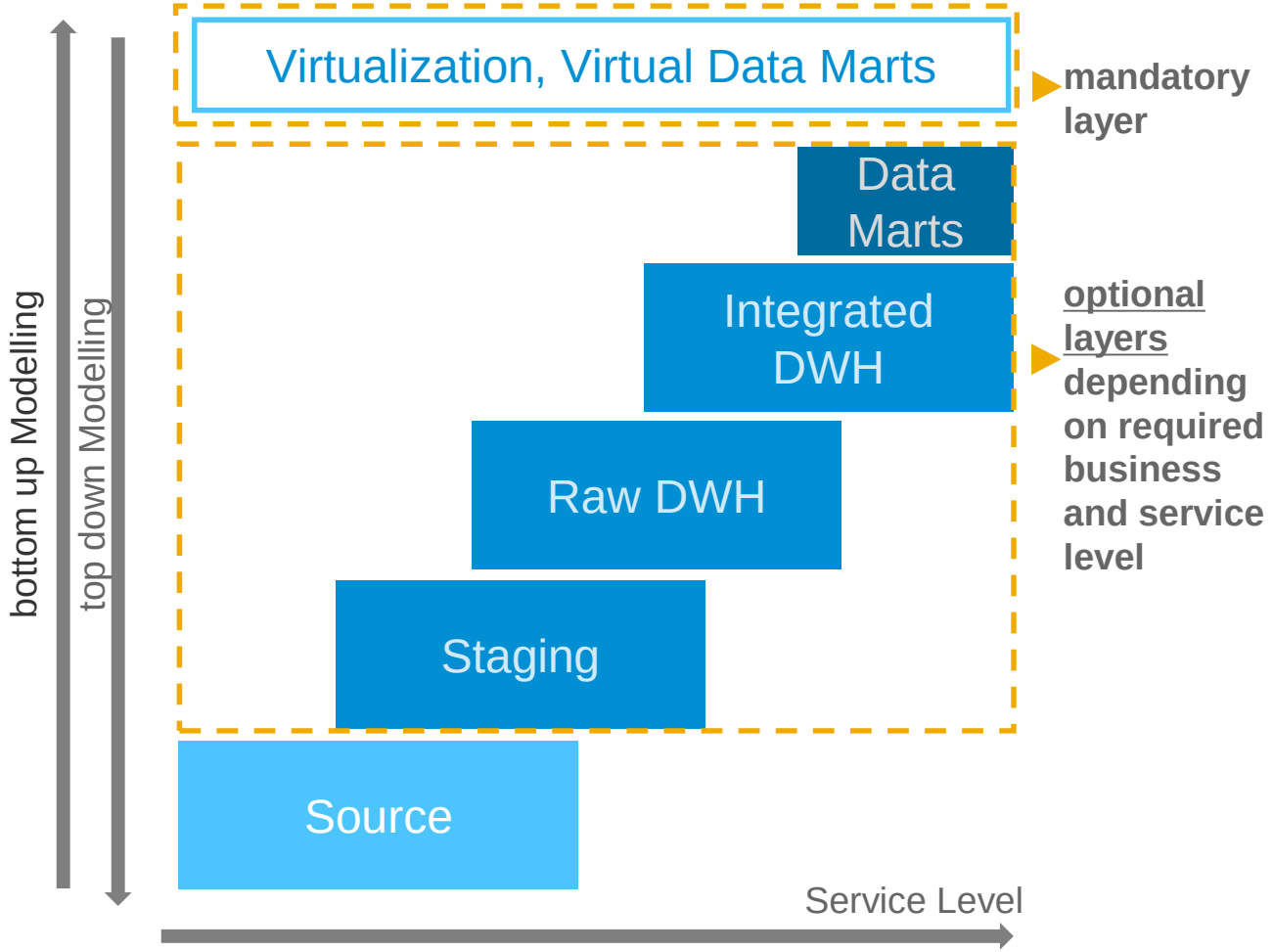
Simplicity: Simplifying the models

- 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



Simplicity: Simplifying the Dataflows

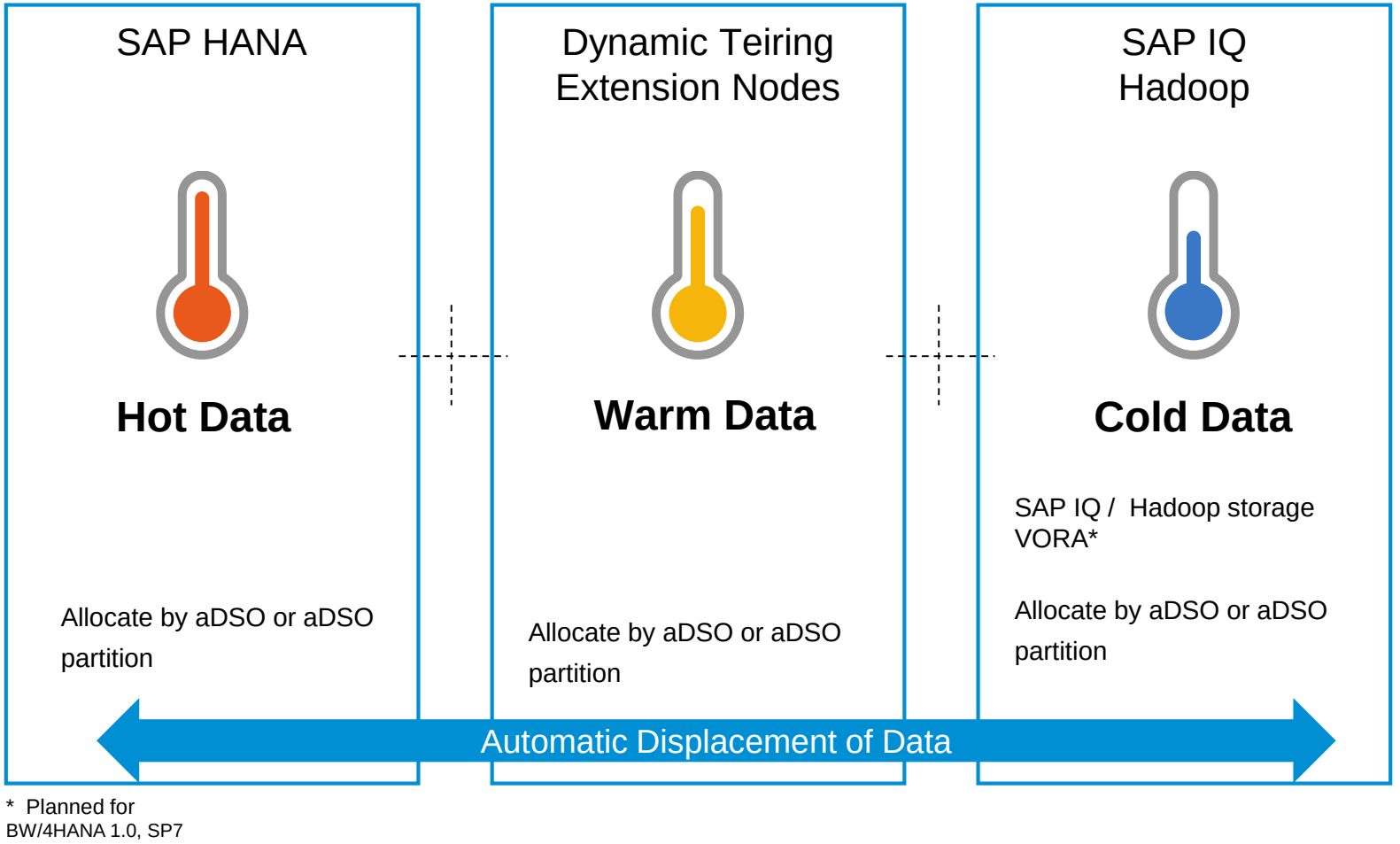
- Report at any layer of the Data Warehouse with speed and flexibility
- Virtually combine data across layers
- Business and service level driven
- Combining bottom-up and top-down modelling approaches – allows for
- agile and flexible development



