

Webinar

Leistungsstarke Live-SAC-Konnektivität zu all Ihren Unternehmens-Datenquellen



Today's Session

Key Topics

- SAP Analytics Cloud Connectivity Options
- Live Data Connectivity for SAC
- APOS Live Data Gateway
 - Overview
 - Security
 - Performance
 - Data Transformation
 - Expanded Connections
 - Expanded Consumption
- Q&A – see webinar console

Today's Presenters**MICHAEL MÜLLER**

Sales Development
APOS

**ALAN GOLDING**

Solution Consulting Manager
APOS

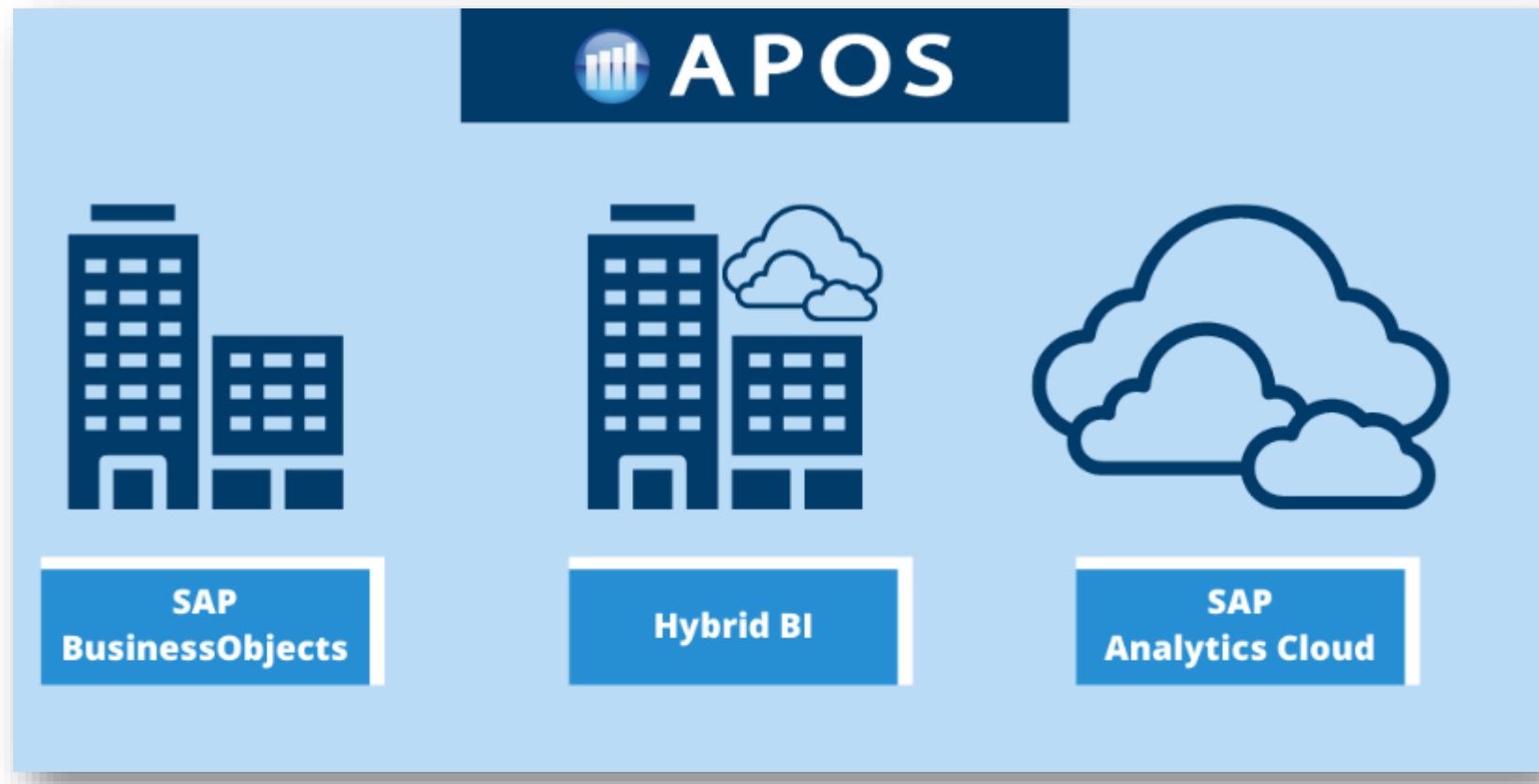
Who is APOS?

- Formed in 1992
- Enabling BI data connectivity, platform management, administration, migration, governance and compliance
- Simplifying, automating, extending SAP BusinessObjects and SAP Analytics Cloud
- Strategic SDK development and consulting
- Hundreds of customers globally

About APOS

- APOS Systems Inc. formed in 1992
- Focus on BI & Analytics solutions
- Software solutions to enable BI platform management, BI report publishing, and analytics data connectivity
- Simplifying, automating, extending SAP BusinessObjects, SAP Analytics Cloud, and SAP data analytics
- Strategic SDK development and consulting
- Hundreds of customers globally





EXTEND
SAP ANALYTICS

APOS Solutions for SAP BusinessObjects



APOS Insight

BI System Auditing

- System Inventory
- Security Analysis
- System Usage Analysis
- Report Impact Analysis

BI Report Testing

- Automated Report Testing
- Regression Testing
- Validation of Report Data
- Report Performance Testing

BI System Monitoring

- Advanced System Monitoring
- Operating Environment Monitoring
- Database Monitoring
- Process Monitoring

BI Query Surveillance

- Real-time BI Query Monitoring
- Query Performance Alerting & Auditing
- Query Intervention; Remote Cancelling
- Sensitive Data Audit



APOS Administrator

Object Management

- Bulk Security Management
- Bulk Settings Management
- System Objects Promotion
- Connections Maintenance

Schedule Management

- High-volume schedule management
- Multiple schedule properties editing
- Grid scheduling interface
- Repeatable scheduling templates

Instance Management

- Manage entire instance inventory
- Granular instance search
- Stop, pause, release, reschedule
- Rapid recovery to failed schedules



APOS Storage Center

- System Backup
- Content Archiving
- Content Versioning
- Selective Restoration
- Automated System Clean Up



APOS Publisher

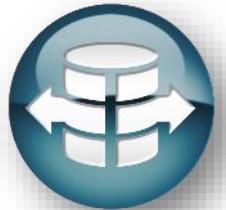
- Systematic Content Delivery
- Advanced Document Bursting
- Enhanced Content Distribution
- Security and Encryption
- Statement Generation



APOS Web Intelligence Migrator

- Bulk conversion of Universes from UNV to UNX
- High-Volume Repoint Web Intelligence reports
- Success validation
- Controlled, project-based workflow

APOS Solutions for SAP Analytics Cloud



APOS Live Data Gateway

- Live Connectivity from SAC to wide range of data sources



APOS Publisher for Cloud

- Automated broadcasting of personalized SAC reports to targeted users



APOS Insight for Cloud

- Enhanced Monitoring, Auditing and Validation of SAP Analytics Cloud

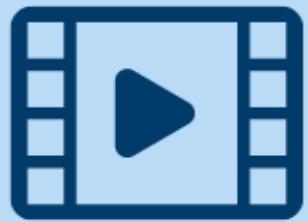




HOUSEKEEPING



You will have
access to the
slides via
email

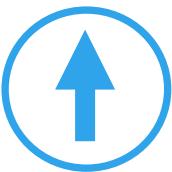


You will get
the recording
within 24
hours

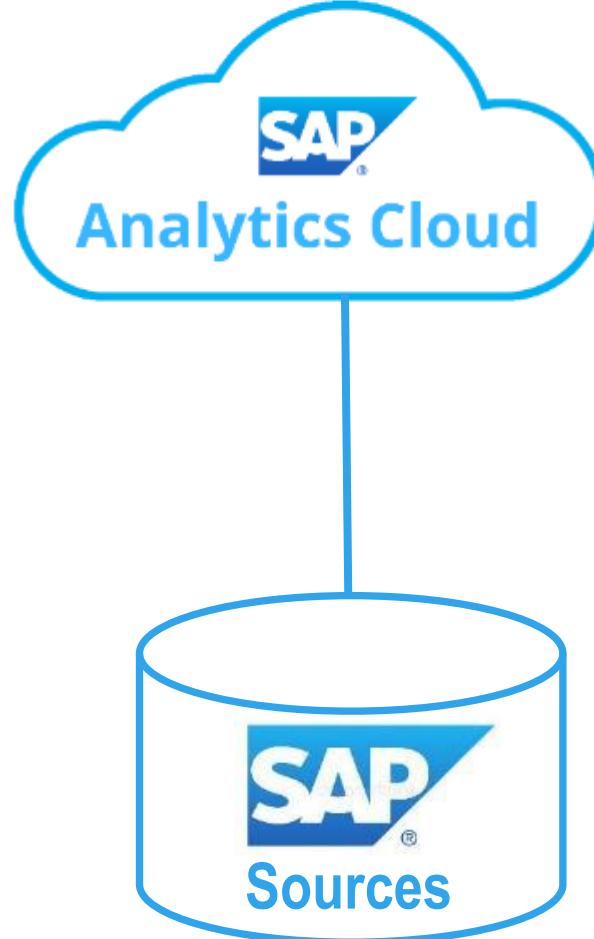


Tell us how
we did in the
survey

SAC Connectivity – SAP Sources

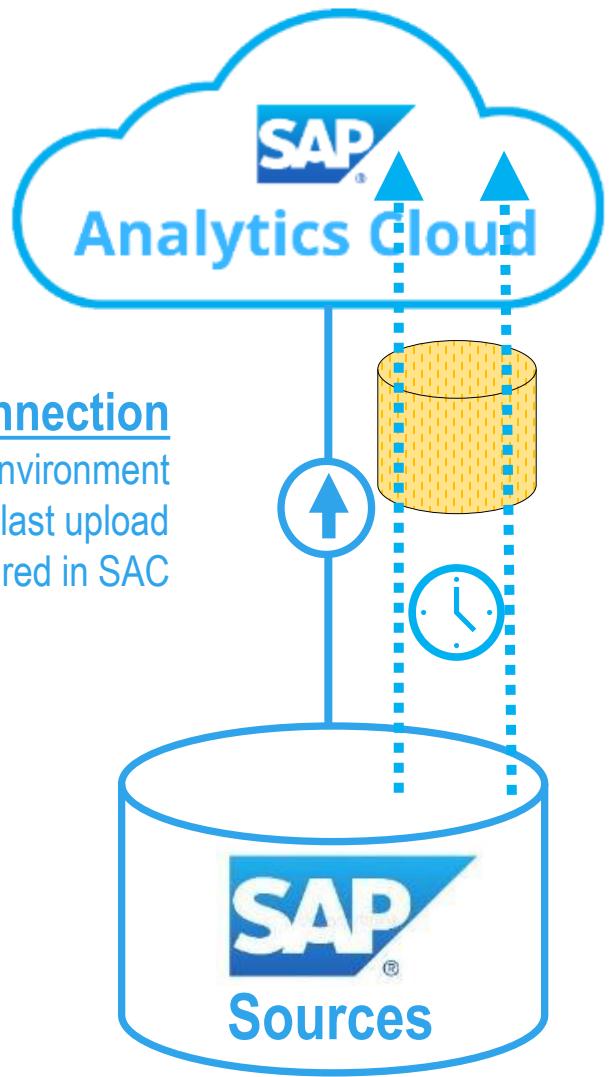


Import Connection



Live Connection

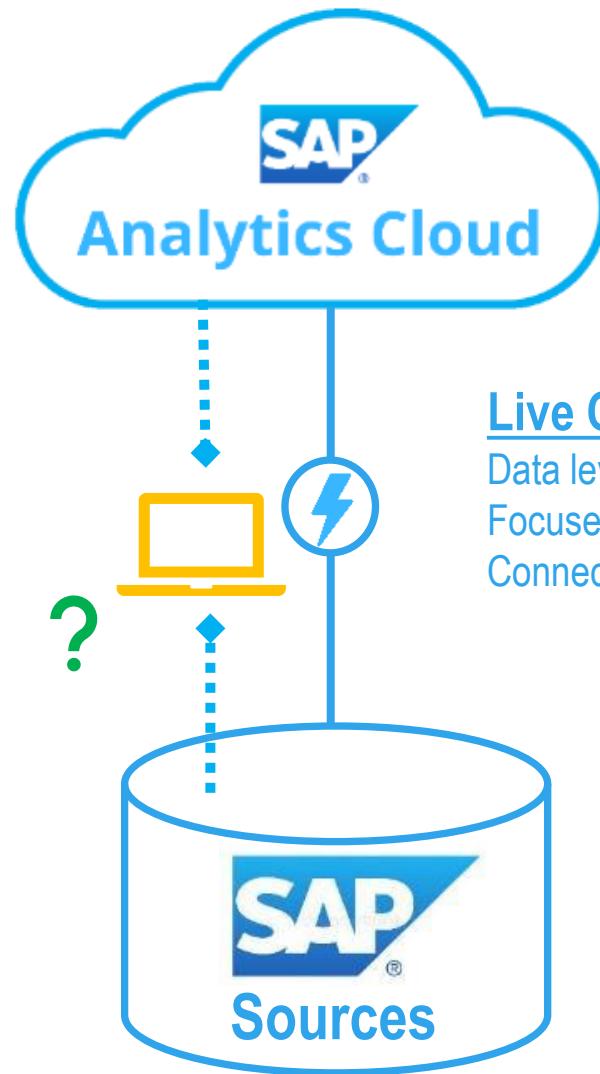
Import Connectivity



Import Connection

Data moved into SAC data environment
Data uploaded on a schedule, current to last upload
Modelled & secured in SAC

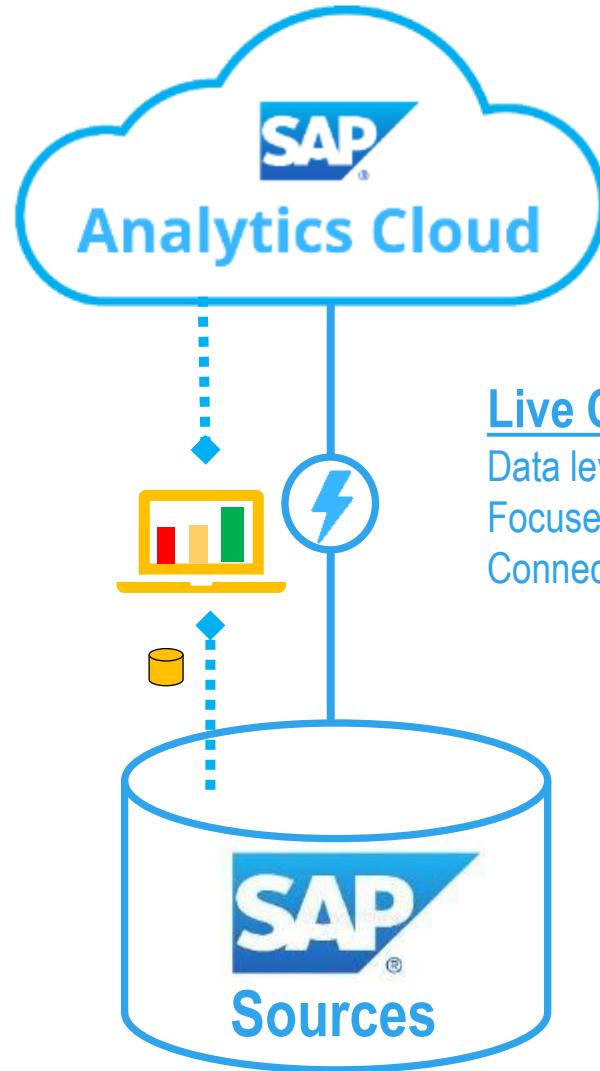
Live Connectivity



Live Connection

Data leveraged from existing location, no data movement
Focused queries against existing source via SAC browser
Connection into existing source modelling & security

