Data Privacy & Protection with SAP BW/4HANA

Overview

Product Management, SAP Data Warehousing
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Agenda

(1) Motivation

(2) What is new (Data Protection Workbench) ?

(3) Demo: Data Protection Workbench

(4) Outlook
SAP BW/4HANA 2.0 – The evolution to SAP BW/4HANA 2.0

- The next generation data warehouse
- Builds on the innovations of SAP BW powered by SAP HANA
- Leaves behind the legacy of SAP BW on anyDB
- Data Tiering Optimization (DTO) to manage hot, warm and cold data tiers

- Enhanced Data Tiering Optimization (DTO) options to reduce TCO
- Enhanced Master Data Loads
- Tight integration with SAP Data Hub
- Analytical Engine Improvements

- Unified UI for all BW/4HANA Modeling (DTP and Transformation Editor)
- SAP BW/4HANA Web Cockpit as single entry point for administration and monitoring
- New Storage Options for Data Tiering Optimization (DTO)

- SAP’s vision for a modern packaged data warehousing solution
- Simplified in every aspect of data warehousing
- Smart integration of all business applications and modern data sources
SAP BW/4HANA 2.0 – Mission statement

SAP BW/4HANA 2.0 is…

• SAP’s vision for a modern packaged data warehousing solution
• highly optimized for SAP HANA
• simplifies every aspect of data warehousing
• capitalizing on all business applications and modern data sources via smart integration
• driving innovation with a unified data platform
Simplicity

- DataStore Object write interface for SAP Data Services
- Data Protection Workbench
- Data Tiering Optimization (DTO)
  - Cold Store connection configurable on object level
  - Inventory ADSOs
  - Support for several external storage destinations

Modern Interface

- SAP BW/4HANA Modeling Tools
  - Mass-modeling for objects in Data Flow and Semantic Groups
  - Planning tools (planning functions)
  - Data Flow Documentation Generation (HTML)
- Web-based Administration & Monitoring e.g. DTO temperature maintenance cockpit

Openness

- Integration with SAP Data Hub
  - BW/4 Metadata integration enabling lineage/impact analysis
  - DataStore Object write interface for SAP Data Hub
- Integration with SAP Cloud Platform
  - Availability of SAP BW/4HANA APIs
- SQL View for Lookups on advanced DataStore Objects
- Integration with SAP Cloud Solutions via SAP Cloud Platform Integration (CPI)

High Performance

- Further Push-down of OLAP Capabilities
  - Conditions (having, ranking, …)
  - Dedicated performance optimization for SAC
Motivation
What is the General Data Protection Regulation (GDPR) ?

- The General Data Protection Regulation (GDPR) is a new European Union (EU) law that gives residents much better protection and control of their personal data. It will regulate the data companies in and outside the EU can collect, store, and transfer – as well as how they use it.
- All companies that process EU resident data must be ready to comply when the GDPR enforcement starts on May 25, 2018.

SAP BW/4HANA and SAP BW deliver Data Protection and Privacy (DPP) related features, which help the customers to comply with GDPR:

- Read access logging
- Information report
- Deletion of personal data
- Log changes
DPP Capabilities in SAP BW/4HANA and SAP BW (before SAP BW/4HANA 2.0)

Read access logging
- Used to log and monitor read access to sensitive data
- General functionality provided by the NetWeaver Platform (ABAP Stack) can be used to log access of SAP BW and SAP BW/4HANA master data maintenance
- In SAP BW and SAP BW/4HANA the recommendation is to use LOPD* authorization-based read access logging for transactional data

Information report
- SAP BW/4 HANA as well as SAP BW provide tools supporting users to analyze usage of sensitive information (e.g. where-used list**, master data maintenance)

Deletion of personal data
- Sensitive data can be selectively deleted in SAP BW and SAP BW/4HANA
- Where-used list to support identification of InfoProviders containing the values to be deleted
- Possibility to automate regular deletion tasks of transactional data within Process Chains

Log changes to personal data
- Track changes to master- and transactional data
- Audit- and Change Logs available to monitor changes to transactional data

(*)LOPD was initially developed for the Spanish data protection law (Ley Orgánica de Protección de Datos de Carácter Personal, short: LOPD).

(**)Where-used list for dedicated master data values available with SAP BW/4HANA 1.0 SP07 onwards. In earlier releases a similar result can be achieved by simulating a selective deletion for a given value in the master data maintenance of an InfoObject.
What’s new?
Data Protection Workbench
Data Protection & Privacy: Data Protection Workbench - Motivation

Situation today
- Personal data is increasingly protected by laws (e.g. EU GDPR)
- SAP BW/4HANA offers capabilities for Data Protection & Privacy support (see security guide SAP BW/4HANA)
- Generic deletion capabilities in SAP BW/4HANA are independent of Business Suite handling
- SAP ILM ensures retention management in operational systems and is used to support data protection & privacy compliance

Challenge
- Improved support and tight integration of SAP BW/4HANA with SAP ILM to delete replicated personal data in SAP BW/HANA after the end of purpose of the data.