Simplicity: Simplifying the data aging process

Scale SAP BW/4HANA using Data Tiering Optimization (DTO)

- Consistent approach for Hot, Warm and Cold data
- Allocate temperature by partition
- Displace data automatically between hot, warm and cold storage

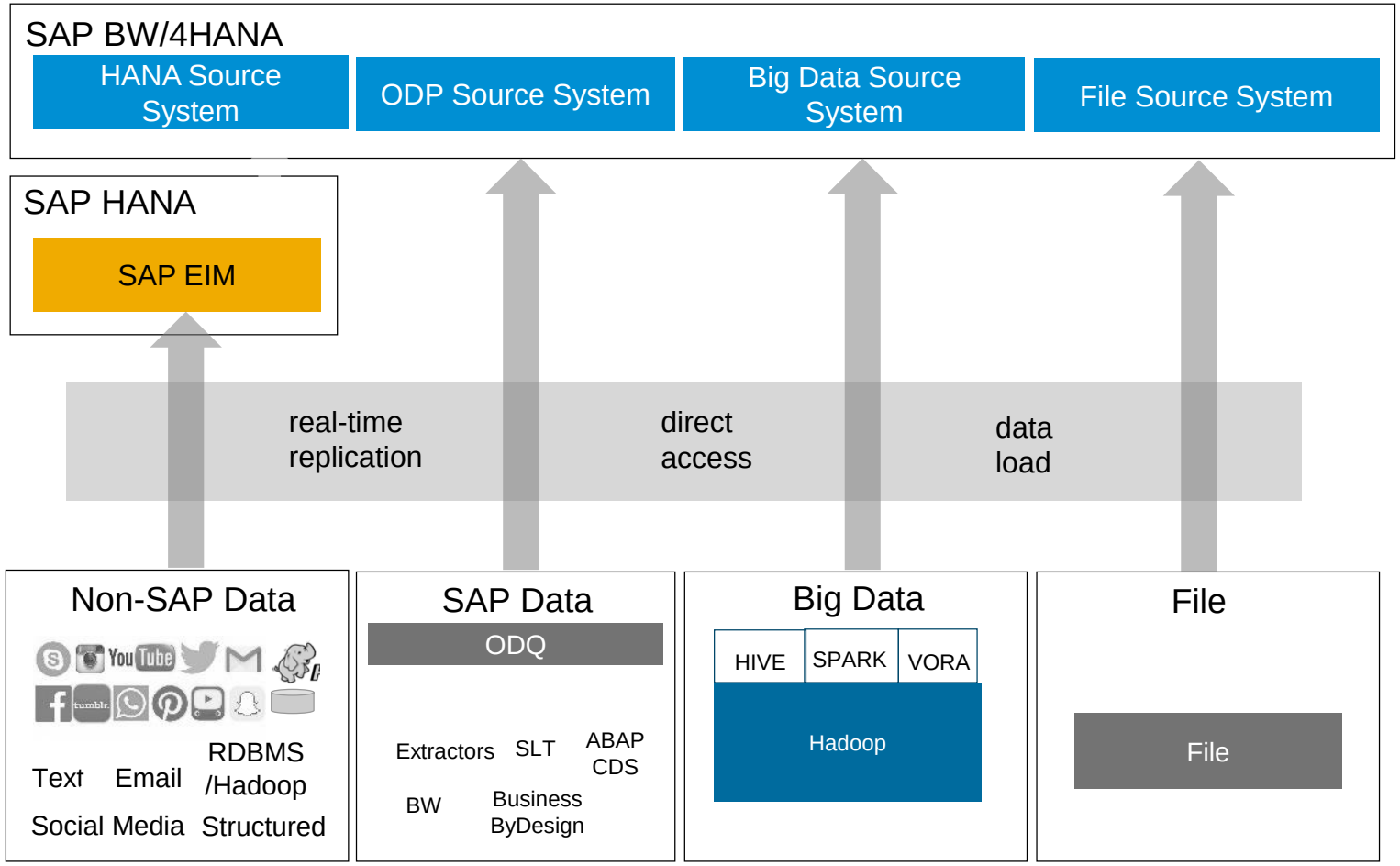