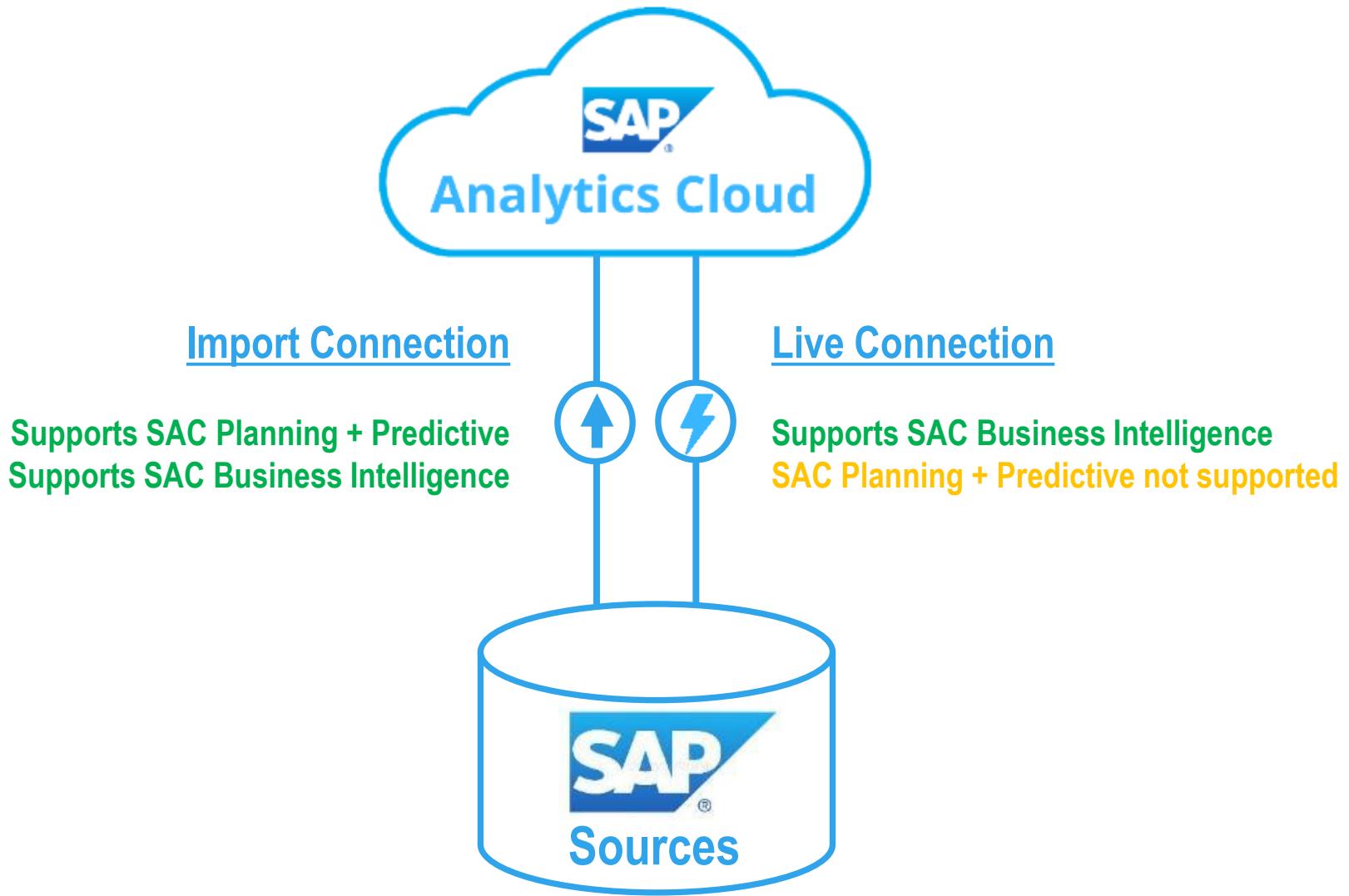
Live Connectivity



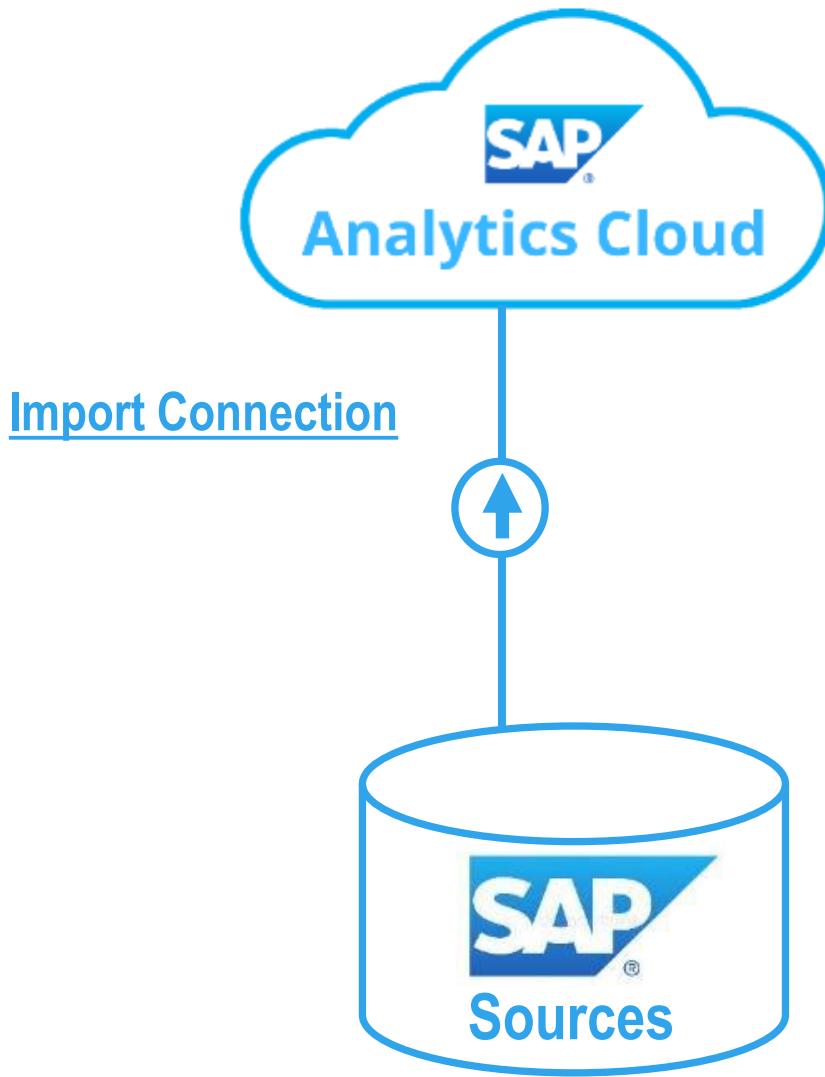
Live Connection

Data leveraged from existing location, no data movement
Focused queries against existing source via SAC browser
Connection into existing source modelling & security

Live & Import Connectivity



Decision Considerations - Import



- Support for Planning & Predictive
- Native support for many sources

- Data replicated into SAC
- Source data security is lost
- Source data modelling is lost
- Data latency – latest upload time
- Data volume limits **
- Data crosses firewall
- Data residency

Import – Data Volume Limits



SAP Help Portal (Documentation)

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SAP Analytics Cloud Connection Guide

The Importance of Managing a Connectivity Project

Choosing a Live Connection or Importing Data

Live Connections Overview

Importing Data

Single Sign-On (SSO)

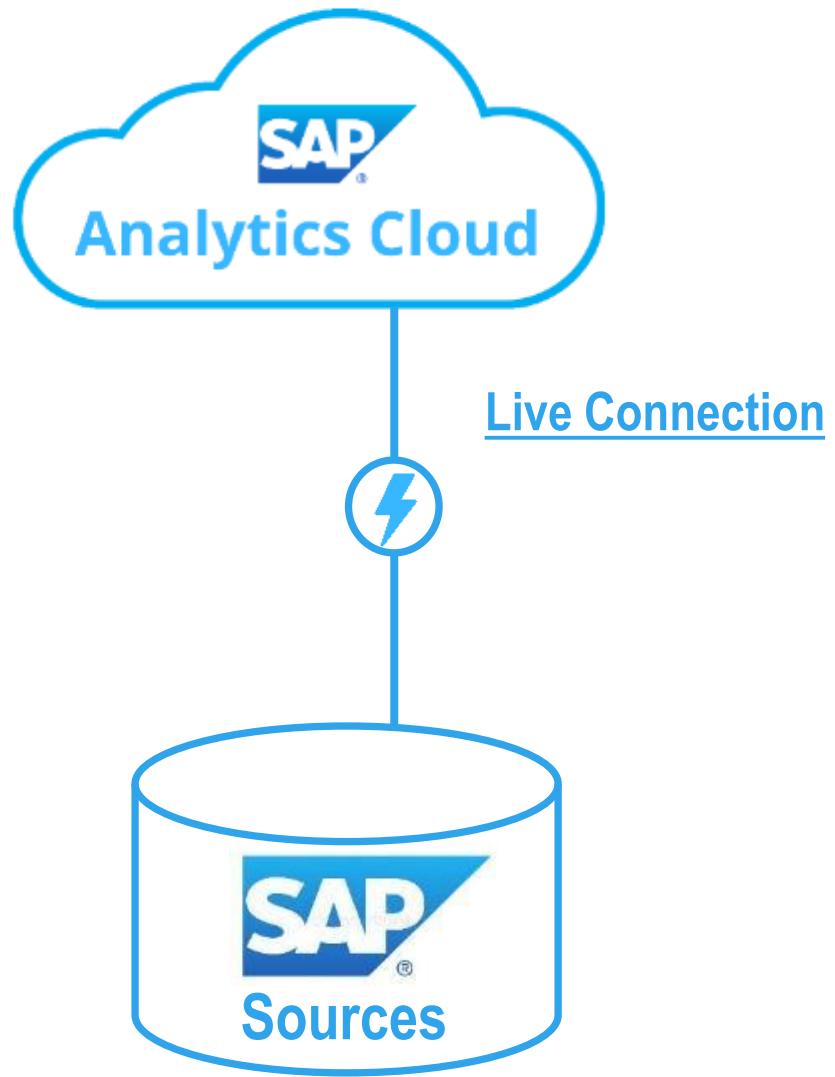
Data Volume Maximums:

- Columns: 100
- Rows: 800,000
- Dimension members:
 - Planning models: 250,000
 - Analytic models: if there are more than 250,000 unique members, the dimension will be made read-only
- Dimension members with attributes: 150,000
- Dimension members with geo enrichment: 200,000
- Dimension members in hierarchy: 150,000
- Hierarchy depth: 1,000

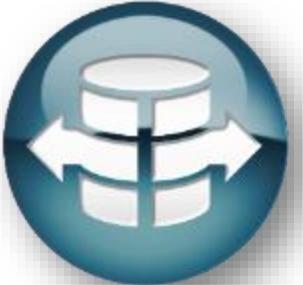
Decision Considerations - Live



- Data is not replicated
 - Database security respected
 - Database modelling retained
 - Data is current
 - No data volume limits
 - Data stays behind firewall
-
- No Planning/Predictive
 - Limited sources supported **



Live – Limited Sources Supported



SAP Help Portal (Documentation)

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SAP Analytics Cloud Connection Guide

The Importance of Managing a Connectivity Project

Choosing a Live Connection or Importing Data

- › Live Connections Overview
- › Importing Data
- › Single Sign-On (SSO)

Live Connection

Functional Need	Supported Datasources
Local (Cloud data sources)	<ul style="list-style-type: none">▪ SAP Cloud Platform▪ SAP S4/HANA Cloud
Remote (On-premise data sources)	<ul style="list-style-type: none">▪ SAP HANA▪ SAP BW▪ SAP S/4HANA▪ SAP Universe

APOS Live Data Gateway – Expand Live Options



SAP Help Portal (Documentation)

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Setting the Default Language for Live Data Connections
Using the 'None' Authentication Option
Using the APOS Live Data Gateway
Error: Failed to connect to system
Creating Import Data Connections
Creating Export Data Connections
Data Preparation and Wrangling (Datasets and Models)
Data Analyzer
Data Visualization (Stories)
Digital Boardroom Presentation
Analytic Application Design (Analytics Designer)
Microsoft Office Integration
Augmented Analytics (Smart Features)
Planning
Workflow Organization (Calendar)
System Administration

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Using the APOS Live Data Gateway

The APOS Live Data Gateway provides live data connectivity from SAP Analytics Cloud to an expanded set of on-premise data sources and cloud data sources.

Data provided through APOS Live Data Gateway is kept safely behind the firewall, with no data replication or data upload requirements, and no need to re-create or duplicate data models or data security.

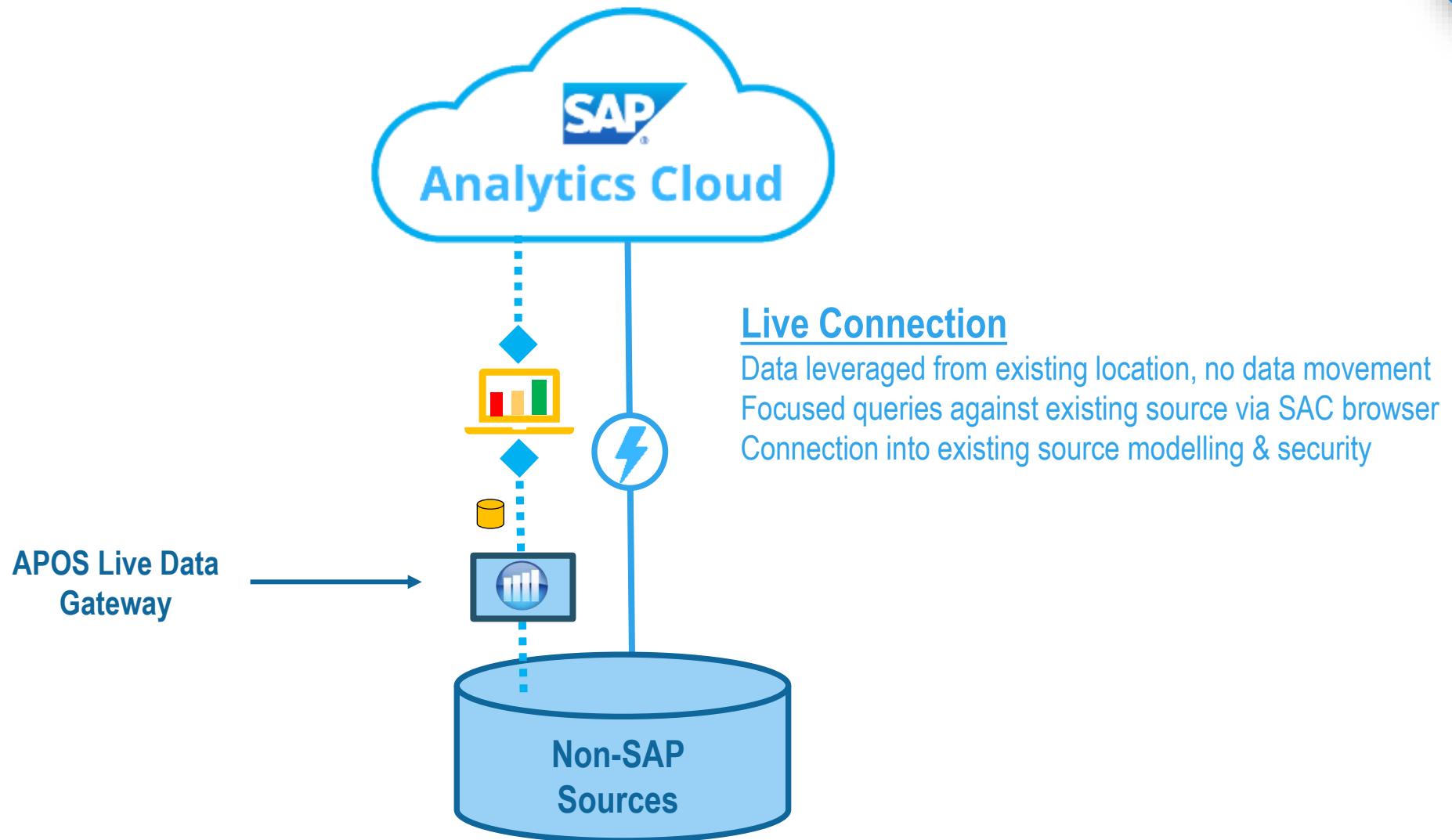
The APOS Live Data Gateway is available on the [SAP App Center](#).

Data Source Types Supported

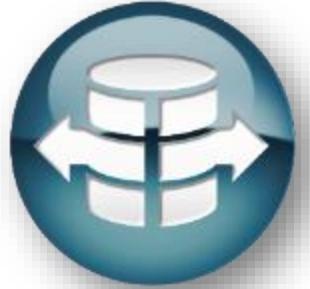
The APOS Live Data Gateway provides live data connectivity for numerous data sources of OLAP, relational, data appliances, cloud, and legacy SAP data source types:

- Relational Data Sources: Microsoft SQL Server, Oracle, IBM DB2, Sybase IQ, Sybase SQL Anywhere, MySQL
- Data Appliances: Teradata, Netezza

APOS Live Data Gateway – Expand Live Options



APOS Live Data Gateway – Unlock Live Data



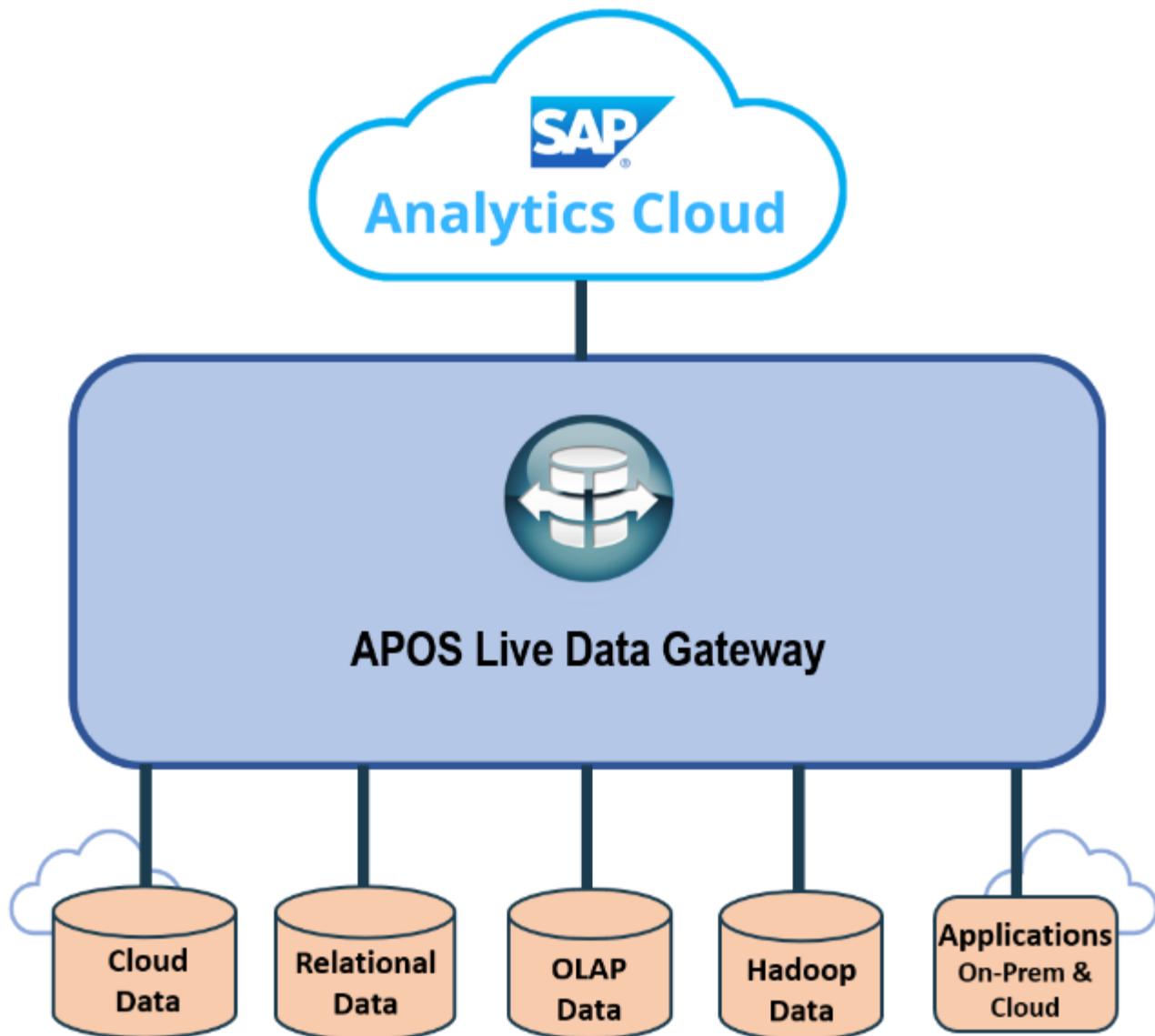
APOS Live Data Gateway is a middleware platform which provides virtualized data connection and data transformation to enable live data connectivity and expanded data source options for SAP Analytics Cloud, with a primary focus on **non-SAP data sources**.