Approach
- SAP ILM notification framework allows to persist notifications of deleted (personal) data during ILM processes
- Replicate notifications from SAP ILM to SAP BW/4HANA
- Data Protection Workbench supports:
  - Identify InfoProviders containing sensible data
  - Selective deletion of corresponding transactional- and master data records
Data Protection & Privacy: Data Protection Workbench - Process

Feature Description

**SAP ILM**
- SAP ILM persists events during SAP ILM processes (e.g. deletion of personal data)
- Mapping of SAP ILM object (e.g. ‘Sales Order’) to SAP BW/4HANA DataSource allows identification of relevant data targets in SAP BW/4HANA

**Data Protection Workbench**
- Persist notifications from SAP ILM into a SAP BW/4HANA Data Store Object
- Seamless integration into Fiori-based SAP BW/4HANA Administration Cockpit
- Grouping of notifications into worklists according to subject matters to orchestrate the deletion process
- Identification of InfoProviders along a data flow containing the data to be deleted
- Documentation of worklist processing status (for legal auditing)

**Benefits**
- Integrated solution to consistently delete replicated data from supported operational SAP source systems to reduce administration effort
- Modern UI seamlessly integrated in Administration Cockpit
ILM Objects and Enablement for BW DP Notifications

Background

- ILM Notification events are transferred to BW based on BW DataSources
- Applications need to enable / configure their ILM objects for the ILM Notification Framework and configure the mapping to BW DataSources

(1) ILM Notification Key customizing to enable ILM object for ILM Notification Framework delivered by SAP

(2) Mapping of ILM Objects to BW DataSources to enable BW DP Notification delivered by SAP
Dataflow from Business Suite to BW/4 (aDSOs)

Data Protection Notifications (relevant for BW)

Data Protection Notifications (all)

Data Protection: Generic Notifications to BW

Business Suite - S/4 – S/4Cloud (planned)
Data Protection & Privacy: Data Protection Workbench - Timelines

Availability SAP Business Warehouse:

- SAP BW/4HANA 2.0 (planned) - RTC 25.02.2019
- SAP BW 7.5: SP15 (planned) - RTC 14.06.2019

Requirements source systems:

- Business Suite: first shipment with support of notifications planned with EhP8 SP12
  - Initial subset of supported ILM objects
  - List of supported ILM objects will be shared via note
  - Shipment of further application content planned

- SAP S/4 HANA: planned

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Demo

Data Protection Workbench
Outlook
SAP BW/4HANA Roadmap – Planned Innovations
Planned for 2020 – SAP BW/4HANA 2.0

Simplicity

- Project Blueberry
  - Part of SaaS data warehousing offering tightly integrated with SAP Analytics Cloud
- Data Tiering Optimization (DTO)
  - Updates to cold data (external storage)
- Data Protection Workbench
  - Automated processing
  - Processing of notifications from non-SAP Sources

Modern Interface

- SAP BW/4HANA Modeling Tools
  - Content Activation
  - Mass Processing (Activation, Deletion)
- Enhanced Web-based Administration & Monitoring

Openness

- Integration with SAP Data Hub
  - Common Meta Data Catalog & Repository
  - Streamlined Operations & Deployment
  - Simplified data integration & data volume management
- Integration with SAP Cloud Platform
  - Availability of CPI Source System in SAP BW/4HANA
- HDI support (View generation to HDI)

High Performance

- Further Push-down of OLAP Capabilities
  - Current member
- SAP Analytics Cloud Integration & Advanced Analytics Environment
SAP BW/4HANA Roadmap – Product Direction
2021 and Beyond

**Simplicity**
- Project Blueberry
  - Deep integration with SAP Analytics Cloud
  - SAP Data Hub and Big Data integration
  - Industry content
- Data Tiering Optimization (DTO)
  - DTO automation – rules and statistics based
  - Further cloud storage options for cold data based on SAP Vora

**Modern Interface**
- System Health Monitoring and Prediction
- Machine-learning Based DW Administration

**Openness**
- Further integration with SAP Data Hub providing Big Data Warehouse architectures
  - Tight repository interoperability (common transports & improved impact analysis)
  - Seamless data exchange
- Open Hub Modernization

**High Performance**
- Leveraging new SAP HANA engine capabilities for Analytics and Transformations
- Leveraging new HANA elasticity and scalability enhancements
Thank you.

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Appendix
Appendix: DP Workbench

Screenshots