Intelligent Data Warehousing

BW/4HANA + Data Hub

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Agenda

Modern Data Warehouses

BW/4HANA + Data Hub

Conclusions
Key Trends: New Categories of Data

- process mediated data
  - OLTP systems
  - LOB applications
  - prescriptive

- machine generated data
  - IoT
  - logs
  - descriptive

- human sourced information
  - text, tweets
  - photos, videos, sound
  - requires interpretation

traditional

new ➔ big data: volume, types, origins, real-time
(aka: volume, variety, veracity, velocity)
## Data Variety

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- **Sensor:** webcam
- **Sensor:** weblog
- **Sensor:** GPX

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Storage Tiers in a Modern Data Warehouse

Ingestion Layer
- to collect data
- batch
- file system
- e.g. Amazon's S3

Process, Refine, Explore
- data scientists, experts
- batch / semi-batch
- distributed file system + processing
- e.g. Hadoop + VORA

Consumption & Speed
- business users
- online / interactive
- structured
- RDBMS, e.g. HANA

"Modern Data Warehouse"
Netflix Example

"Tradtional DW"

"Hadoop DW"

"Cloud DW"

IBM Example

Sears Example

http://www.edureka.co/blog/big-data-applications-sears-case-study/
Agenda

- Modern Data Warehouses
- BW/4HANA + Data Hub
- Conclusions
Intelligent Data Warehousing

Intelligent data warehousing is not only about size and scalability, but about agility and integration capabilities in a distributed, more and more complex customer system landscape of cloud and on-prem systems, classic structured and new non/semi-structured data sources.

The combination of SAP Data Hub & SAP BW/4HANA is a perfect fit to these challenges!
The Intelligent Data Warehouse

THE Data Management platform for the Intelligent Enterprise based on SAP HANA

- Close Integration with S/4HANA & Cloud Applications (SFSF, Ariba,..)
- Schema-less DWH with high automation and minimal Modeling
- Data Lake as primary high volume and computation persistency
- Scalable Storage and Data Processing capabilities in Cloud / On-Premise
- Data Processing beyond OLAP with ML / Predictive Analytics etc.
Data Warehouse Use Case

SAP DATA HUB application

Meta Data Catalog

SAP DATA SERVICES

Data Flows

Integration

Refined Data

Big Data Processing

Ingestion

Analytics Model

SAP BW/4HANA

Meta Data Repository

CompositeProvider

Process Chains

OpenODS View

Advanced DSO

SDA / SDI

Hadoop, S3, GCP, Azure

SAP Data Hub - Runtime

Data Pipelines & Flows

SAP Vora

Meta Data (Hive, Atlas...) .csv .parquet

Kafka

Streams

Files

Videos

Images

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ML & Data Science Use Case

SAP DATA HUB application

Snapshots

Tiering

Data Science Community

How to provide SAP Data?
How to productize?
Deep Dive “Cloud Data Integration” (CDI)

SAP Analytics Cloud

Data Acquisition (Blending, Planning)

SAP BW/4 HANA

Live Connectivity

Source System

OData based Interface

SAP Data Hub

Data Pipeline

Operator

Operator

Operator

Vora

Cloud Data Integration API

SAP Fieldglass

OData based Interface

JAVA, ...

SAP S/4HANA Cloud & BW/4

ABAP CDS

ODP

ODQ

ODQ

SAP BW/4 HANA

SAP BW/4 HANA

SAP BW/4 HANA

SAP BW/4 HANA

Other

JAVA, node.js, ...

Data Services (DS), CPI-DS, SDI

Consumer / OData Client

Provider OData Server
Agenda

Modern Data Warehouses

BW/4HANA + Data Hub

Conclusions
Key Take-Aways

- An intelligent data warehouse (IDW) is an evolution of a traditional DW.

- BW/4HANA + Data Hub is SAP’s highly integrated toolset to build an IDW.

- This is live.
Thank you.

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