-
- | | |
|---|--|
|  Leverage data from its current location |  Data is always current |
|  No movement or importing of data |  Data never leaves the firewall |
|  Leverage existing data modelling |  No added data storage requirements |
|  Leverage existing security models |  Reduce data bandwidth requirements |



Alan Golding
Solution Consulting Manager
APOS

APOS Live Data Gateway



Supported Sources



Core Supported Data Sources

- Amazon Athena
- Amazon Aurora
- Amazon EMR
- Amazon Redshift / Redshift Spectrum
- Amazon S3
- Azure Analysis Services
- Azure Cosmos DB
- Azure Data Lake
- Azure SQL Database
- Azure SQL Data Warehouse
- Cloudera
- Databricks
- DB2
- Denodo
- Google BigQuery
- Google Cloud Platform
- Hortonworks
- Informix
- Microsoft SQL Server
- Microsoft Analysis Services
- Azure Blob
- Mongo DB, Mongo DB Atlas
- MySQL
- Netezza
- Oracle
- Oracle Essbase
- Oracle Exadata
- Postgres
- Presto
- Salesforce
- Snowflake
- Sybase IQ, Sybase SQL Anywhere
- Teradata
- SAP BusinessObjects Universes (UNV, UNX)
- SAP BW - version 7.3 and higher
- JDBC connectivity

Extended Data Sources: 100+ Additional data source and application connection options

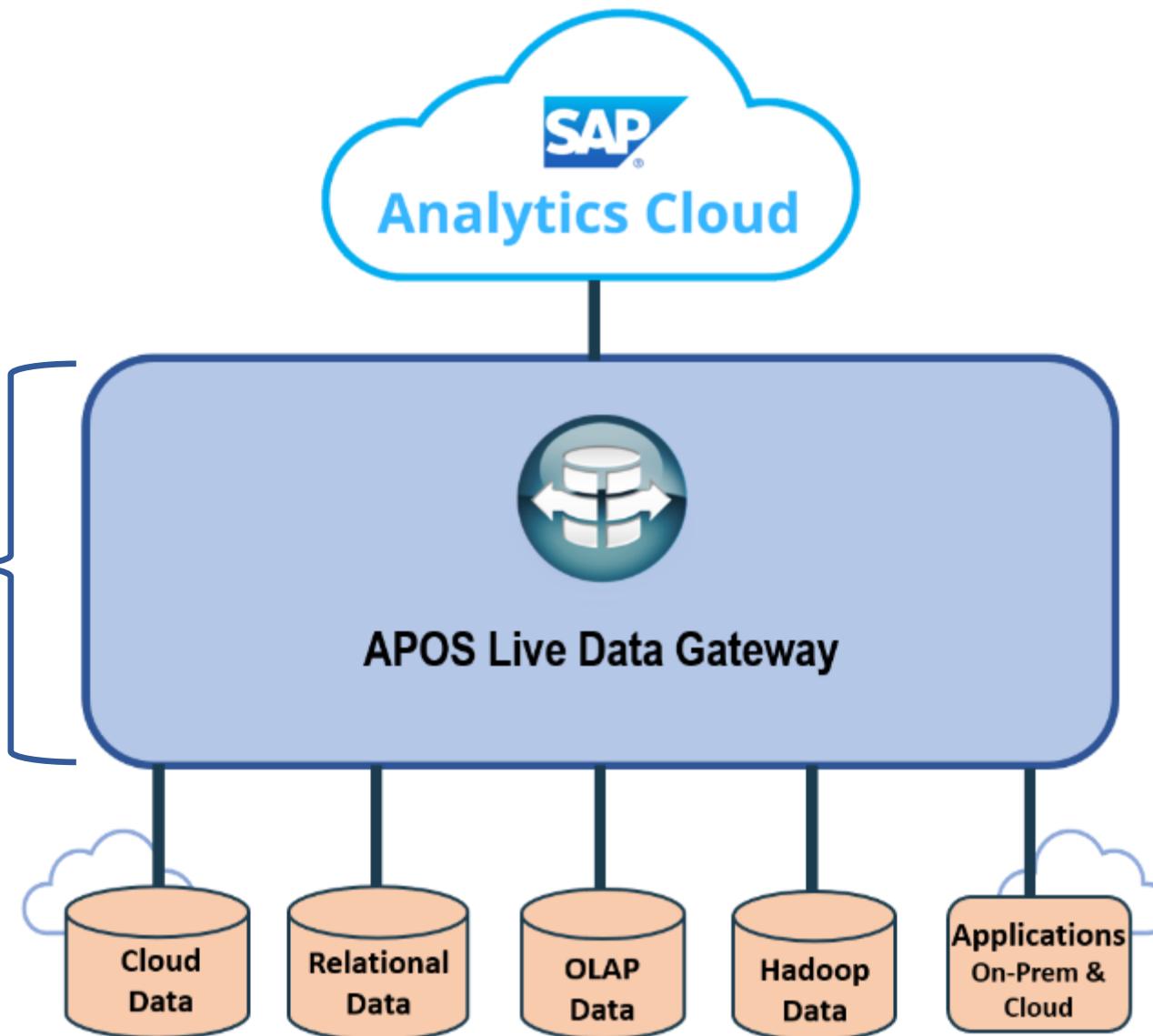
<https://www.apos.com/content/apos-live-data-gateway-data-sources-supported>



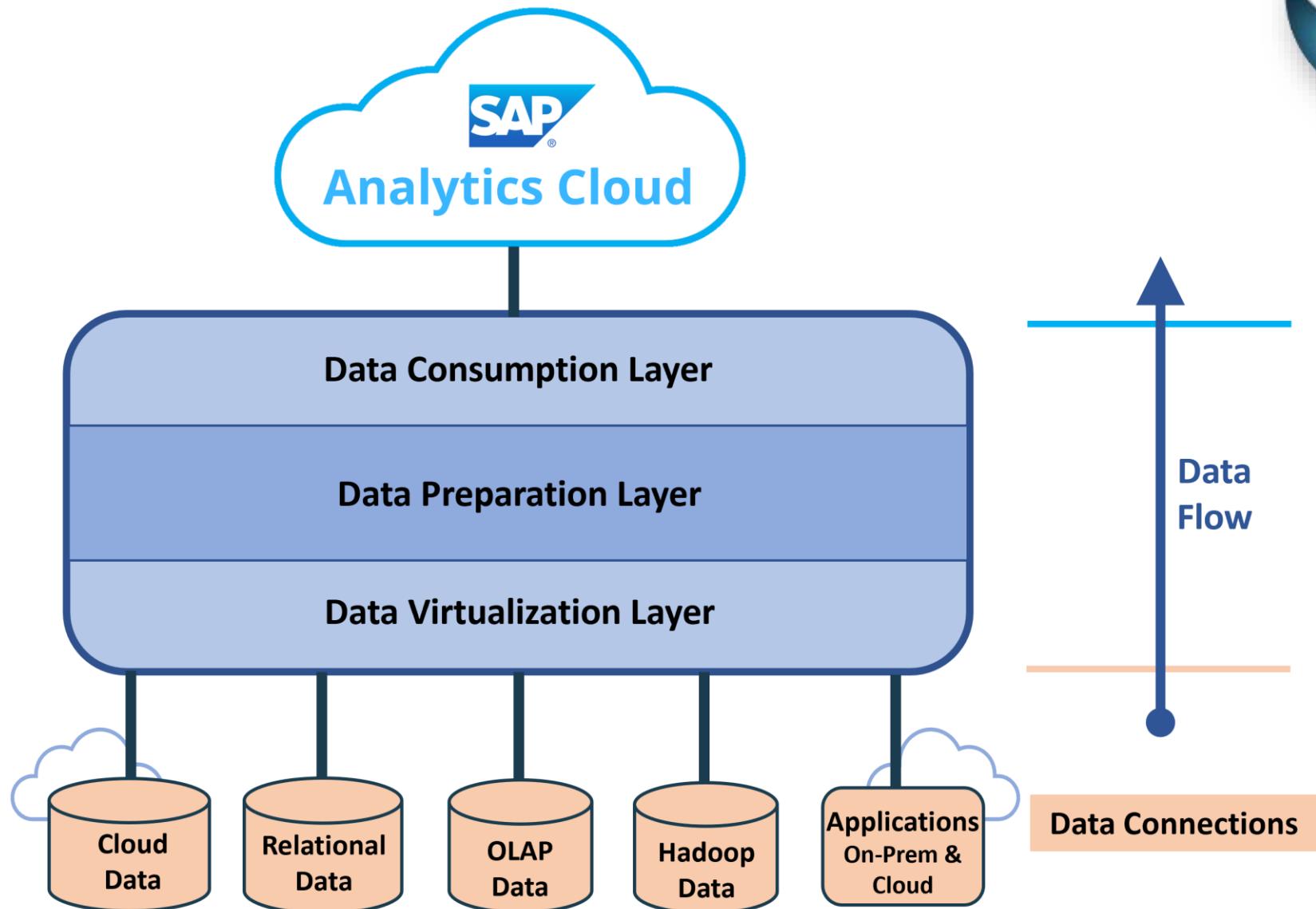
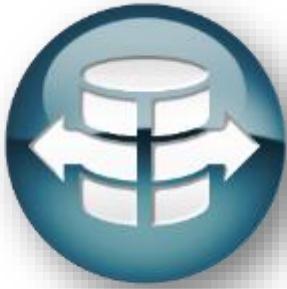
Live Data Gateway Server



- Windows server
- Managed & controlled by customer
- Deployed on-premise or in customer's cloud environment



APOS Live Data Gateway



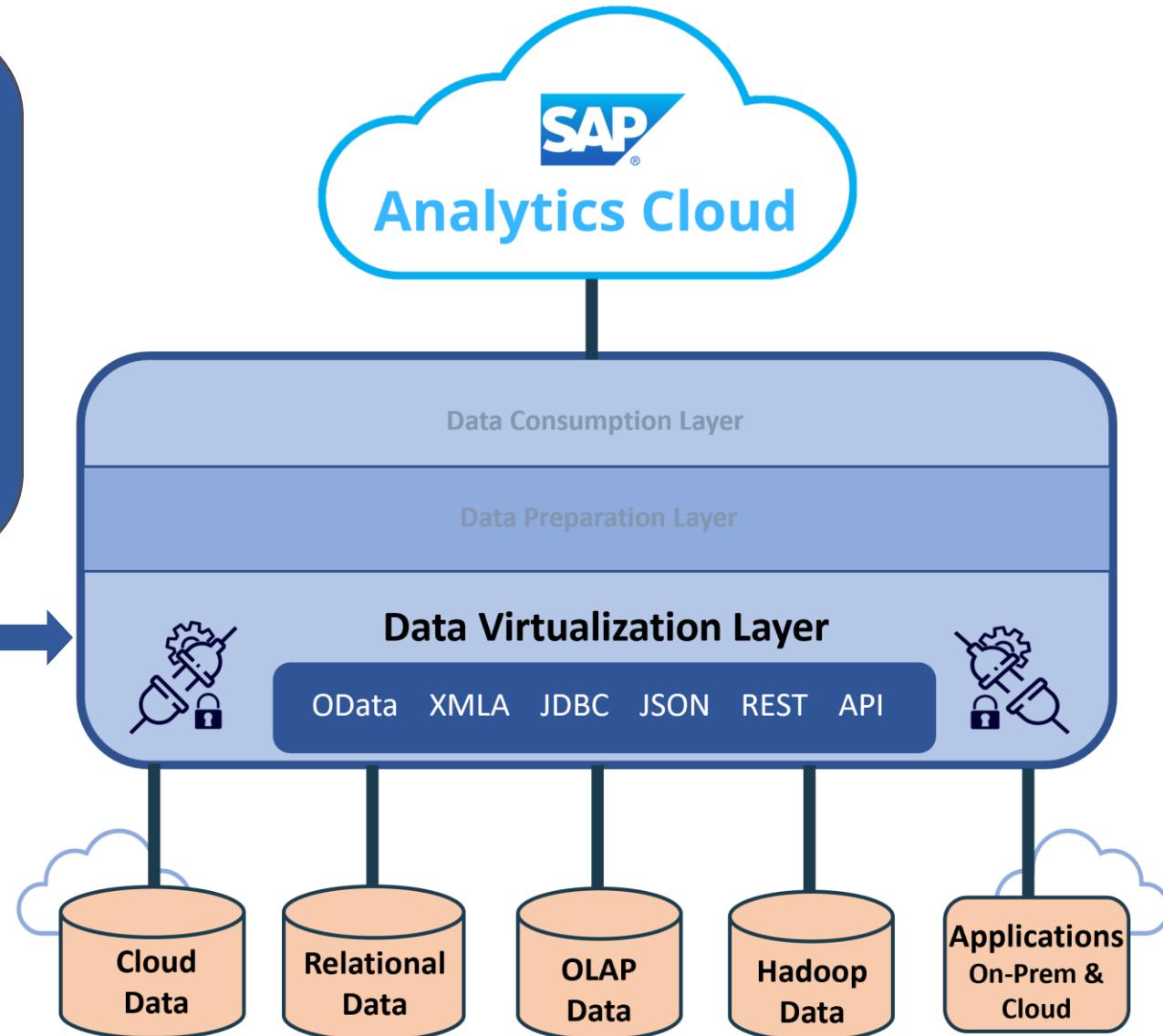
Database Connection Layer



Data Virtualization Layer

Key Functions

- Establish direct connectivity and communication with data source
- Communicate query requests and receive query results
- Manage database authentication and security integration, SSO
- Additional connectivity options:
(Data, XMLA, JSON, REST, API, etc)



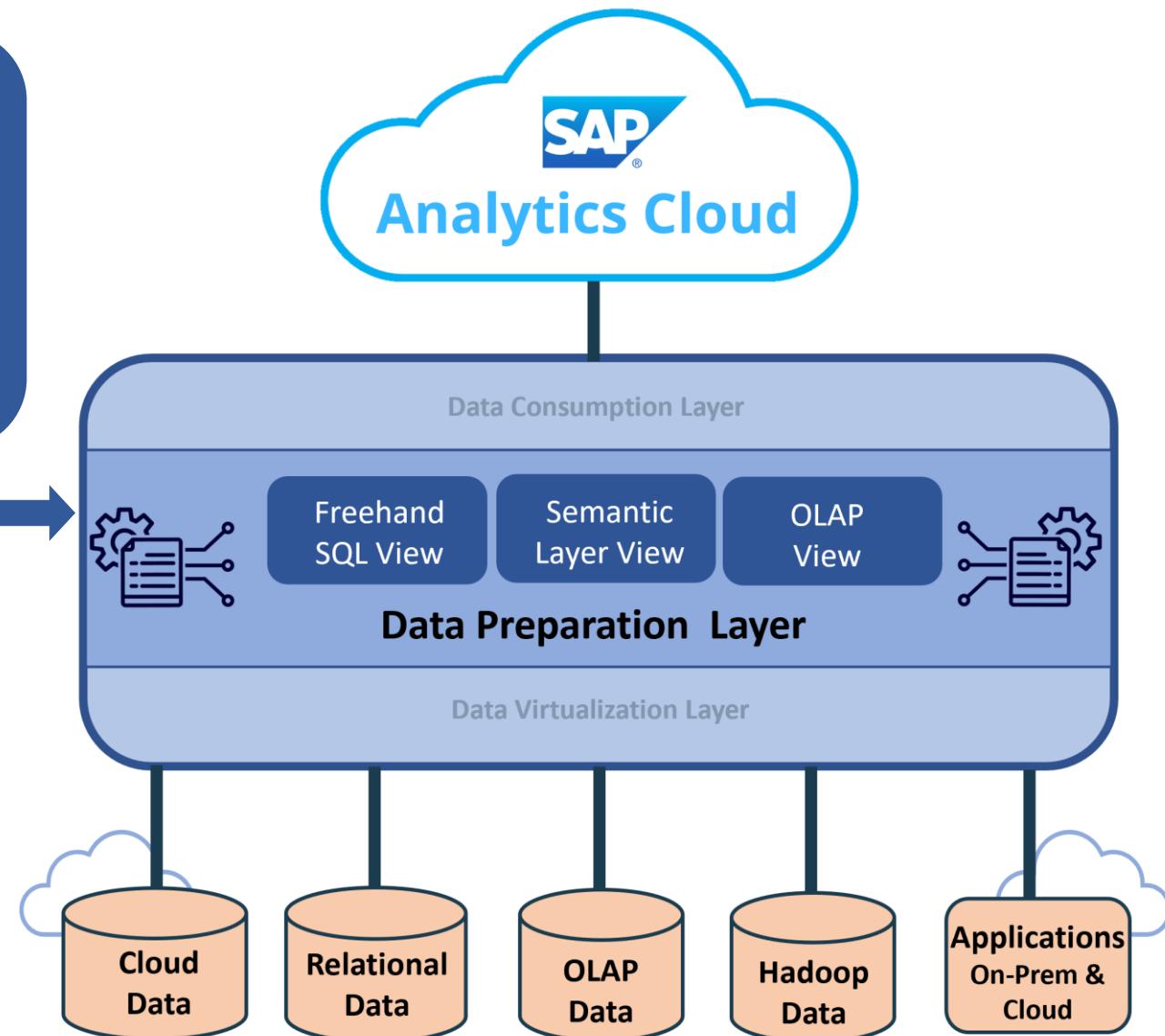
Data Preparation Layer



Data Preparation Layer

Key Functions

- Define Measures and Dimensions
- Define what data fields are exposed
- Manage table links and joins
- Set meaningful field names
- Optimize with data transformations