* Planned for BW/4HANA 1.0, SP7

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

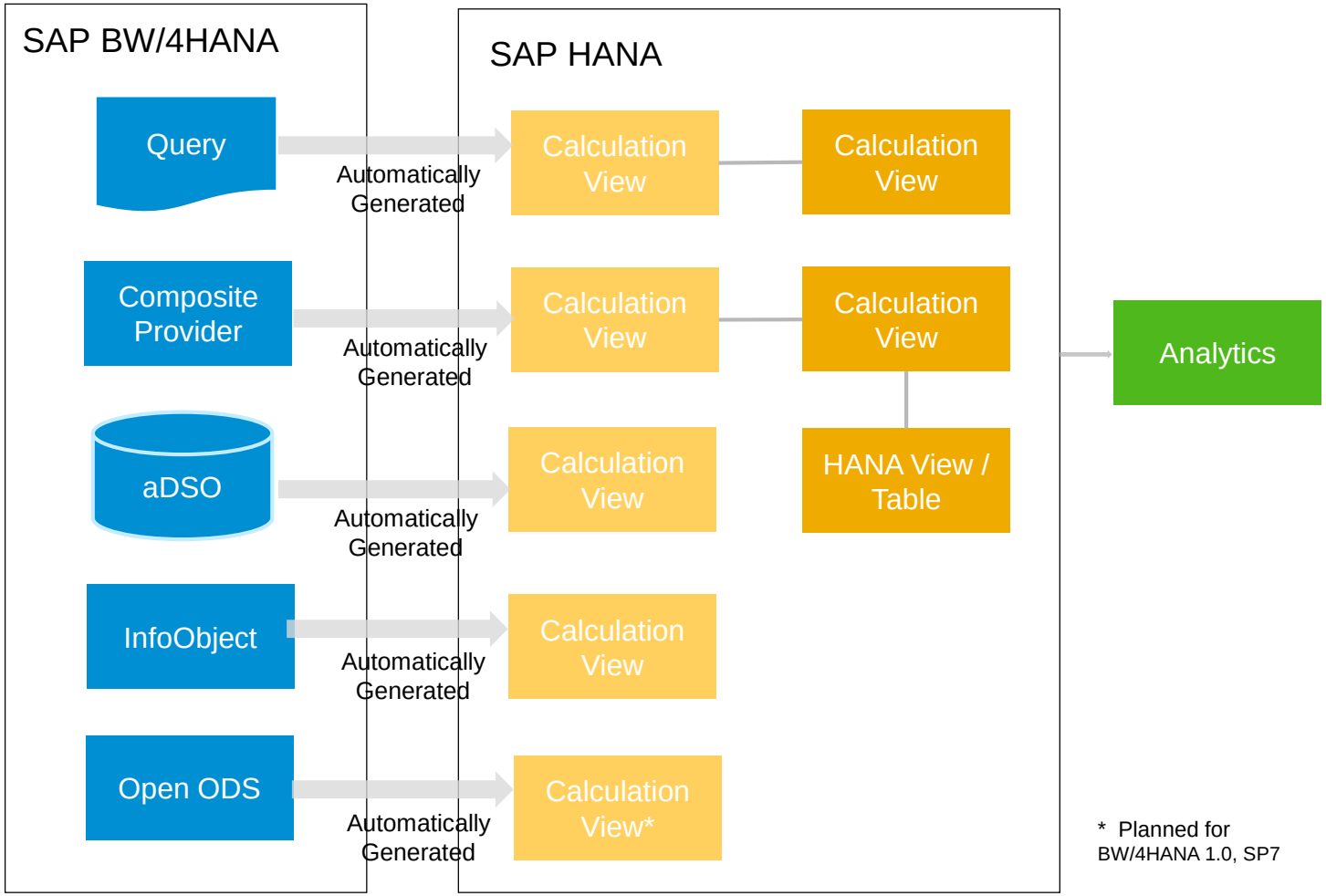


Openness: Flexible access to enterprise data

SAP BW/4HANA logic and data can be exposed to SAP HANA through automatically generated HANA views

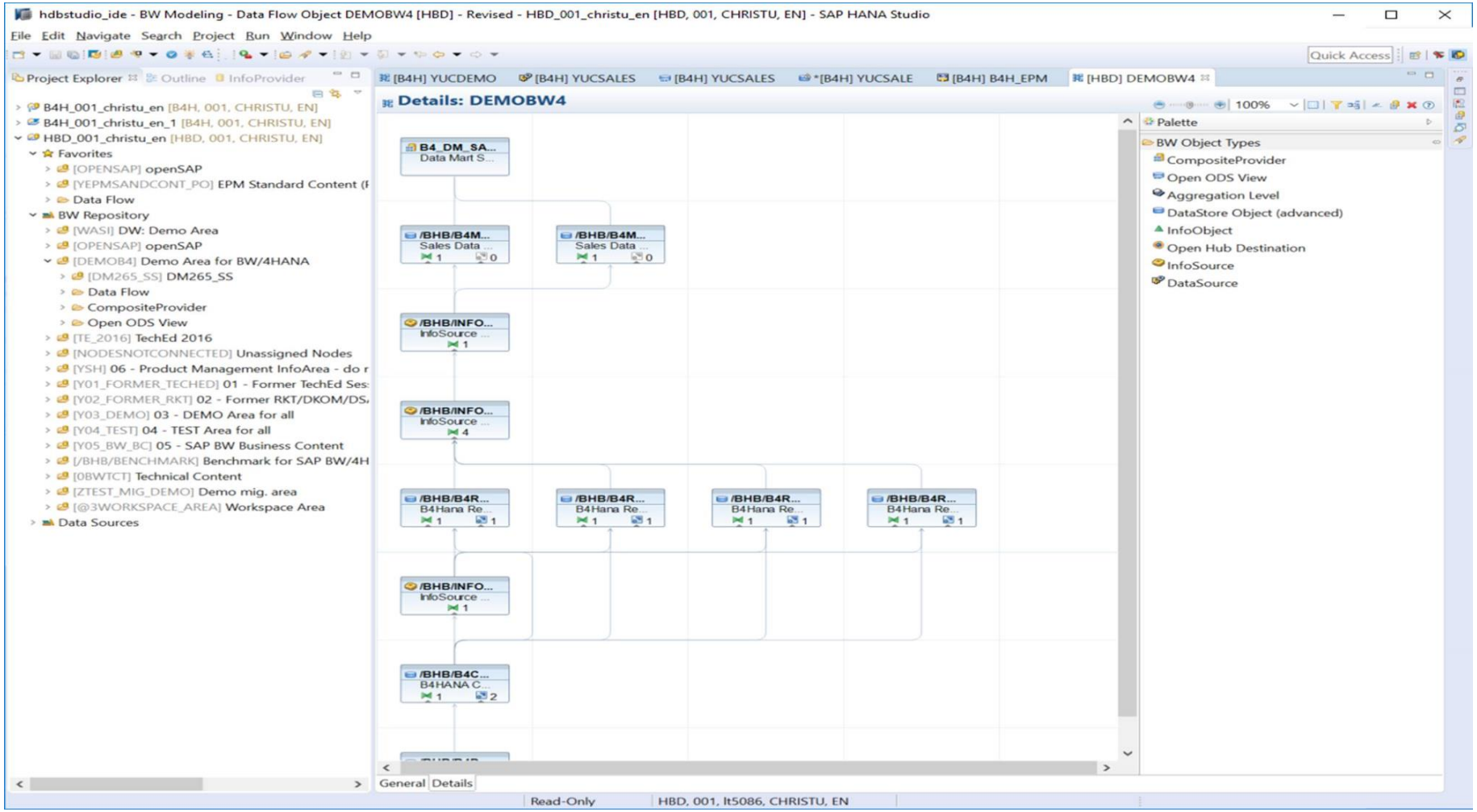
Allowing:

