Big data in the cloud
Utilizing Azure’s Data analytics services for SAP data

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Big Picture of SAP on Azure Integration

Microsoft SAP Build Out Extensibility

User Experience and Data Visualization
- Power BI
- Power Apps
- O365
- Flow
- Dynamics 365

Predictive | Decision Analytics
- Data Catalog
- Stream Analytics
- Cognitive Services
- Data Factory
- Data Lake Analytics
- Bots
- Event Hubs
- Analysis Services
- Machine Learning

Big Data
- SQL Data Warehouse
- HDInsight | Spark | R
- CosmosDB

Data Commercialization
- Data Scientists
- App Developers (B2C / B2B)

External Data
- Devices
- Diet/Fitness/Environment
- Social Media
- Providers/Payers

IoT Gateway & Data Acquisition – IoT HUB

Data Governance | Data Stewardship | Master Data Management | Policies and Procedures | Standards and Organizations
Azure Data Factory Overview

Azure Data Factory is a cloud-based data integration service that orchestrates and automates the movement and transformation of data, which support copying data from 70+ data stores on-premises and in the cloud easily and performantly.

Azure Data Factory enables **loading data from SAP HANA, SAP ECC and SAP Business Warehouse (BW) into various Azure data stores for advanced analytics and reporting**, including Azure Blob, Azure Data Lake, Azure SQL DW, etc.

SAP ADF Connectivity

**SAP HANA connector** supports copying data from HANA information models (such as Analytic and Calculation views) as well as Row and Column tables using SQL queries.

To establish the connectivity, you need to install the latest Data Management Gateway (version 2.8) and the SAP HANA ODBC driver.

Refer to [SAP HANA supported versions and installation](#)

**SAP BW connector** supports copying data from SAP Business Warehouse version 7.x InfoCubes and QueryCubes (including BEx queries) using MDX queries.

To establish the connectivity, you need to install the latest Data Management Gateway (version 2.8) and the SAP NetWeaver library.

Refer to [SAP BW supported versions and installation](#)

**SAP ECC connector** Copying data from SAP ECC on SAP NetWeaver version 7.0 and above.

Copying data from any objects exposed by SAP ECC OData services (e.g. SAP Table/Views, BAPI, Data Extractors, etc.), or data/IDOCs sent to SAP PI that can be received as OData via relative Adapters.

Refer to [Copy data from SAP ECC using Azure Data Factory](#)
Power BI is a suite of business analytics tools that deliver insights throughout your organization. Connect to hundreds of data sources, simplify data prep, and drive ad hoc analysis. Produce beautiful reports, then publish them for your organization to consume on the web and across mobile devices.

- Read data from SAP HANA

- Read data from SAP BW
  - [https://docs.microsoft.com/en-us/power-bi/desktop-sap-bw-connector](https://docs.microsoft.com/en-us/power-bi/desktop-sap-bw-connector)

- SAP DirectQuery support

- SAP SSO with Power BI
  - [https://docs.microsoft.com/en-us/power-bi/service-gateway-kerberos-for-sso-pbi-to-on-premises-data](https://docs.microsoft.com/en-us/power-bi/service-gateway-kerberos-for-sso-pbi-to-on-premises-data)

- Supported Data Sources
Azure Logic Apps Connector to SAP

Simplify and implement complex, scalable integrations and workflows in the cloud and in Office365

Brings speed and scalability into the enterprise integration space

Ease of use of the designer

Variety of available triggers and actions

Powerful management tools

Fully managed iPaaS (integration Platform as a Service)

Logic Apps will scale up automatically to meet demand

Try Logic Apps: https://azure.microsoft.com/en-us/services/logic-apps/

Connector Lists: https://docs.microsoft.com/en-us/azure/connectors/apis-list

SQL Server Analysis Services Tabular

Analysis Services is an analytical data engine used in decision support and business analytics. It provides enterprise-grade semantic data models for business reports and client applications such as Power BI, Excel, Reporting Services reports, and other data visualization tools.

Analysis Services is available in two different platforms:
- Azure Analysis Services
- SQL Server Analysis Services 2017

Data sources supported in SQL Server Analysis Services tabular includes SAP HANA and SAP BW
Power BI Report Server

Deploy on premises or in Azure VMs

Creating, publishing, and managing reports

Delivering web browser, on their mobile device, or as an email

Supports SAP HANA and BW

Azure Data Catalog integration with SAP

Fully managed cloud service whose users can discover the data sources they need and understand the data sources they find

Data source discovery
• One stop shop for all enterprise data sources
• No data movement, no heavy upfront investment
• Time to value in minutes

Data from multiple sources Structured and unstructured
• On premises and in the cloud
• Microsoft and non-Microsoft
  Including SAP HANA and SAP BW

Consumption through multiple tools
• Enabling publishing, discovery and consumption of data sources through various tools

• Supported Data Sources: https://docs.microsoft.com/en-us/azure/data-catalog/data-catalog-dsr
Customer Reference - Retail Industry

Need a cost effective integrated solution
• Integrate SAP and non-SAP data at performance
• Support unstructured data in real time
• Delivers advanced analytics
• Scale to thousands of self-service report users
• Archive infrequently used data into a data lake
• Prefers PaaS
Customer Reference - Health Care Industry

Need a cost containment integrated solution

• Maintain 3 years data in SAP HANA on Azure
• Archive infrequently used data into data lake to control cost
• Have the ability to report on both SAP and non-SAP data
• Deliver advanced analytics
• Scale to thousands of self-service report users
• Prefer PaaS
Additional References

Partner Solutions

• Attunity Replicate for SAP ECC
  https://www.attunity.com/

• Simplement Data Liberator
  https://www.simplement.us/

• Theobald Software XtractIS
  https://theobald-software.com/en/