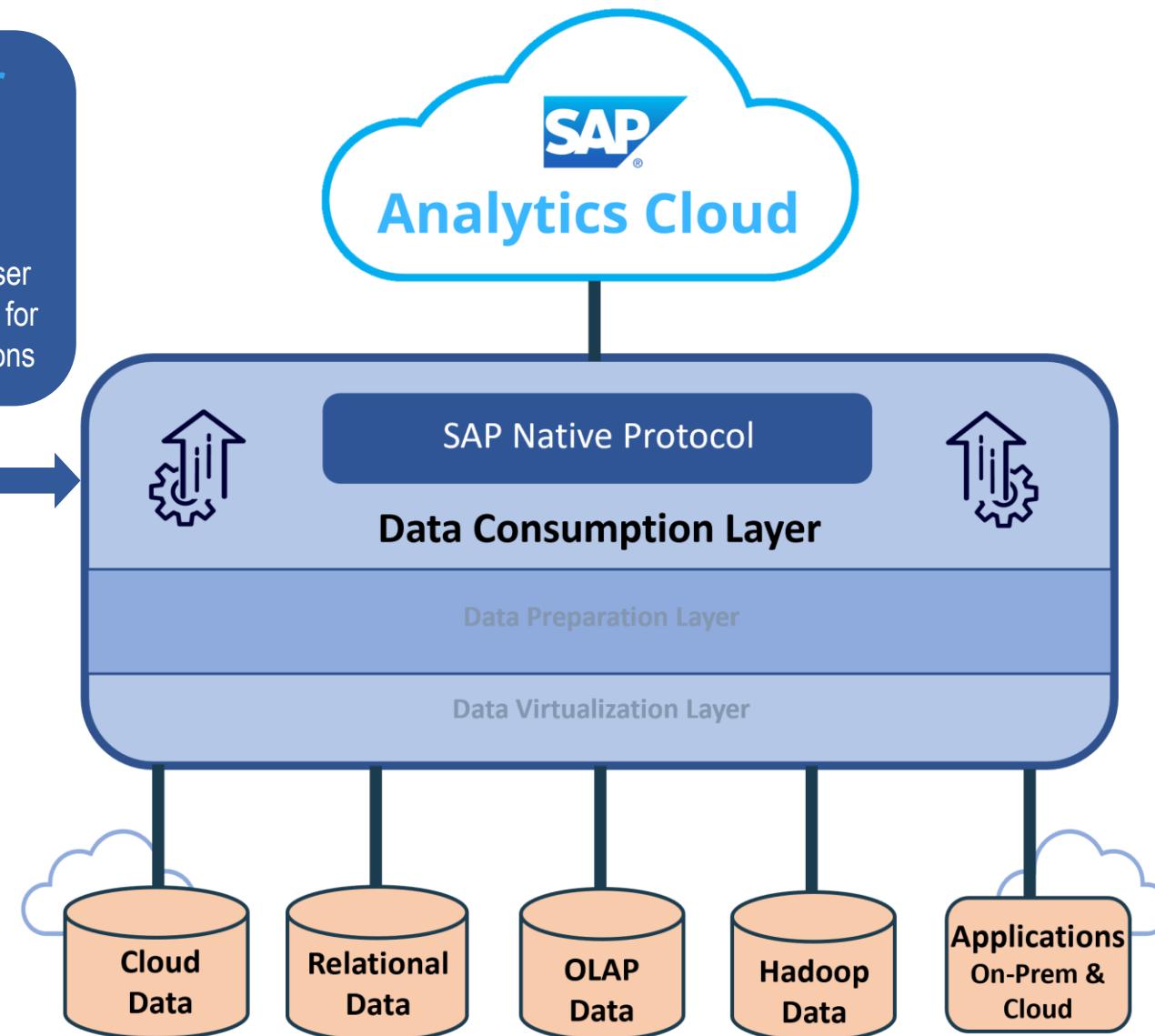
Data Consumption Layer



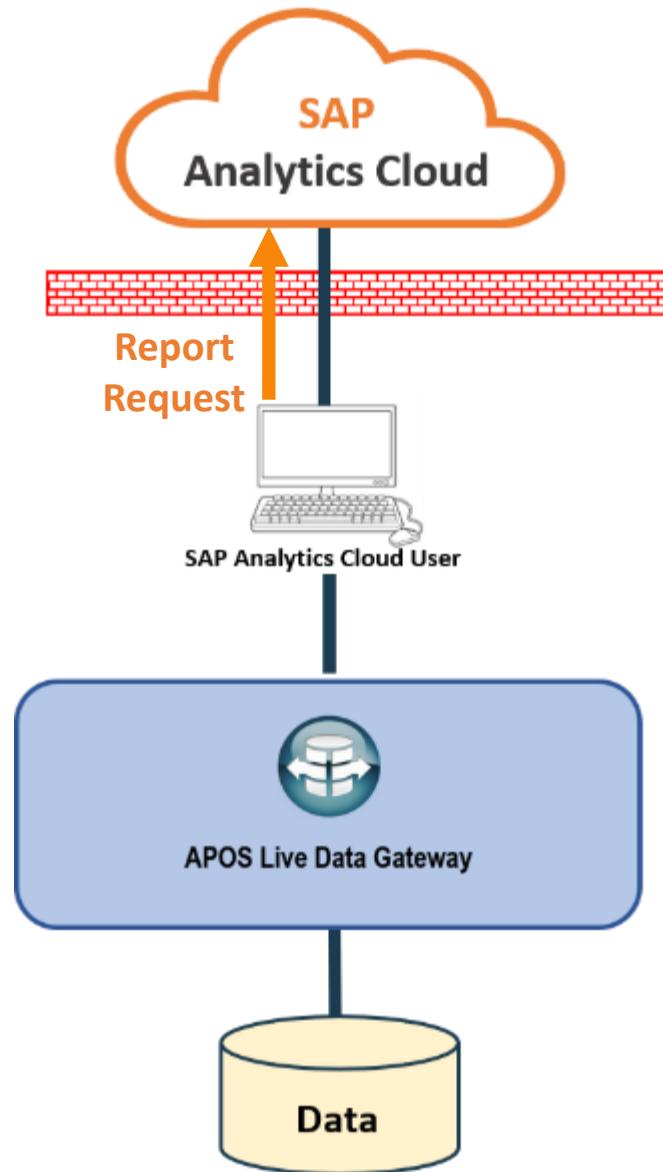
Data Consumption Layer

Key Functions

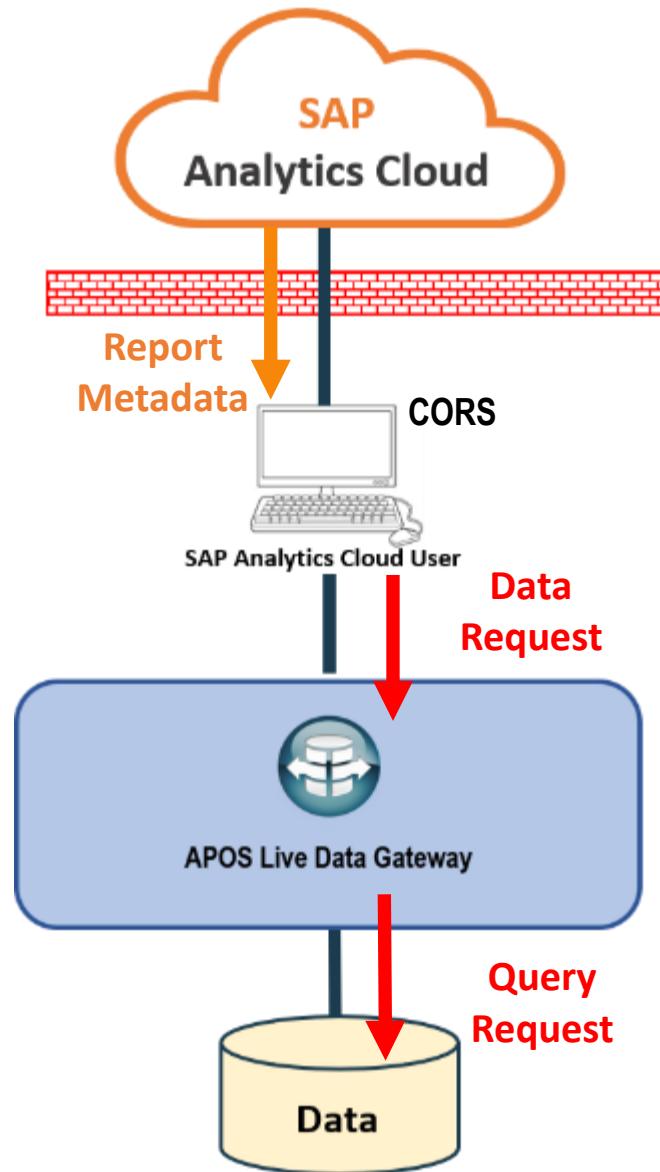
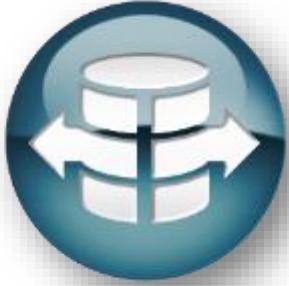
- Establish direct connectivity and communication with SAC User browser
- Supply data via SAP Native Protocol for SAC Story and SAC Application actions



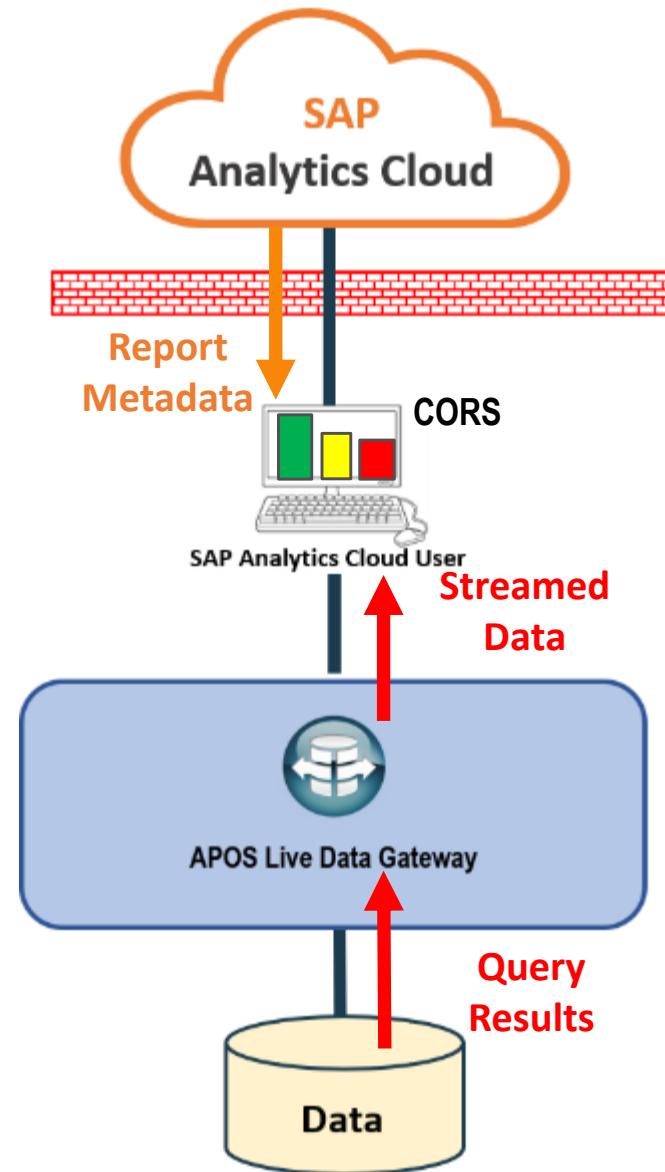
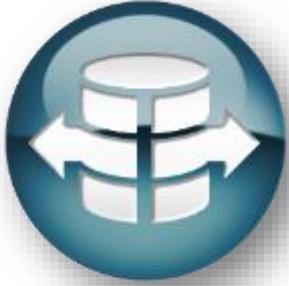
Data Consumption Flow



Data Consumption Flow



Data Consumption Flow





5 Simple Steps to Live Connectivity

1

Create
Connection to
Data Source

2

Create View in
Data Preparation
Layer

3

Create
Connection

4

Create Model /
Data Set

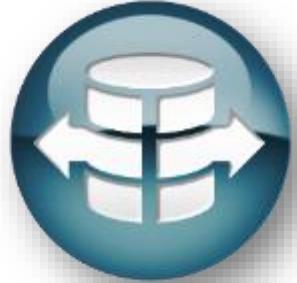
5

Create Report



Solution Overview

To view demonstrations and videos from this presentation, [view the webinar on demand](#)



Performance

To view demonstrations and videos from this presentation, [view the webinar on demand](#)

Performance Considerations

- No data being stored
- Data being read from source database
- No caching of data
- New queries initiated with each data request within SAC



The screenshot shows the Snowflake Worksheets interface. On the left, the object browser displays various databases, schemas, and tables. A query is being run in the main pane:

```
1 USE DATABASE SNOWFLAKE_SAMPLE_DATA;
2 USE SCHEMA TPCDS_SF100TCL;
3 USE WAREHOUSE APOLLO;
4 select count(*) from STORE_SALES;
```

The results pane shows the output of the query:

Count(*)
288010550524

A red arrow points from the bottom result row back up to the query editor, highlighting the lack of local caching.

APOS Live Data Gateway – Performance Results



- 288 billion row data set
- 10.5 Terabytes
- On-the-fly aggregated queries
- Sub-2 second response time !

The screenshot shows the SAP Fiori Storyline interface. On the left, a chart titled "SS_QUANTITY per SS_COUPON_AMT" displays a horizontal bar chart with values ranging from 0.00 to 10,994,173.947.00. The chart has a single bar representing the total quantity. On the right, a "Builder" panel titled "aaaSF288B" shows a list of dimensions. The "Dimensions" section is expanded, and the "SS_COUPON_AMT" dimension is checked. Other dimensions listed include SS_ADDR_SK, SS_CDEMO_SK, SS_CUSTOMER_SK, SS_EXT_DISCOUNT_AMT, SS_EXT_LIST_PRICE, SS_EXT_SALES_PRICE, SS_EXT_TAX, SS_EXT_WHOLESALE_COST, SS_HDEMO_SK, SS_ITEM_SK, SS_NET_PAID, SS_NET_PAID_INC_TAX, SS_NET_PROFIT, SS_PROMO_SK, SS_SOLD_DATE_SK, SS_SOLD_TIME_SK, and SS_STOP_SK.

APOS Live Data Gateway



eu_demo47.eu-central-1.snowflakecomputing.com/console#/internal/worksheet

Databases Shares Marketplace Warehouses Worksheets History

Partner Connect Help Snowsight Golding APOS

Our updated Worksheets experience now includes autocomplete, an improved object browser, and a new search. Visualize your results with Dashboards and share work with colleagues without leaving the product.

Go to Snowsight Remind me later

New Worksheet

Find database objects Starting with...
KNOEMA_ECONOMY_DATA_ATLAS
SAP_RAW
SNOWFLAKE_SAMPLE_DATA
INFORMATION_SCHEMA
TPCDS_SF100TCL
Tables
CALL_CENTER
CATALOG_PAGE
CATALOG RETURNS
CATALOG SALES
CUSTOMER
CUSTOMER_ADDRESS
CUSTOMER_DEMOGRAPHICS
DATE_DIM
HOUSEHOLD_DEMOGRAPHICS
INCOME_BAND
INVENTORY
ITEM
PROMOTION
REASON
SHIP_MODE
STORE
STORE RETURNS
STORE SALES
TIME_DIM
WAREHOUSE

Run All Queries Saved 6 days ago

```
1 USE DATABASE SNOWFLAKE_SAMPLE_DATA;
2 USE SCHEMA TPCDS_SF100TCL;
3 USE WAREHOUSE APOS;
4 select count(1) from STORE_SALES; --288,010,550,524
```