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



Modern Interface faster to learn, easier to use

Developer User Interface – Introducing the new Dataflow Modeller

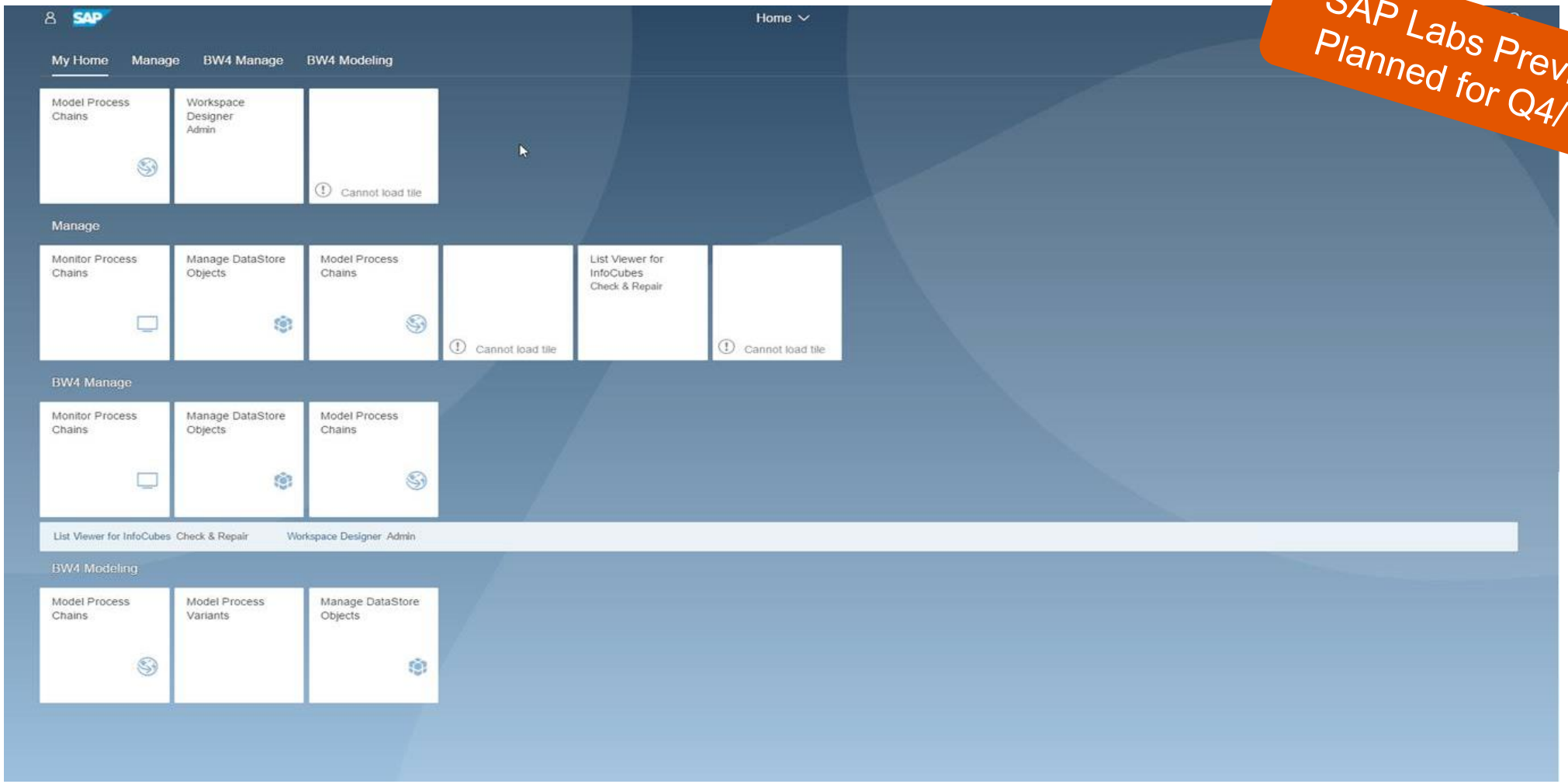


Modern Interface faster to learn, easier to use

Business User Interface – Integration with SAP Analytics (on-premise and cloud)

Modern Interface faster to learn, easier to use

Administrator User Interface – BW/4HANA Administrator Cockpit planned Q4 ‘17



SAP Labs Preview
Planned for Q4/17

SAP BW/4HANA – Roadmap

SAP BW/4HANA Roadmap: Shipped with SP04 (Q2 ’17)

Simplicity

- Data Tiering Optimization (DTO)
  - Unified concept covering hot, warm and cold data
  - Based on partitioning- and temperature definition
  - Automatic data placement to extension nodes or NLS (SAP IQ)
- SAP BPC support Standard and/or Embedded model.
- SAP BW/4HANA optimized Business Content for Plant Maintenance*

Modern Interface

- BW/4HANA Modeling Tools
  - Enhanced Creation Wizard for DataSources (incl. NDSO Support)
  - SourceSystem Editor
  - Query with reference to base query
  - SAP Analytics Cloud live Connection

Openness

- Big Data / Data Lake
  - Vora support for Big Data Source System
- Enhanced SAP HANA EIM integration
  - Delta and Real Time Streaming support for HANA native tables (including deletions)
- Interoperability with native DW approach
  - HANA native DataStore object integration with Open ODS View and DataSource

High Performance

- Further push down of OLAP capabilities
  - Exception aggregation incl. currency and unit conversion

* Delivered with BW4CONT SP02

SAP BW/4HANA Roadmap: Planned for SP07 (Q4 ’17)

Simplicity

- Data Tiering Optimization (DTO)
  - Vora support for write/read access and automatic data placement to Hadoop
  - Performance Optimization (Pruning, throughput)

Modern Interface

- BW/4HANA Modeling Tools
  - Transformation modeling
  - DTP Maintenance
  - Editor for Flatfile Source System
  - Document attached Query Cells
- Web based monitoring (e.g. Process Chains)
- Administration via SAP BW/4 Cockpit

Openness

- Big Data / Data Lake
  - Automation of complex Big Data flows with SAP BW/4HANA
  - Tight coupling between Hadoop and SAP BW/4HANA processes
  - Close Interaction with Big Data scenarios
- Interoperability with native DW approach
  - HDI support

High Performance

- Enhanced Master Data Loads
- Further Query Parallelization
- Query Read Mode Optimizer

SAP BW/4HANA Roadmap: Future Innovations

Simplicity

- Integration with SAP's cloud offering
  - SAP SuccessFactor
  - SAP Ariba
  - Cloud for Customers
  - ….

Openness

- Big Data / Data Lake
  - SAP BW/4HANA Analysis Process with Spark/Hadoop based execution
- Interoperability with native DW approach
  - Integration with Power Designer
  - HANA View generation for Open ODS Views

Modern Interface

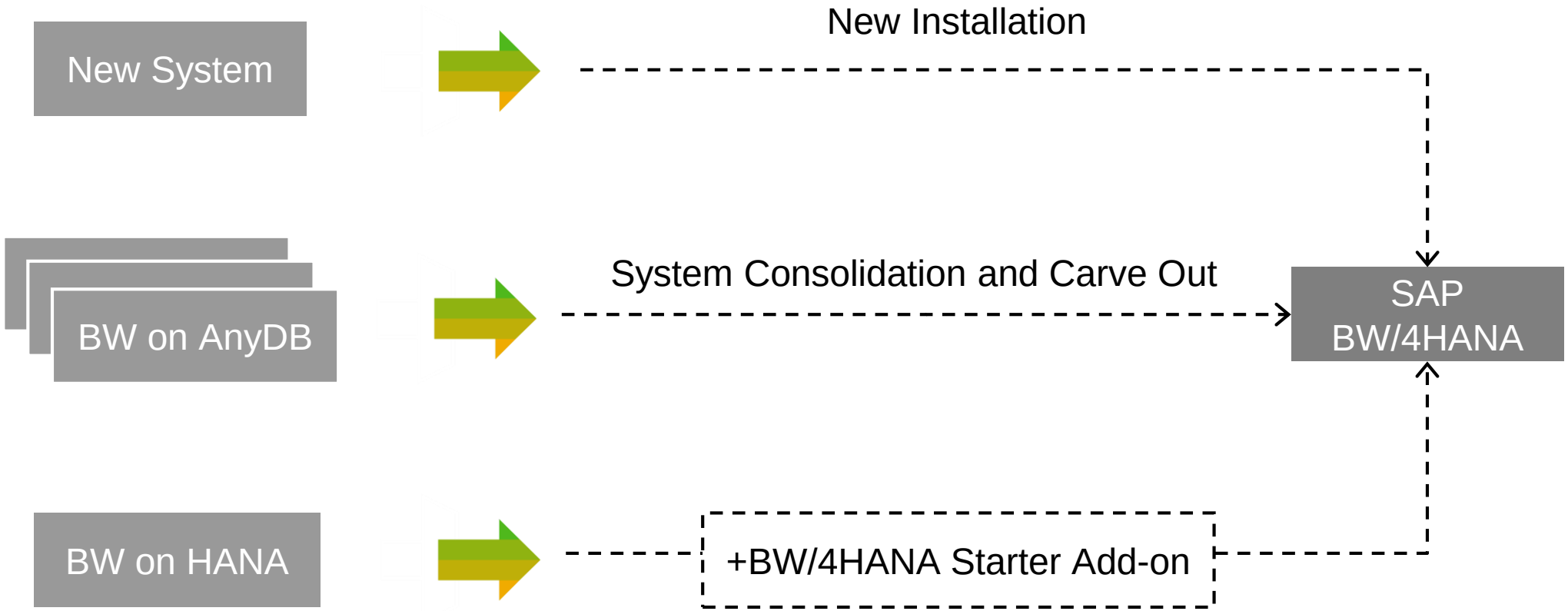
- System health monitoring and prediction
- Machine-learning based DW administration

High Performance

- Further push down of OLAP capabilities
  - Stock coverage
  - Current member

SAP BW/4HANA – Conversion paths

Easy Conversion to SAP BW/4HANA

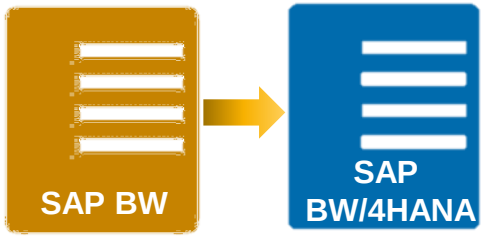


SAP BW/4HANA conversion: Transfer Toolbox

To join the pilot program for In-Place- and Remote Conversion
please contact SAP via Support Portal, component BW-B4H-CNV

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 conversion to SAP BW/4HANA
- Start release:
  SAP BW 7.5 SP 5 powered by SAP HANA



Remote Conversion

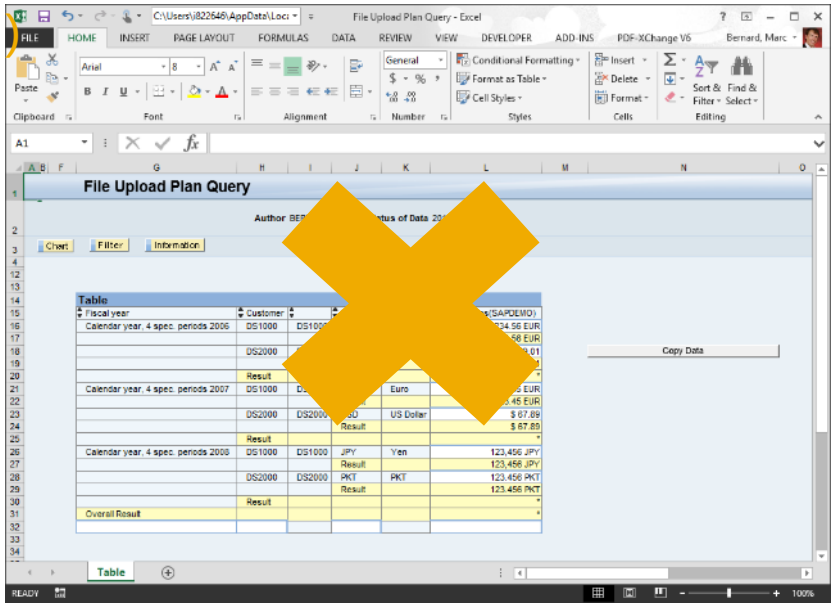
- Start with SAP BW/4HANA as green field installation (new SID)
- Support of carve-out and consolidation scenarios
- Transport data models and remote data transfer
- Risk mitigation due to parallel system
- Start release:
  SAP BW 7.0 or higher on AnyDB