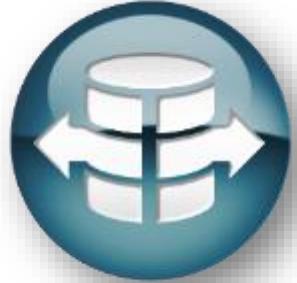
Results Data Preview Open History

Query_ID SQL 43ms 1 rows

Row	COUNT(1)
1	288010550524

-1°C Partly sunny

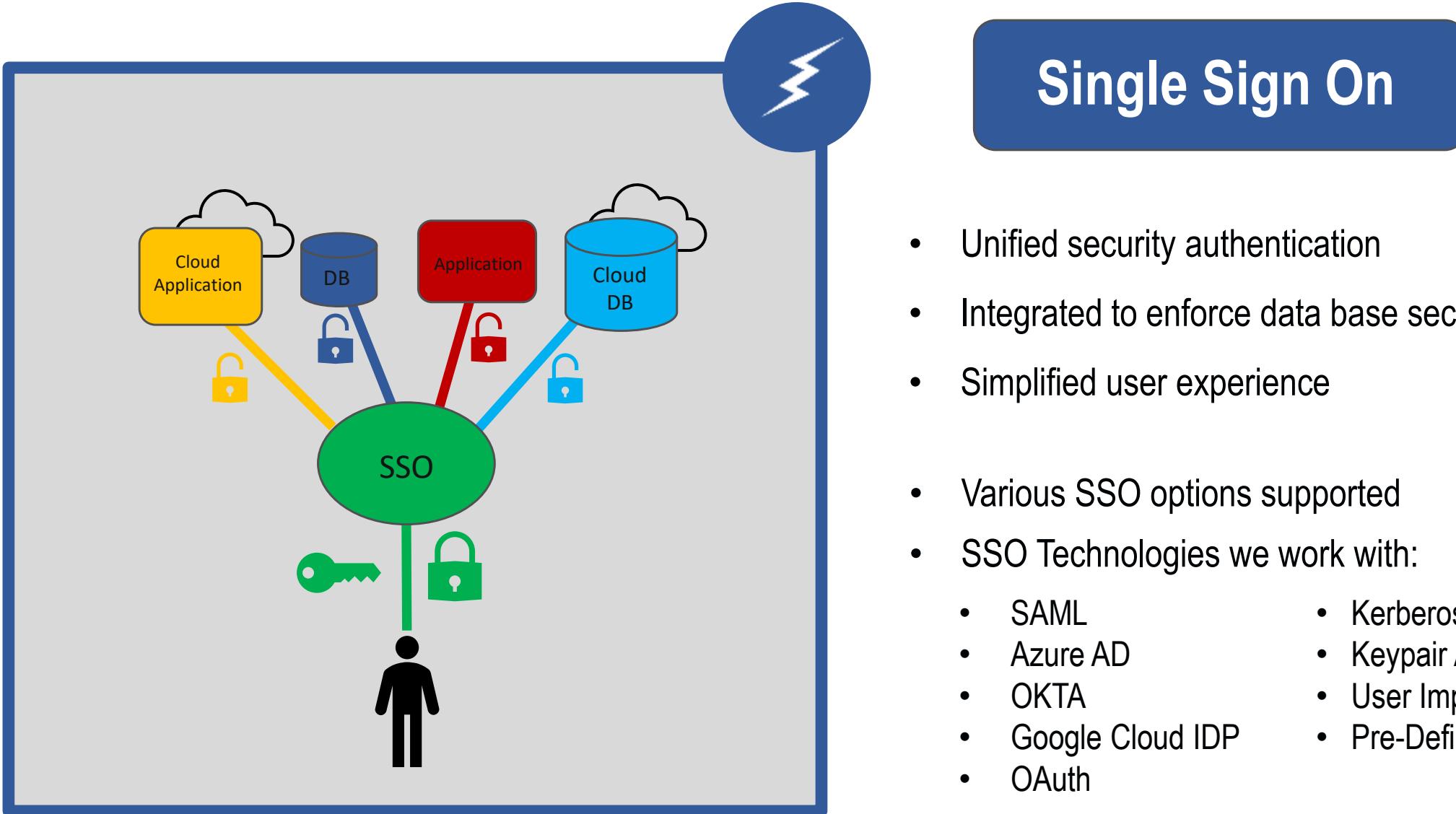
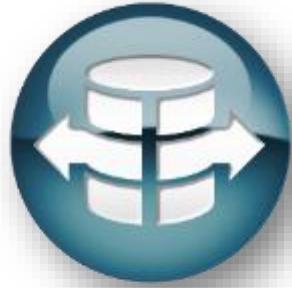
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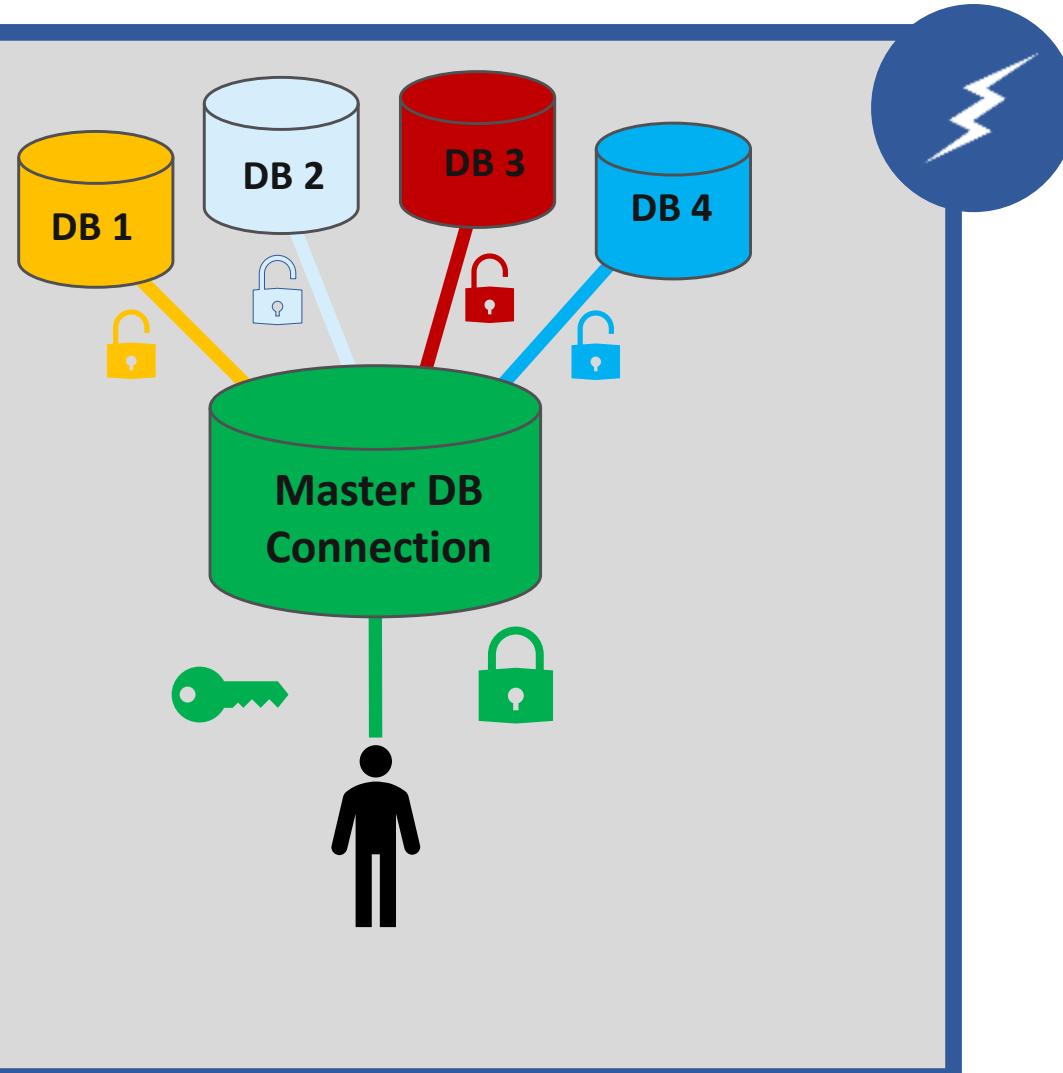
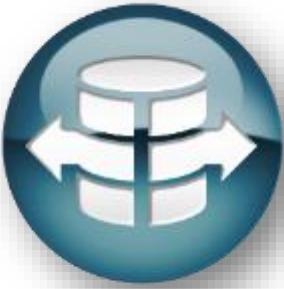
Security

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APOS Live Data Gateway – Security

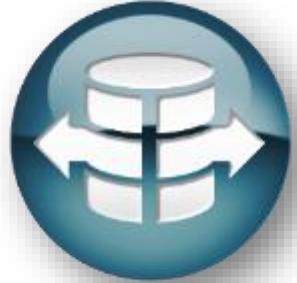


APOS Live Data Gateway – Security



Shared Connectivity

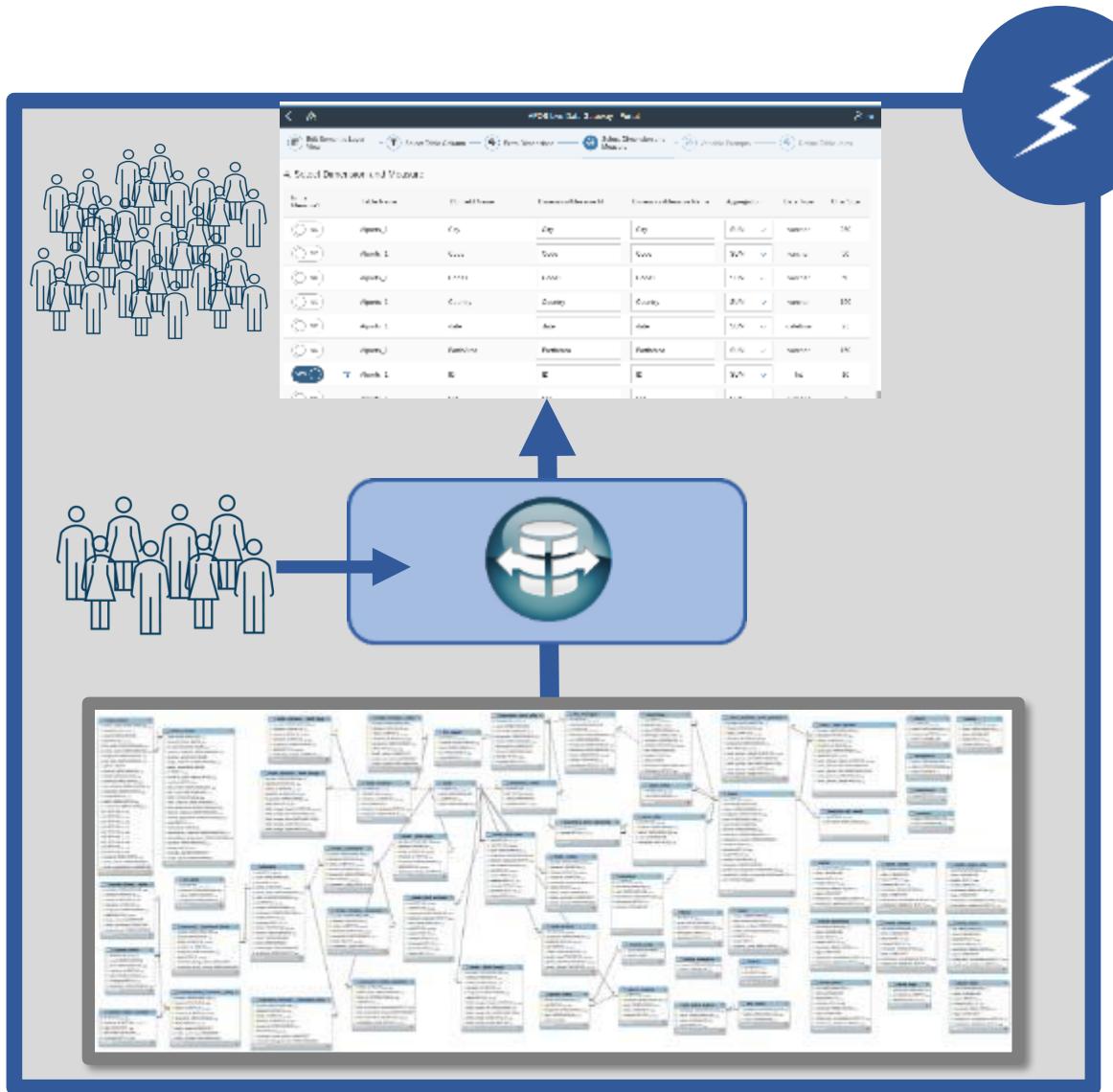
- Single point of SSO for multiple connections
- Master connection can have multiple child connections associated with it
- Removes need for multiple SAC connections



Data Transformations

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APOS Live Data Gateway – Data Transformations

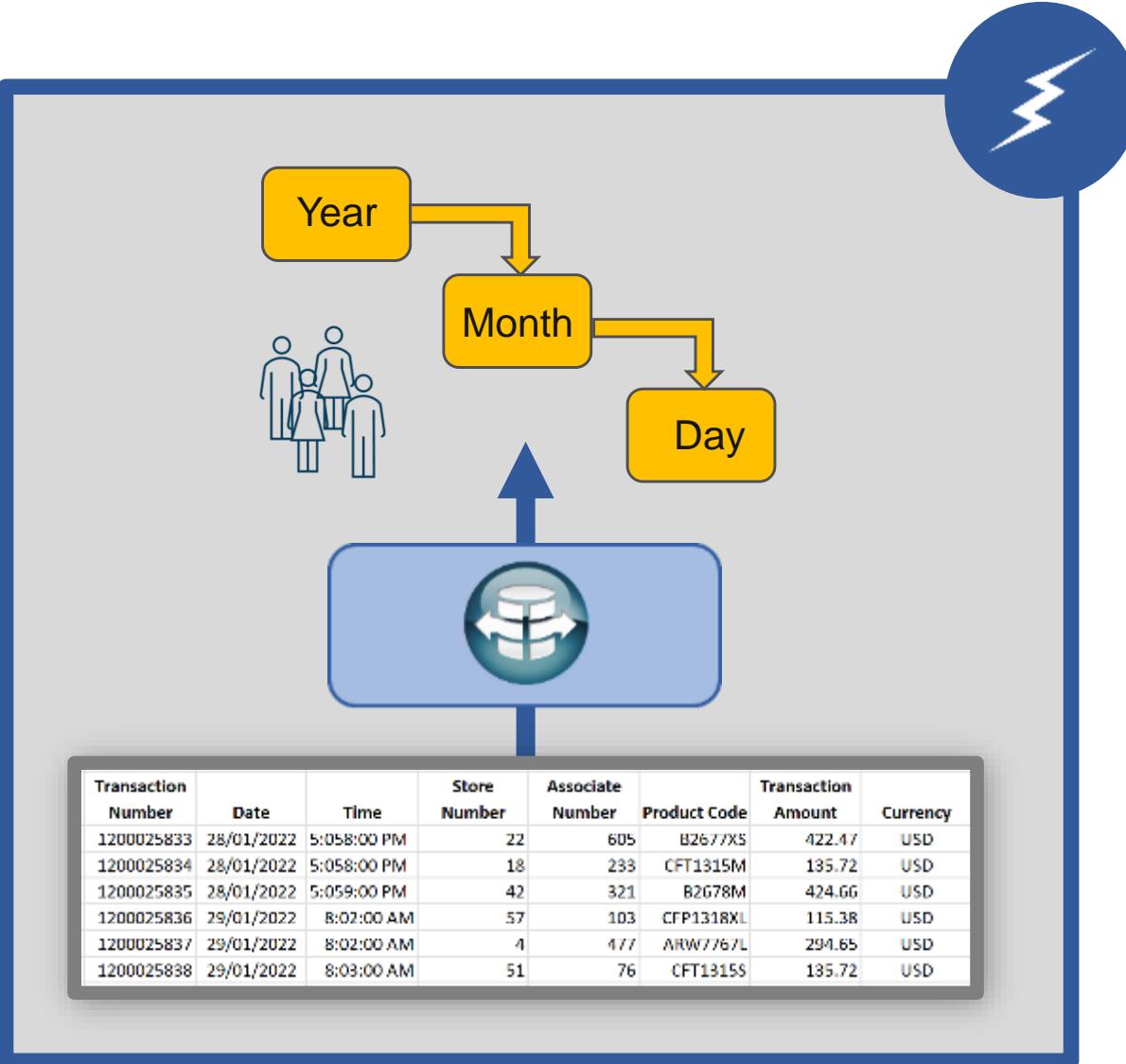


Self-Service Data Modelling

- Self-service creation of data modelling assets
 - Expand from self-service analytics to self-service modelling
 - Strengthen independence of analytics team
 - Reduce IT dependence
-
- Web-based modelling interface
 - Controlled user access to modelling
 - SSO enabled
 - Multiple options for building views



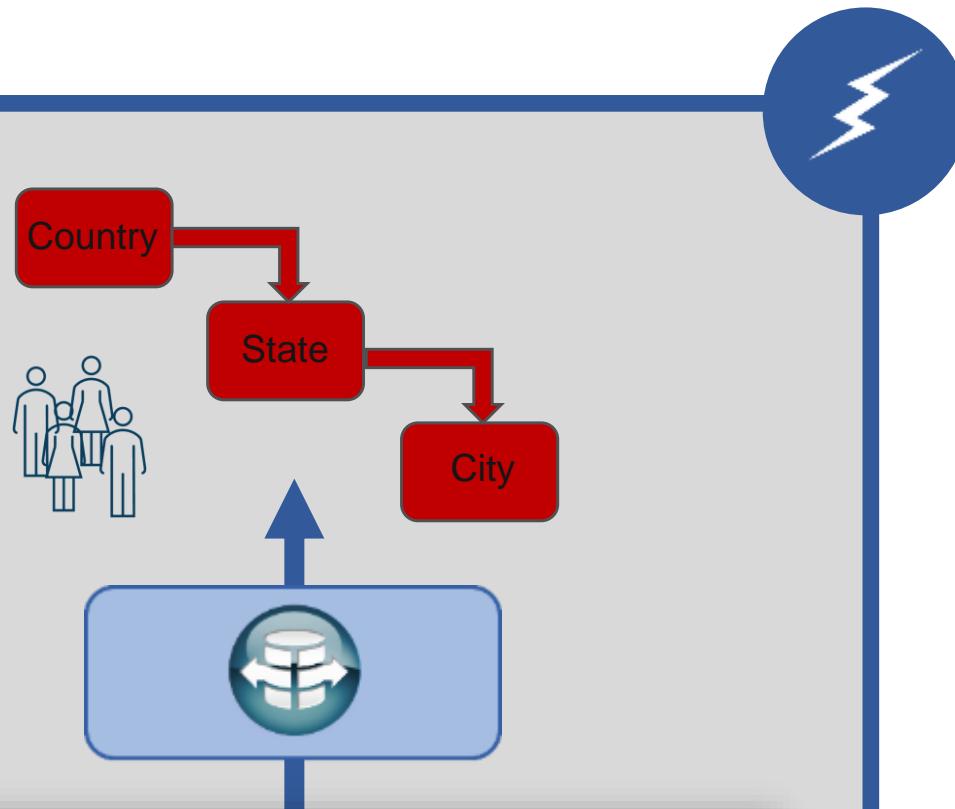
APOS Live Data Gateway – Data Transformations



Date Dimensions

- Create date hierarchies on non-hierarchical data
- Simplified user navigation and experience
- Improved analysis
- Custom date dimensions support
- Hierarchical date dimension support
 - Drill Down
 - Time Series Charts
 - Variance Charts
- Hierarchies available as individual dimensions

APOS Live Data Gateway – Data Transformations

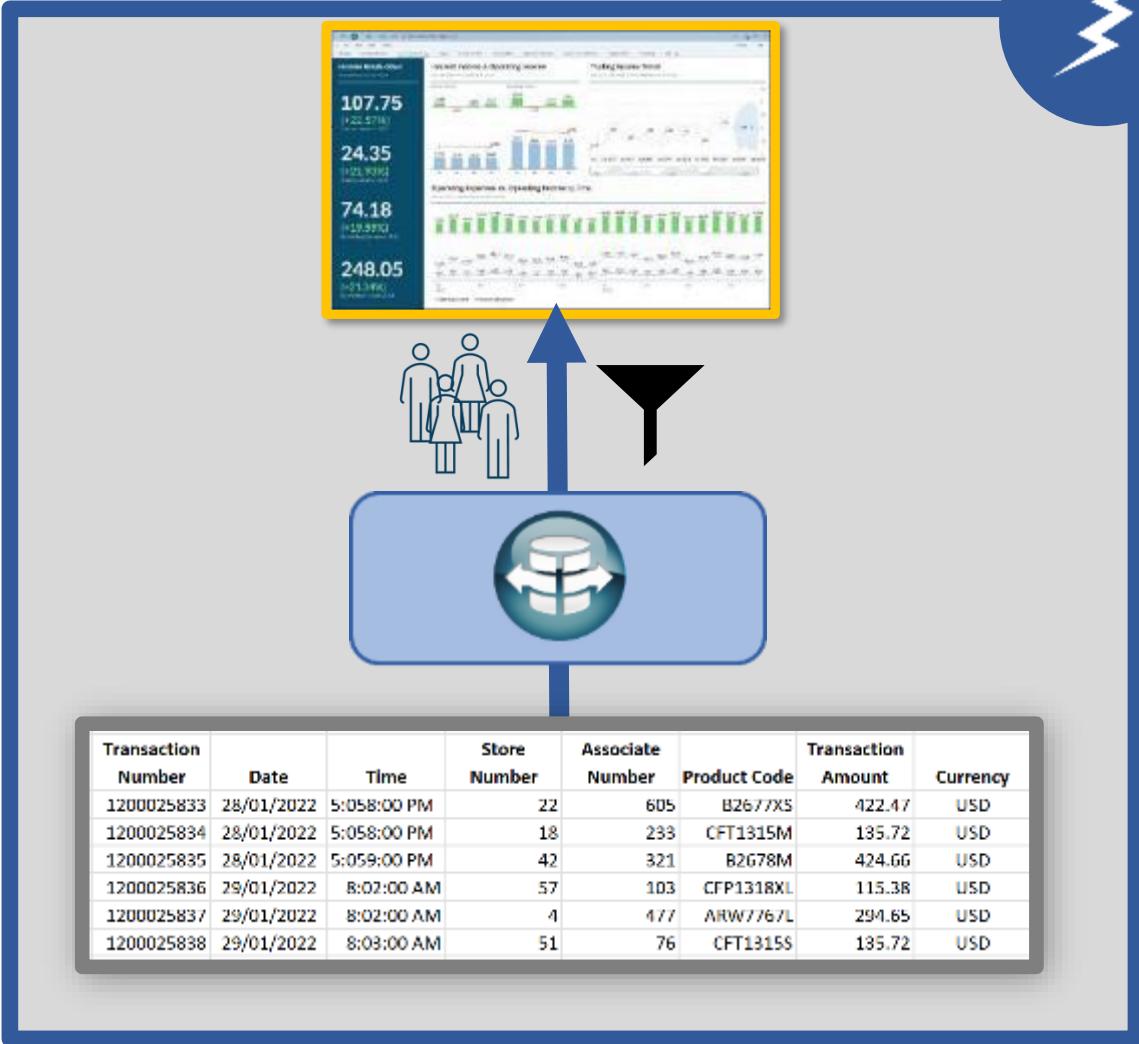


Custom Hierarchies

- Create custom hierarchies on non-hierarchical data
- Simplified user navigation and experience
- Improved analysis