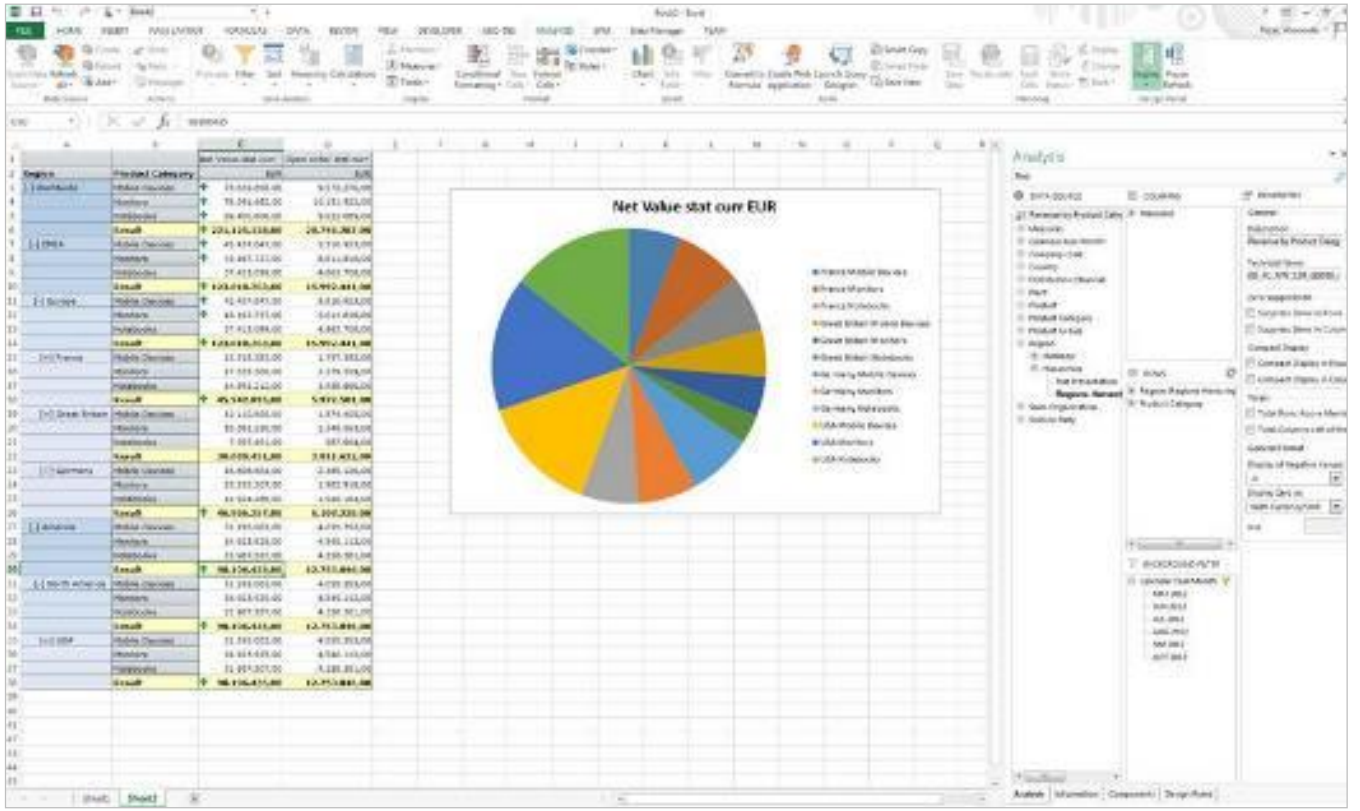
Roadmap: planned from 2017 and beyond

	Version 1.0 - June 2017	Version 1.5 – Q4/2017	Version 2.0 – Q1/2018
In-Place Conversion 	Customers can convert an existing system **running on SAP HANA** Will be made available via notes for **SAP BW 7.50 >=SP5**	Performance enhancements for data transfer More tool-based guidance	Major Add-ons available for SAP BW/4HANA (enable upgrade path) Enhanced data verification capabilities
Shared Features	Legacy functionality gets transferred into HANA-optimized counterparts Customer exits are scanned for incompatible usages	Complete set of supported scenarios (Semantically Partitioned Objects, Real-time Data Acquisition, etc.) Transfer of **SAP BPC** to **SAP BPC on SAP BW/4HANA** NLS based on **SAP IQ/HADOOP**	Data model optimizations Transfer of authorization objects Comfort functions like code replacement in customer exits
Remote Conversion 	Customers can convert systems on **SAP BW >= 7.0** on **Any-DB** Conversion projects will be driven by DM&LT (a.k.a SLO)	Enhanced Status Management Enhanced monitoring capabilities Simplified Guided Process steps	**SAP BW/4HANA Conversion Cockpit** released for partners Troubleshooting functions

SAP BW/4HANA – New Business User Interface for Office

Semi-automated transition of Bex Analyzer Workbooks Analysis Office available as a service offering:
https://blogs.sap.com/2017/07/12/automated-mass-migrationconvertion-of-bex-workbook-to-ao-2.x/





(not available in SAP BW/4HANA)

SAP BW/4HANA – Additional information

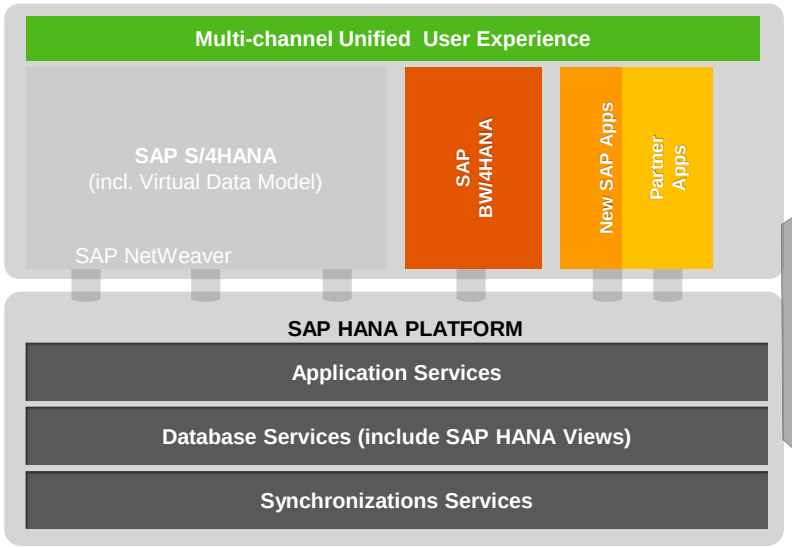
SAP BW/4HANA vs SAP BW powered by HANA

Differentiation *(study this document for further explanation)*

Key Differentiator	Key Business Value Driver
Easy Integration of Big Data Scenarios BW/4HANA provides the seamless integration of Big Data scenarios through a dedicated source system type	**New Architecture Capabilities** By expanding the scope of the data warehouse through big data scenarios, BW/4HANA can provide new and valuable business insights.
Low Effort Data Lifecycle Management Data Tiering Optimisation (DTO) automates data tiering across object partitions	**IT Cost Reduction, Development Productivity** DTO significantly reduces the development and administration effort usually associated with data aging. This reduces the overall Total Cost of Ownership (TCO).
Intuitive, Modern UI BW/4HANA provides an easy-to-use Eclipse based tool which introduces a new paradigm for dataflow modeling	**Development Productivity, Faster Time to Value for the Business** Next Generation UI for dataflow modeling which is very responsive, intuitive, and easy to use. Feedback from early adopting customers shows a reduction in development effort by 50% or more resulting in both business productivity benefits and IT productivity benefits.
Simplified Modeling & Connectivity to External Systems With BW/4HANA, the number of modeling objects in the system is reduced from 10 to 4 and the number of source system types also from 10 to 4	**Development Productivity, Faster Time to Value for the Business** Customers no longer need to worry about closely governing every datamodel to ensure HANA-optimised objects are used. Simplified modeling and governance is key to the BW/4HANA vision, increasing development productivity and providing faster time to value.
Continuous Innovation BW/4 HANA represents the innovation codeline	**Development Productivity, Faster Time to Value for the Business, New Capabilities, Support Costs** BW/4HANA will continue to deliver new features according to the BW/4HANA roadmap. These features are specific to BW/4HANA and will include business productivity benefits, IT productivity benefits and improve overall TCO. BWonHANA is in maintenance mode since end of Q3 2016 and no new innovations will be added going forward.

SAP S/4HANA Embedded Analytics + SAP BW/4HANA

Comprehensive Operational + Historical Analytics and Planning Powered by SAP HANA



SAP BW, powered by SAP HANA or SAP BW/4HANA

- Strategic and tactical
- Integration, harmonization, cross-system consistency
- Consumption
- Planning Platform
- Multi-sourced data
- Preconfigured content
- Data lifecycle
- Data governance
- Complete analytical suite

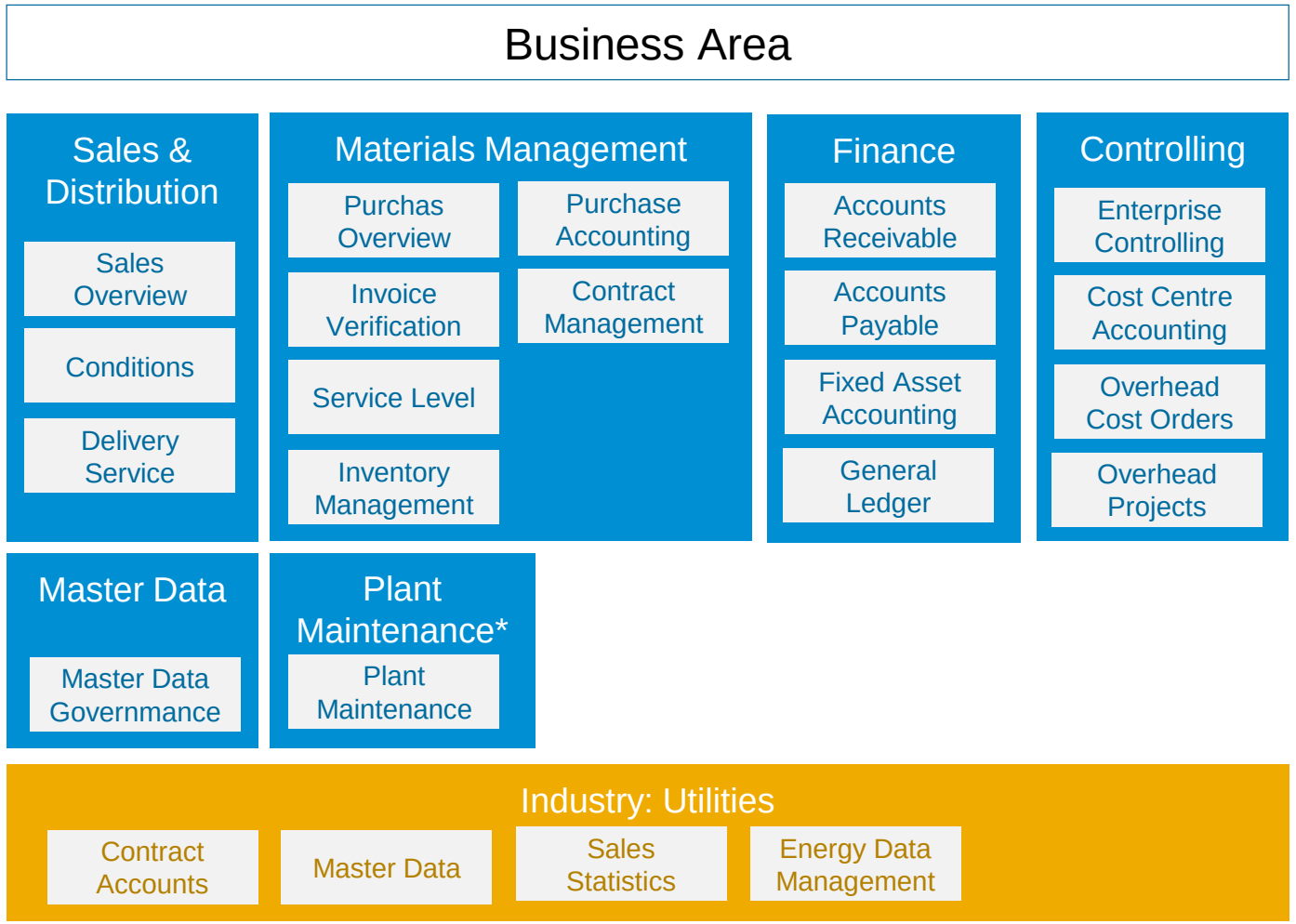
SAP S/4HANA embedded analytics

- Operational data
- Real-time
- Lightweight modeling and consumption
- Extensible
- Uniform
- Basis for multiple embedded use cases
- Model reuse in analytical applications
- Lightweight planning solutions

All analytics requirements fulfilled with one unified solution

Data integration scenarios are possible in multiple hybrid system setups

SAP BW/4HANA: Content Overview



- Uses new SAP BW/4HANA features
- Follows the LSA++ architecture
- Delivered Content offers more flexibility in data acquisition and reporting
- Provides higher level of detail (line items, …)