- Provide ability to create custom dimensions on non-hierarchical data
- Simplified user experience for building and consuming analytics
- Drill down functionality for non-date-based dimensions
- Level Type Hierarchies will be supported

APOS Live Data Gateway – Data Transformations

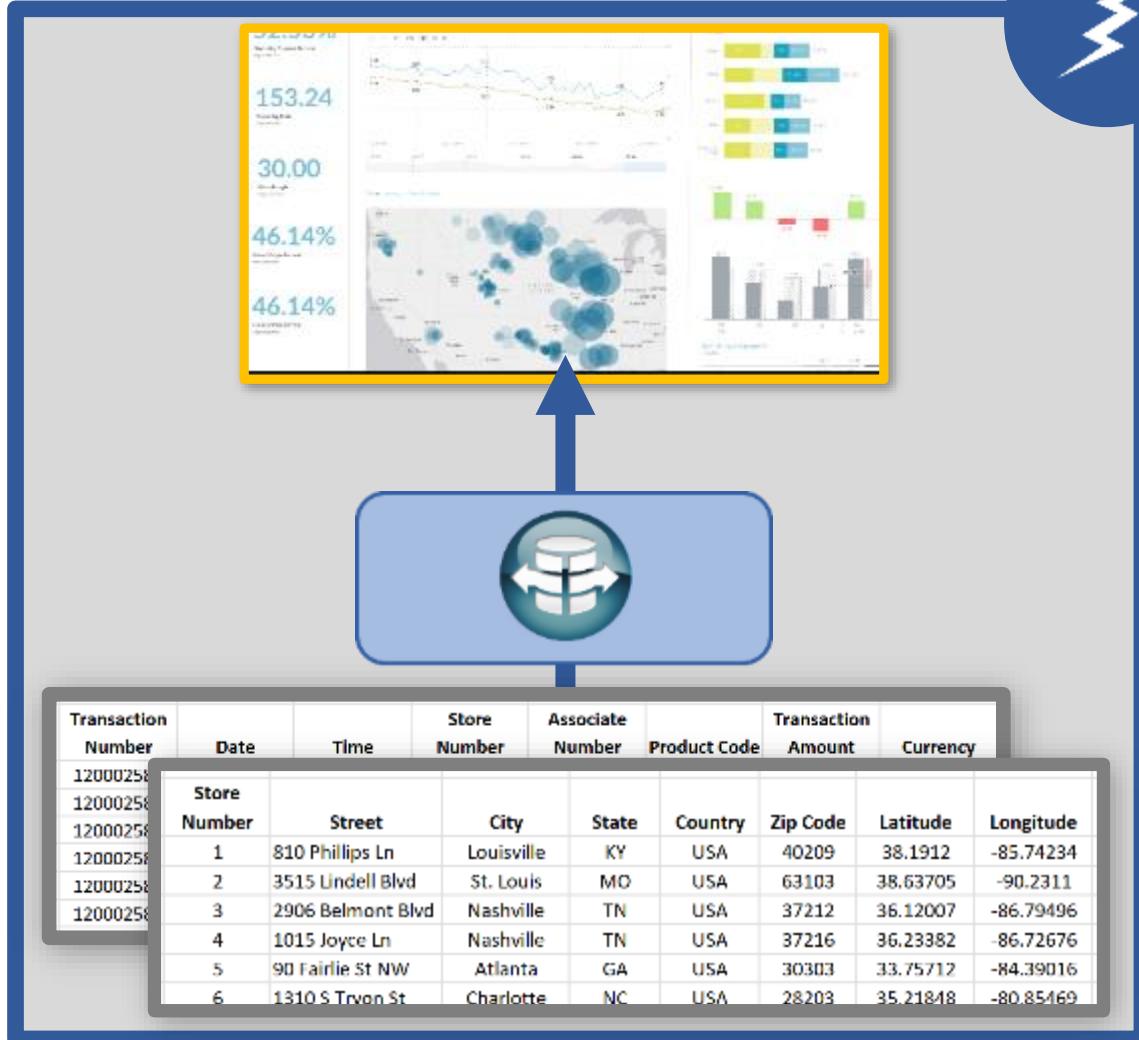


Variables Support

- Powerful data filtering
- Simplified user experience
- Improved analysis

- Create custom variables
- Supported in both Client Tool and Web UI
- Utilize formulas
- Utilize full set of values or custom set of values

APOS Live Data Gateway – Data Transformations



Geospatial Data

- Supply data for representation on a map
- Highly visual analytics
- Improved analysis

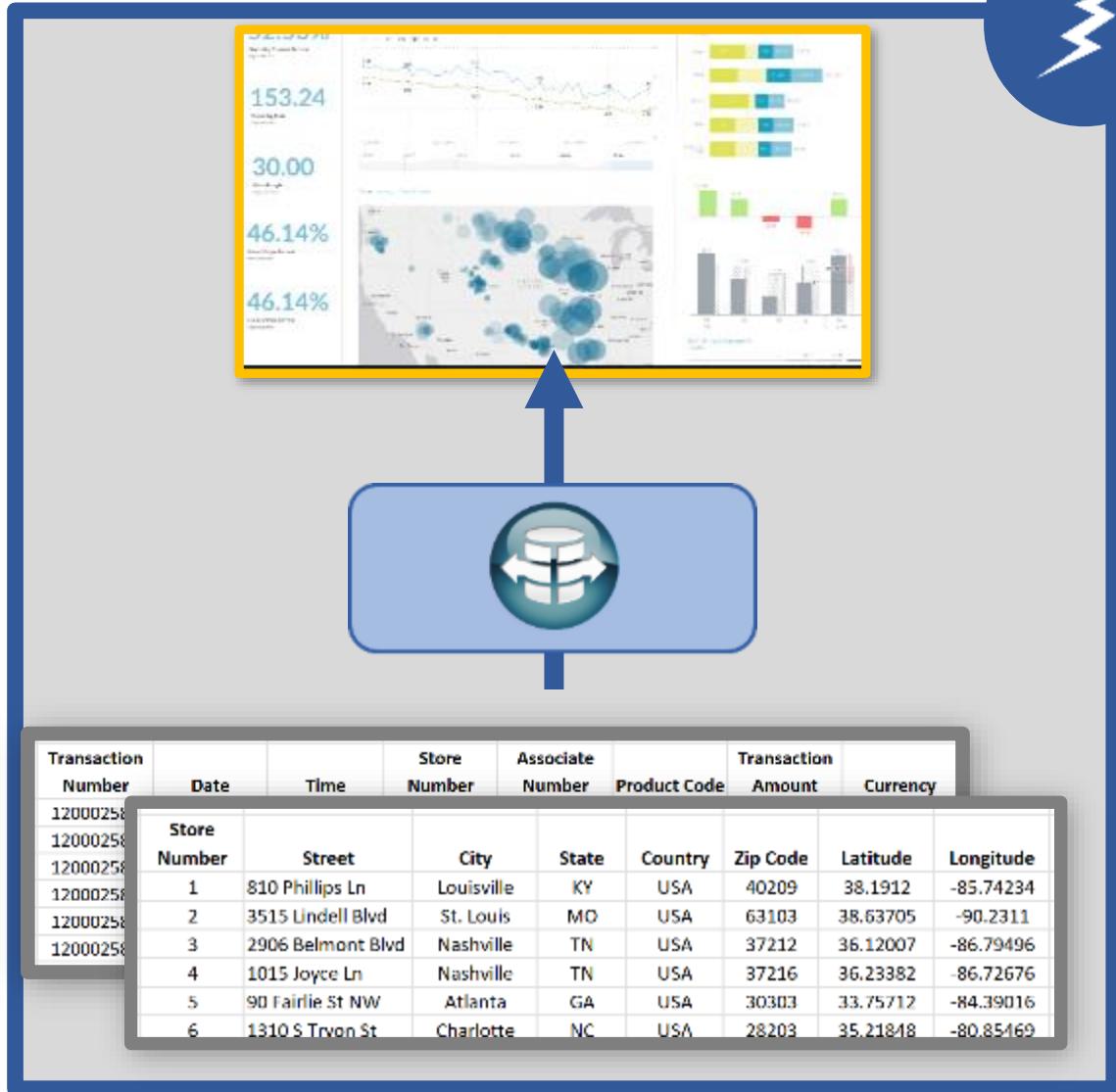
- Geospatial dimensions support
- Multiple projections supported
- Multiple datasource types supported
- Configure multiple geo dimensions



Expanded Connections

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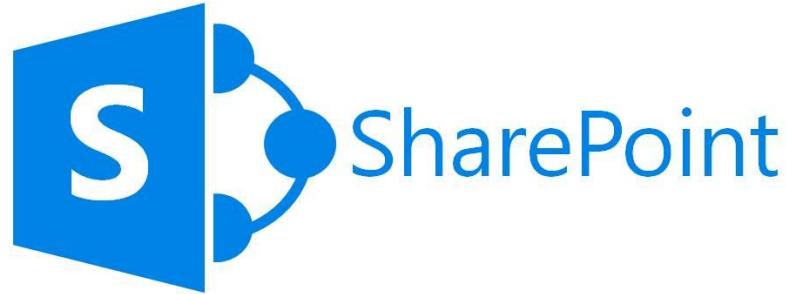
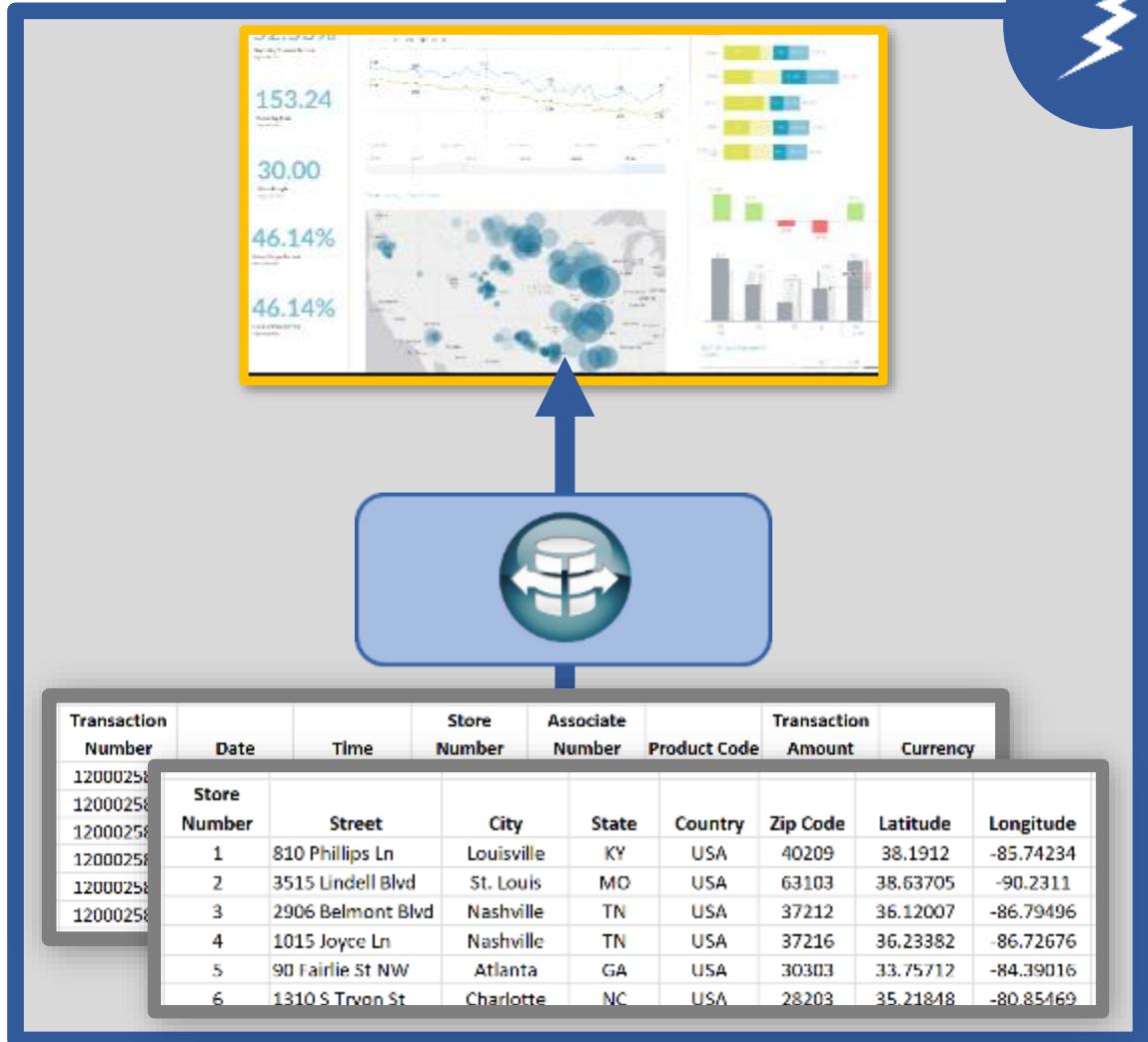
APOS Live Data Gateway – Cloud Data Sources



Google
BigQuery

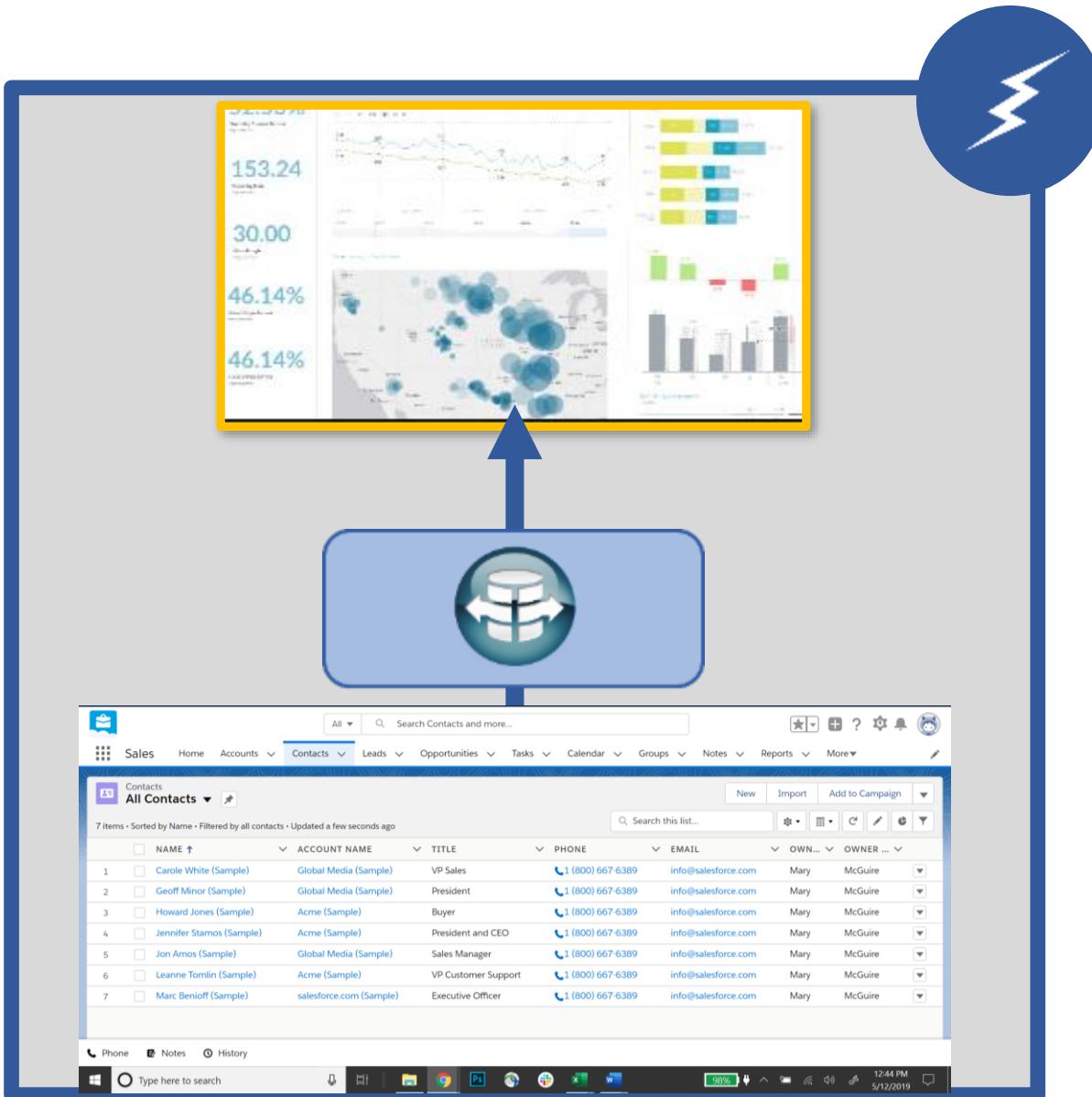


APOS Live Data Gateway – Unique Data Sources



- ✓ Sharepoint Site Metadata
- ✓ Sharepoint Lists
- ✓ Sharepoint Storage
 - ✓ Excel
 - ✓ CSV

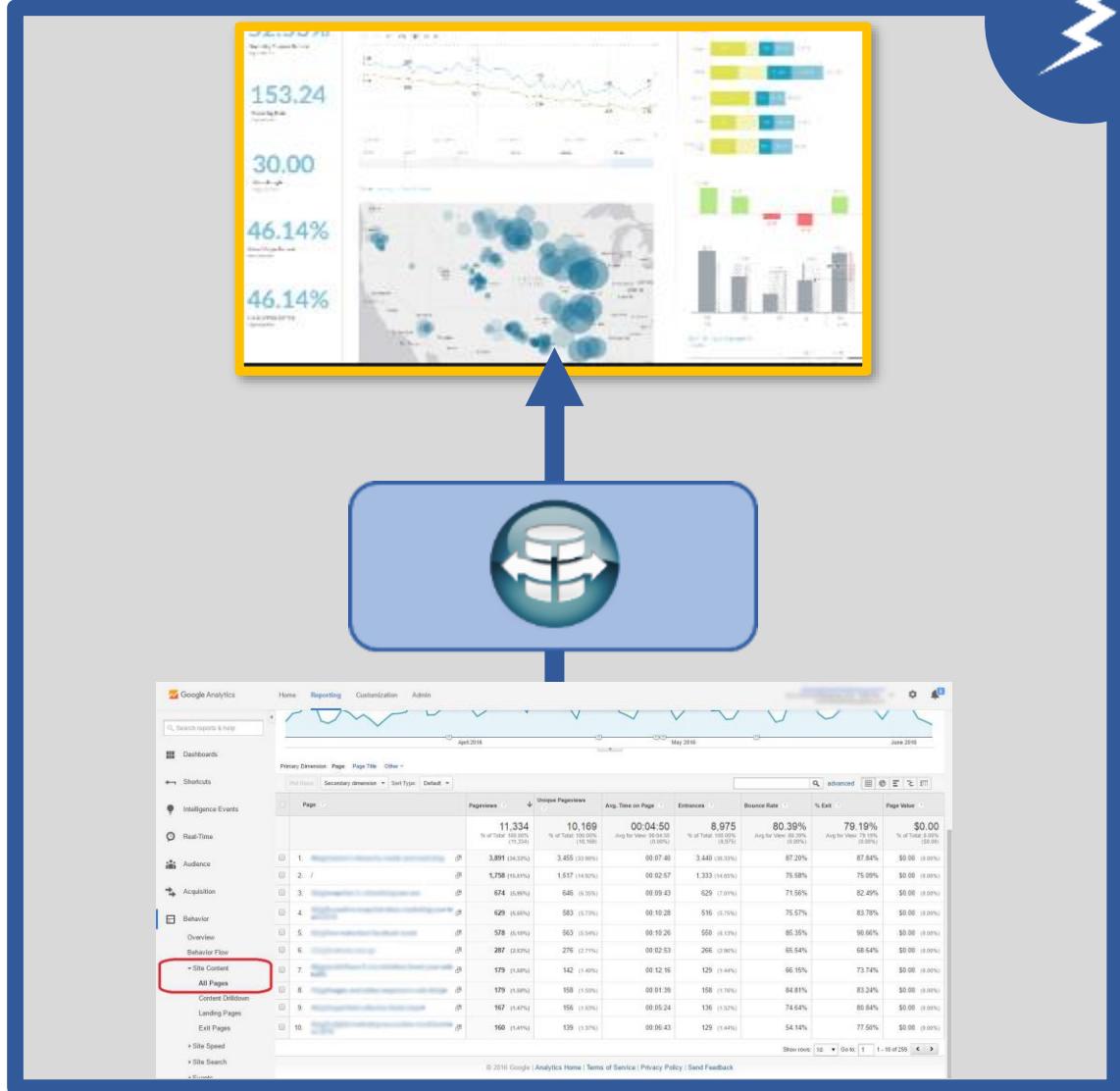
APOS Live Data Gateway – Unique Data Sources



- ✓ Salesforce Accounts
- ✓ Salesforce Opportunities
- ✓ Salesforce Customers
- ✓ etc.



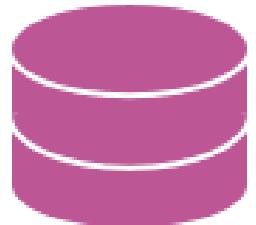
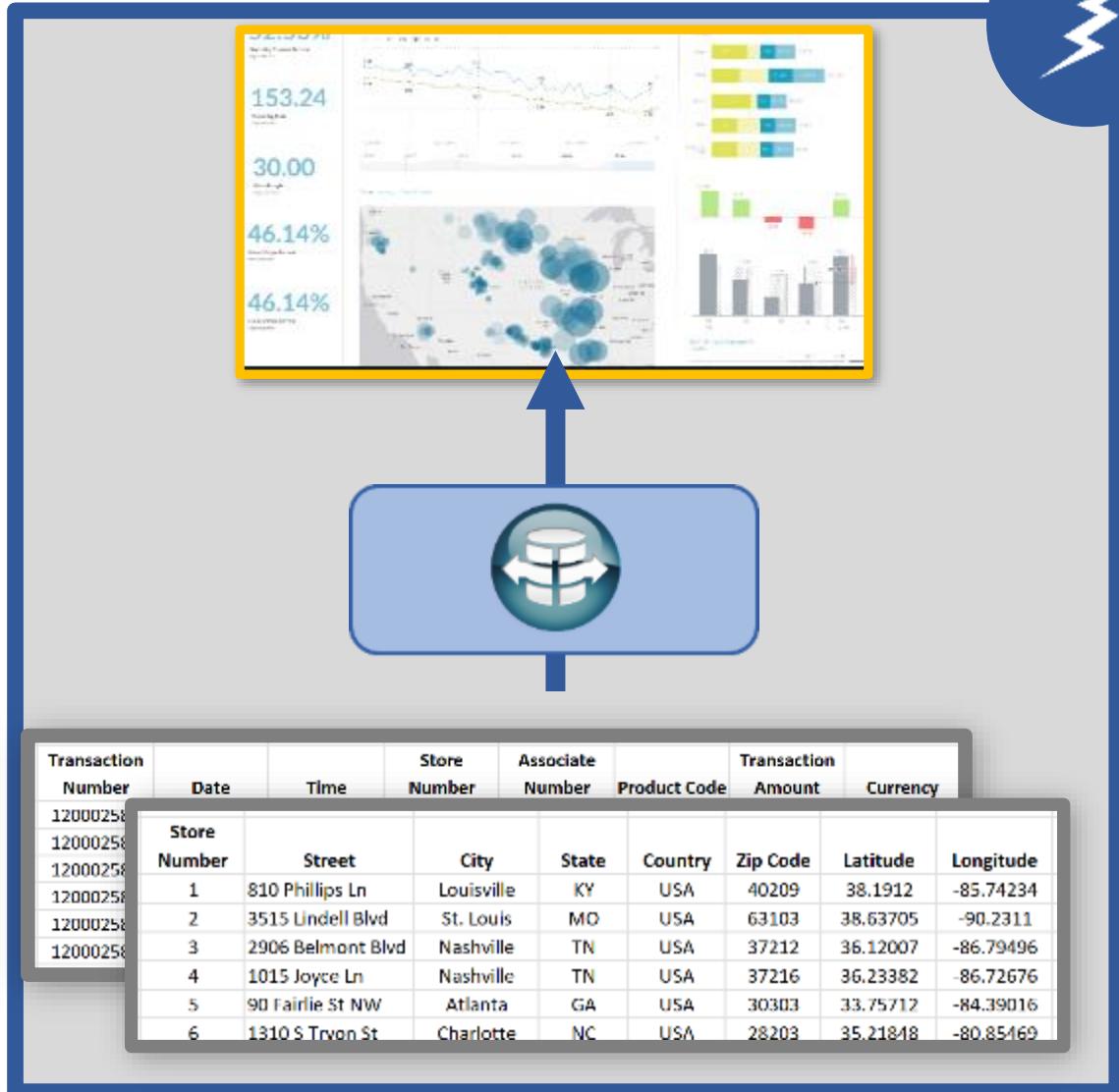
APOS Live Data Gateway – Unique Data Sources



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Google
Analytics

- ✓ Google site traffic
- ✓ User Information
- ✓ Session Statistics
- ✓ Insights into your applications

APOS Live Data Gateway – Generic JDBC Connectivity



Generic JDBC

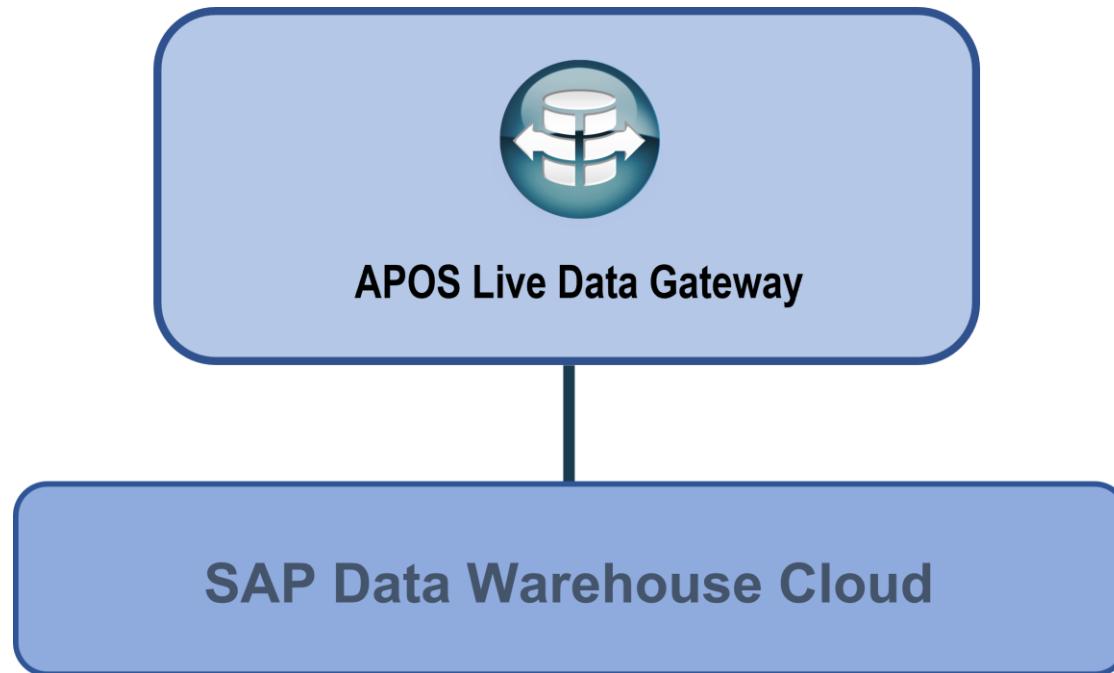
- ✓ Live connectivity to other data sources that support JDBC with APOS Live Data Gateway

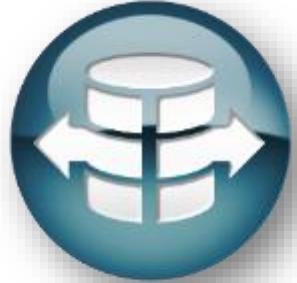


Live Connectivity to SAP Datasphere



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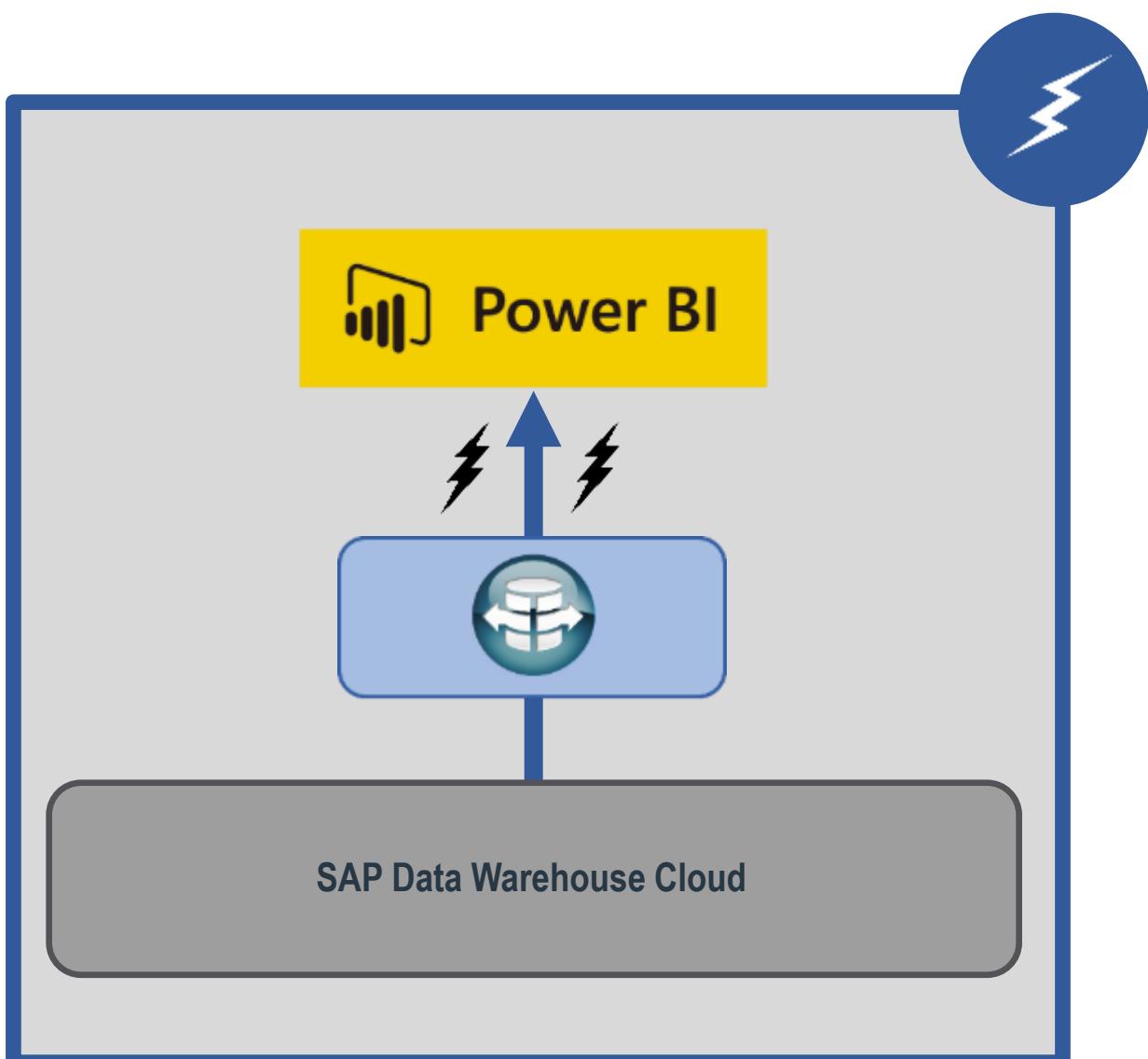




Expanded Consumption

To view demonstrations and videos from this presentation, [view the webinar on demand](#)