* Delivered with BW4CONT SP2

SAP BW/4HANA: Forrester Names SAP a “Leader” in Big Data Warehouse

‘[*SAP] delivers a powerful [Big Data Warehouse] BDW capability that brings together in-memory, Hadoop, data warehouses, integration, streaming, and scalability to support large-scale, real-time analytical requirements.’*

Products Evaluated:
‘*SAP HANA 2, SAP VORA 1, SAP BW/4HANA 1, SAP Data Services, SAP Cloud Platform Big Data Services’*

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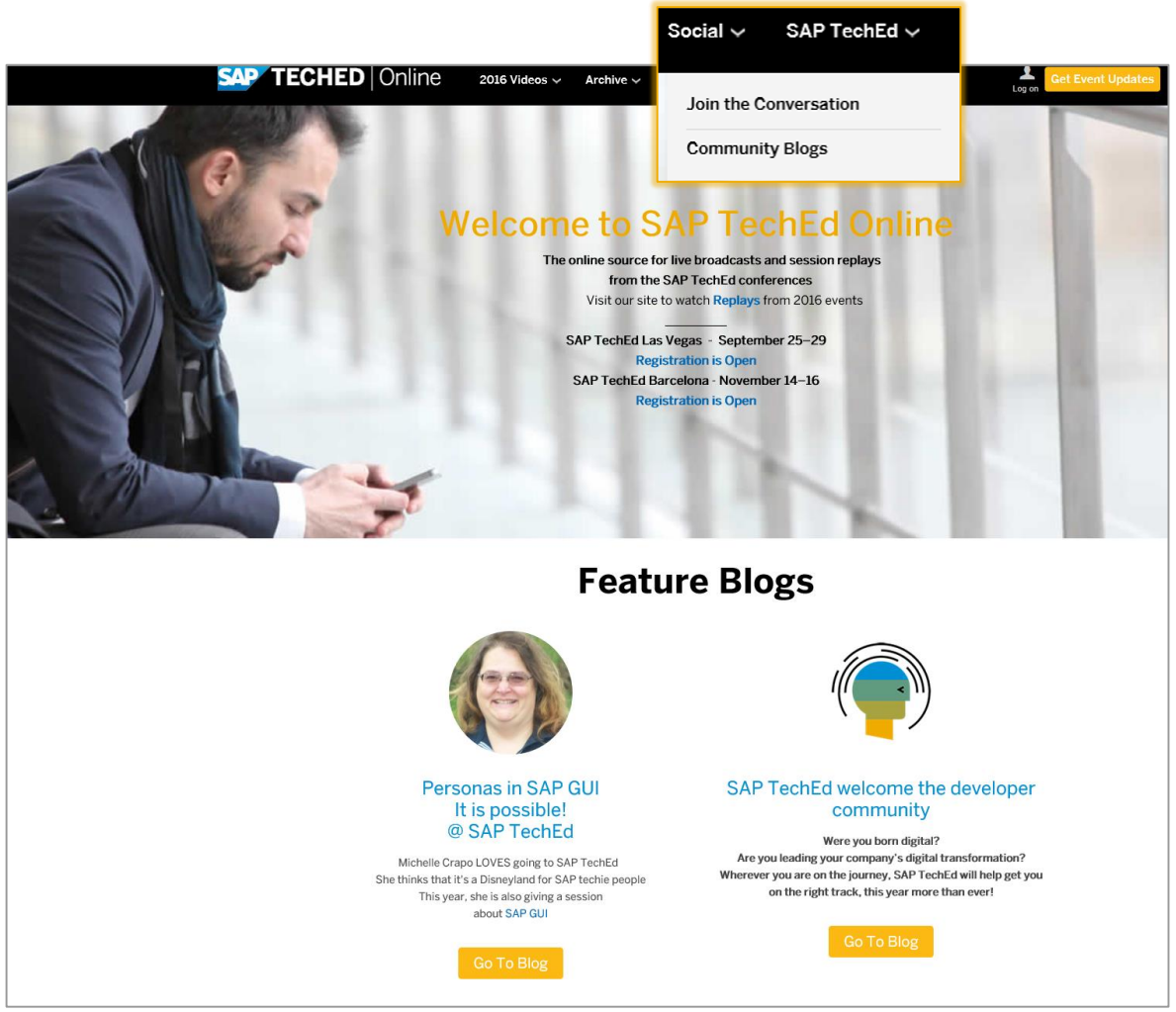

Further information

Related SAP TechEd sessions

ANA212 - Conversion Paths to SAP BW/4HANA
HBD361 - Convert your SAP BW system to SAP BW/4HANA using the Transfertoolbox
ANA213 - Data Tiering Optimization with SAP BW/4HANA
HBD360 - Patterns for a Modern Data Warehous Architecture with SAP
HBD302 - SAP BW/4HANA: Patterns for Modern Data Warehousing and Flexible Modeling
ANA815 - SAP BW/4HANA: Road Map
HBD301 - Big Data Warehousing: How an Enterprise Data Hub and SAP BW/4HANA Interact

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SAP BW/4HANA Roadmap

https://www.sap.com/products/roadmaps.html

SAP BW/4HANA openSAP

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

SAP BW/4HANA Training

https://training.sap.com/shop/course/bw462-sap-bw4hana-remoteclassroom-013-de-de/

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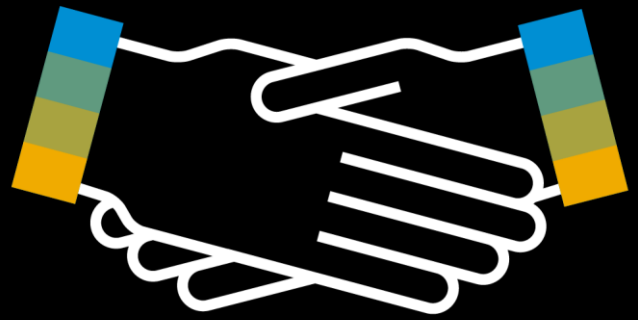

Feedback

Please complete your session evaluation for **ANA211**.

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The BIG Data Warehouse with SAP BW/4HANA & SAP Data Hub

The BIG Data Warehouse

A modern, open and hybrid DWH offering for all data types and formats

- Implement and execute high volume transformations on Big Data Clusters Data Lake
- Leverage Big Data landscapes for data onboarding and ingestion of various types of data and files
- Data Hub as orchestration and refinery application to address end to end processes