APOS Live Data Gateway

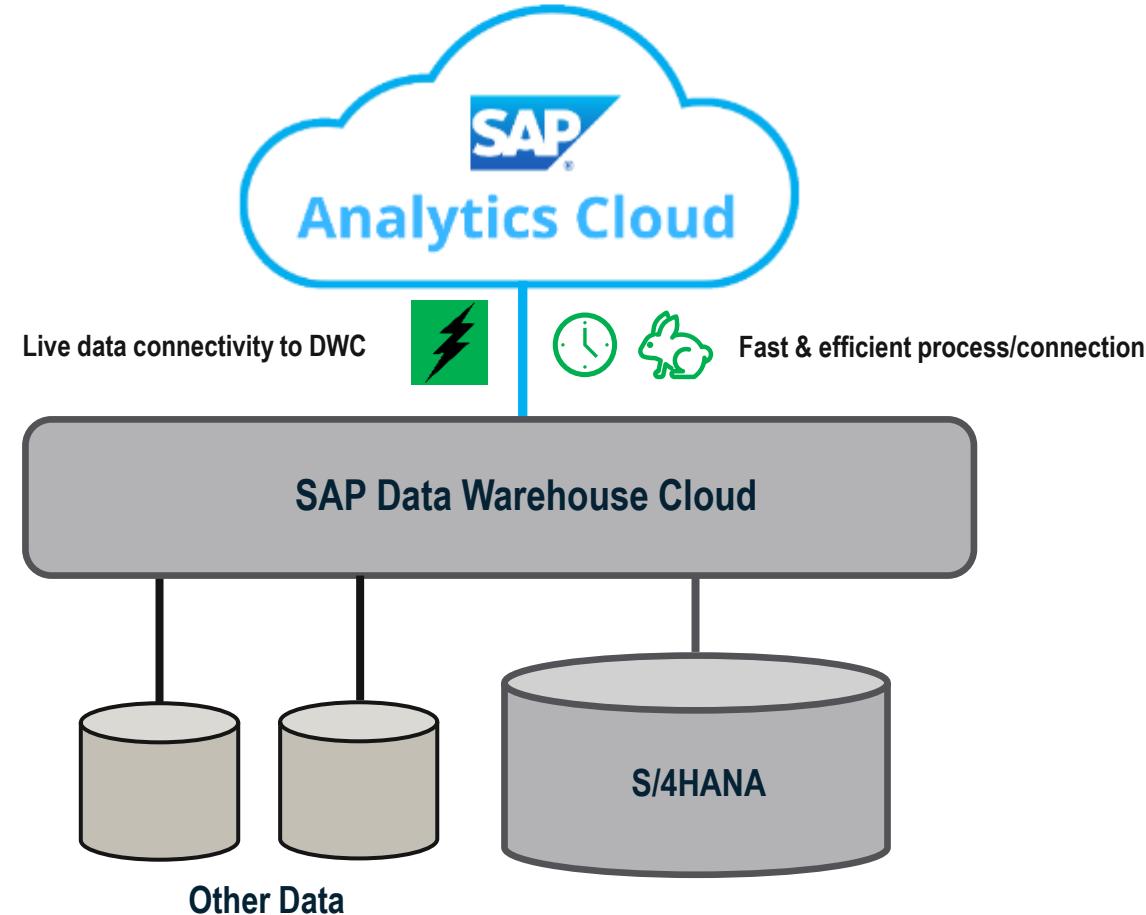


Power BI to SAP Datasphere Support

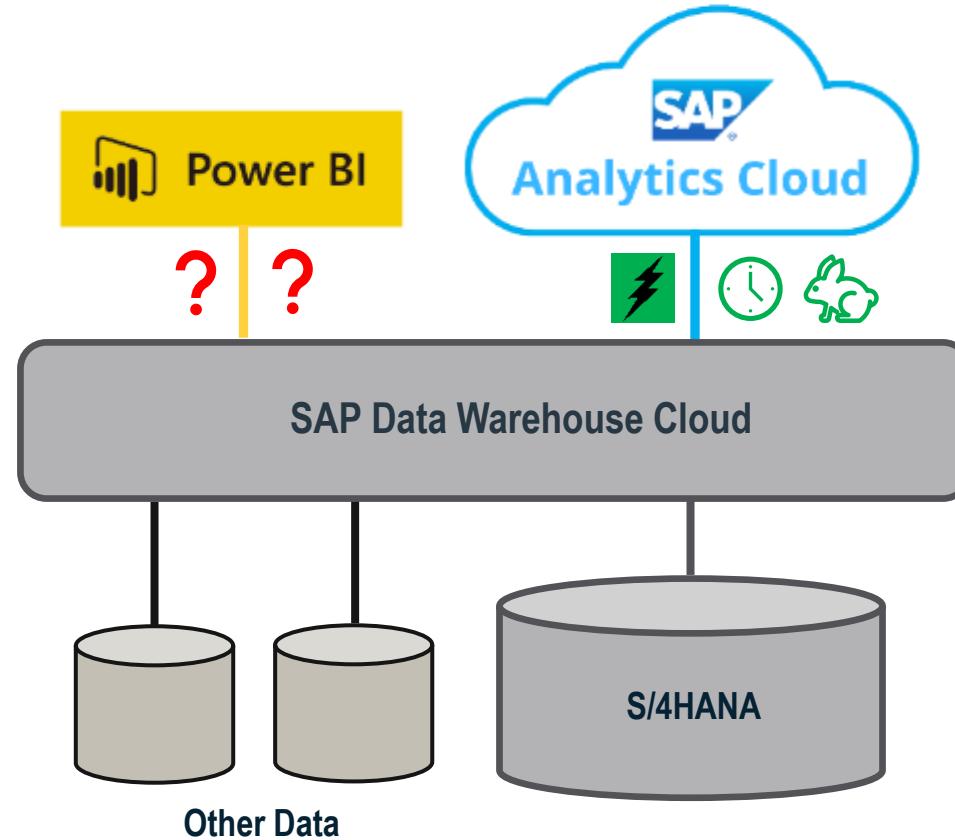
- Connect live from Power BI to SAP DWC (Data Warehouse Cloud / Datasphere)
- Expand how SAP DWC data can be leveraged

- Power BI DirectQuery connection support
- Quick access to SAP Datasphere data in Power BI
- No data load wait times
- No movement of data from SAP Datasphere
- Effective connectivity for large data sets

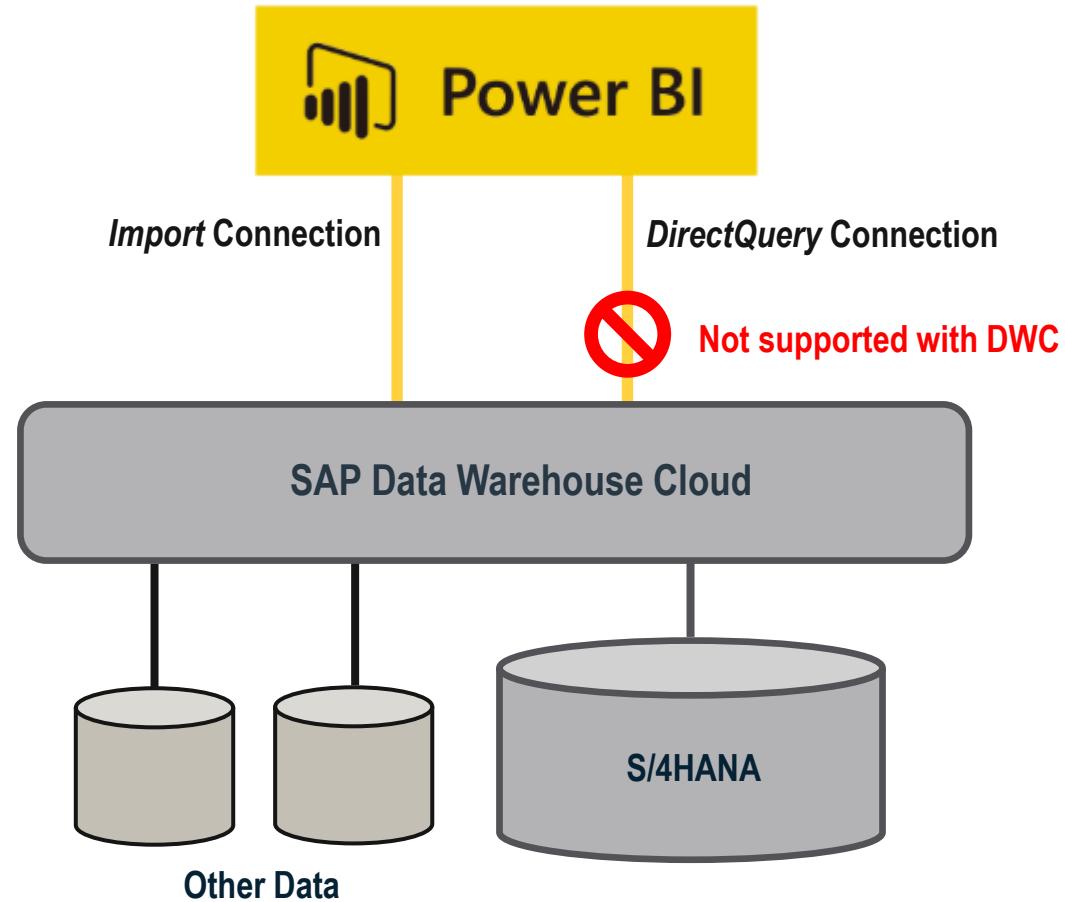
Live Connectivity from SAC to SAP Datasphere



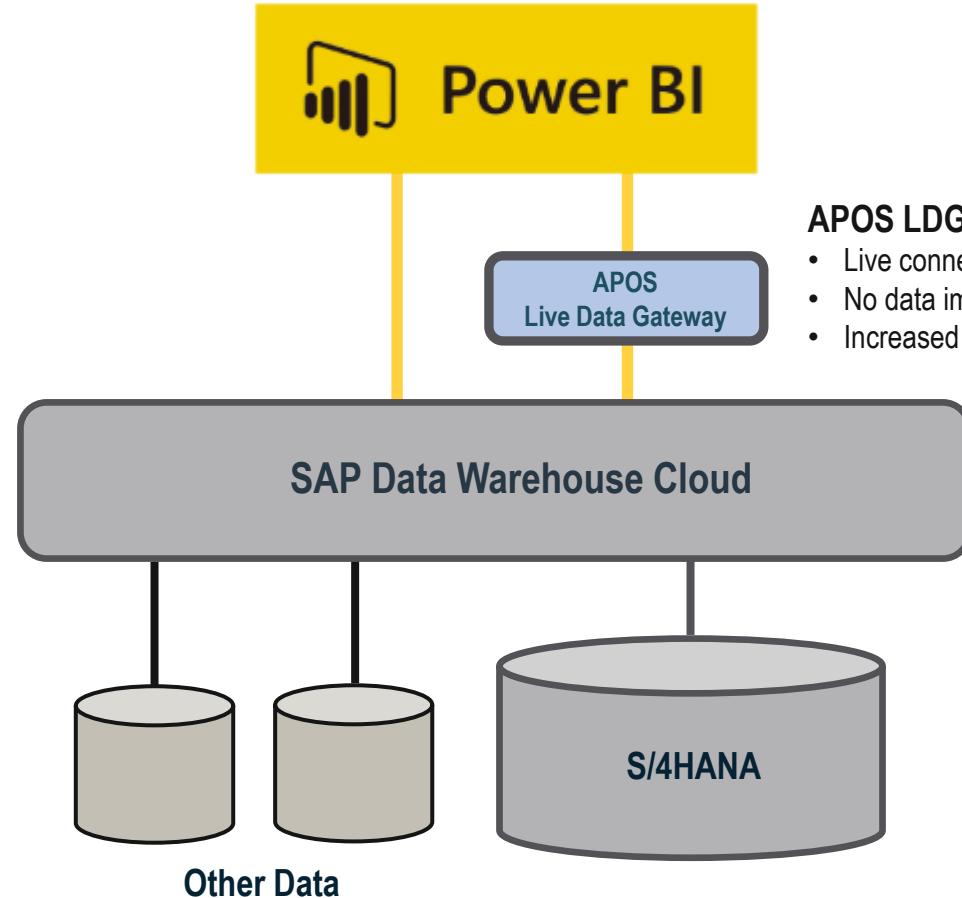
Power BI Connectivity to SAP Datasphere



Power BI DirectQuery to SAP Datasphere



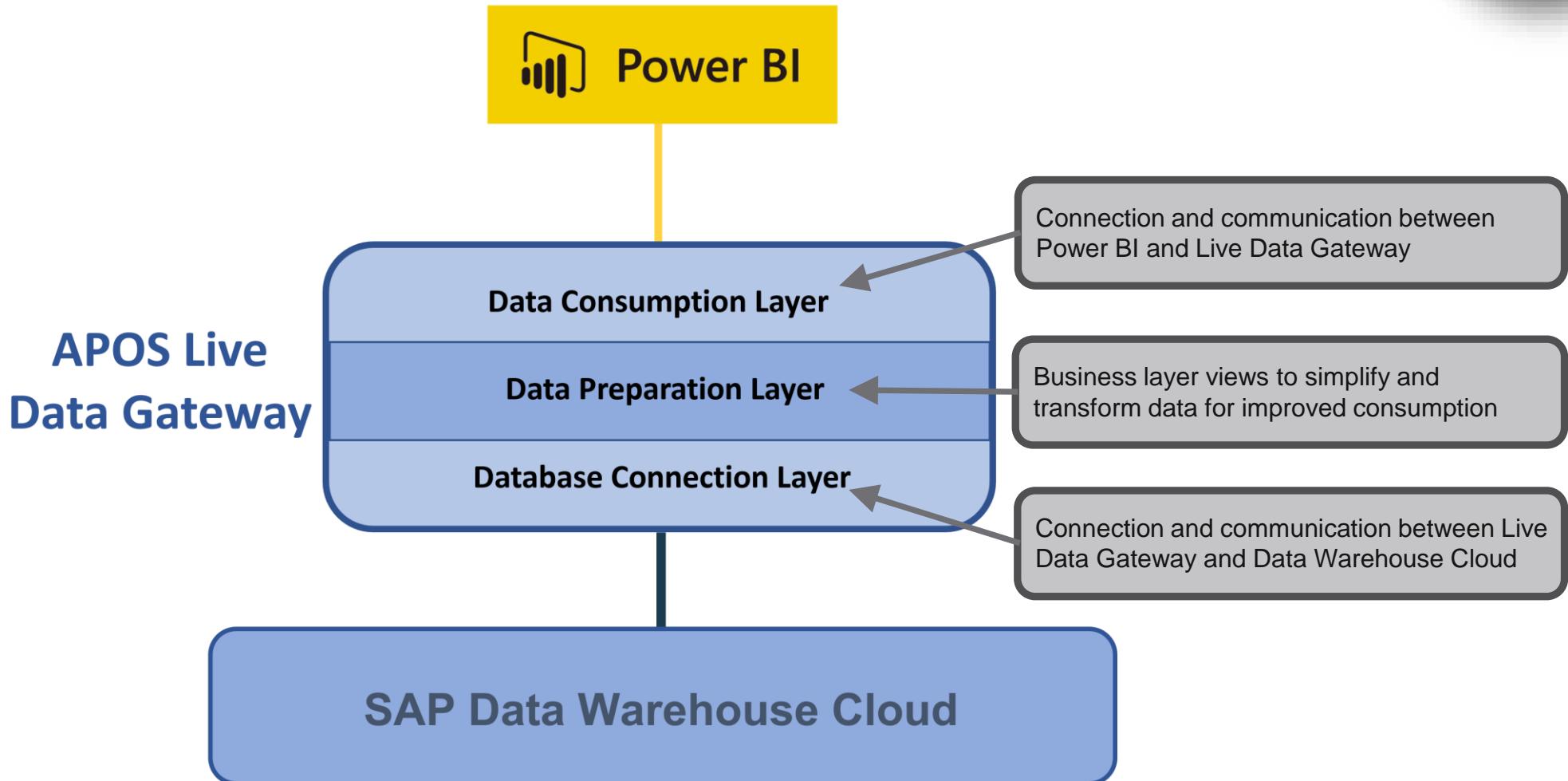
DirectQuery to Datasphere with Live Data Gateway



APOS LDG enables *DirectQuery* Connection

- Live connection to DWC with direct, targeted queries
- No data import into PBI = no data latency or analytics latency
- Increased speed & efficiency of data process

Direct Query Connectivity with Live Data Gateway



SAP Data Warehouse Cloud

demo-presalesnad.us10.hcs.cloud.sap/dwaas-ui/index.html#/databuilder&/db/BITEST/Employment_View

Login | Salesforce Matches | Rugby W... Hightail - Dashboard SAP Analytics Cloud SAP DWC DEMO SAP DEMO REPO SAP Data Warehou... P4C HowTo LDG HowTo Mark Resource SAP Partner Portal ... 13. Troubleshooting...

SAP Data Builder BI TEST View - Employment View

General View Edit

Repository Sources

Search Tables Views Intelligent Lookups

EMPLOYMENT

EMPLOYMENT

Employment View

Data Preview: EMPLOYMENT (1000)

AGYSUB	LOC	AGELVL	EDLVL	GSEGRD	LOSLVL	OCC
AF07	US	H	13	12	D	1801
AF07	US	I	13	12	D	1801
AF07	US	I	13	12	D	1801
AF07	US	G	13	12	D	1801
AF07	US	H	13	12	D	1801
AFGS	US	H	13	12	D	1801

Remote Table Properties

EMPLOYMENT

General

Business Name: EMPLOYMENT

Technical Name: EMPLOYMENT

Alias:

Connection: HANA_RI

Remote Table: "RI_CHRO"."EMPLOYMENT"

Data Access: Remote

Distinct Values: OFF

Status: Deployed

Columns

Search Columns

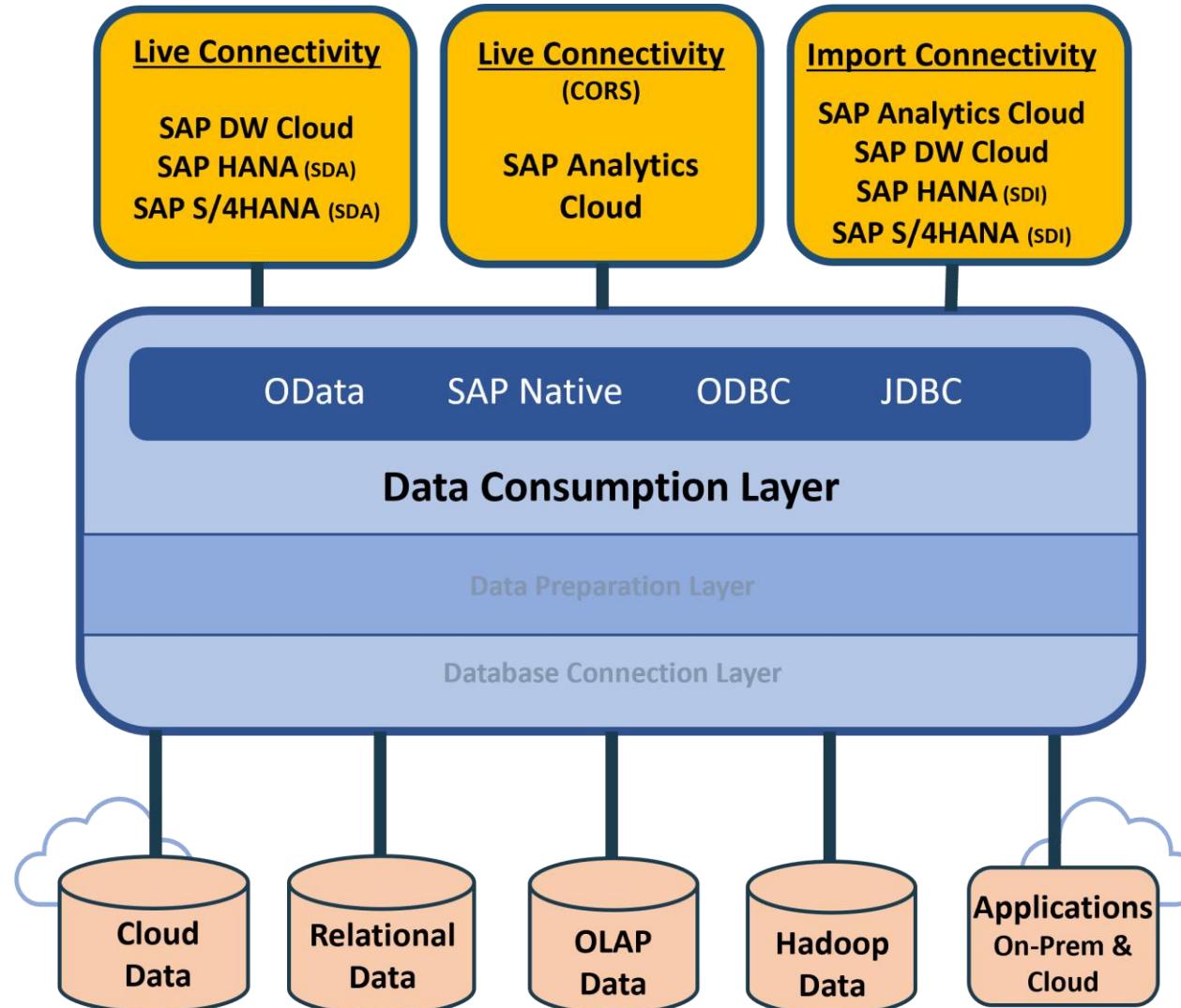
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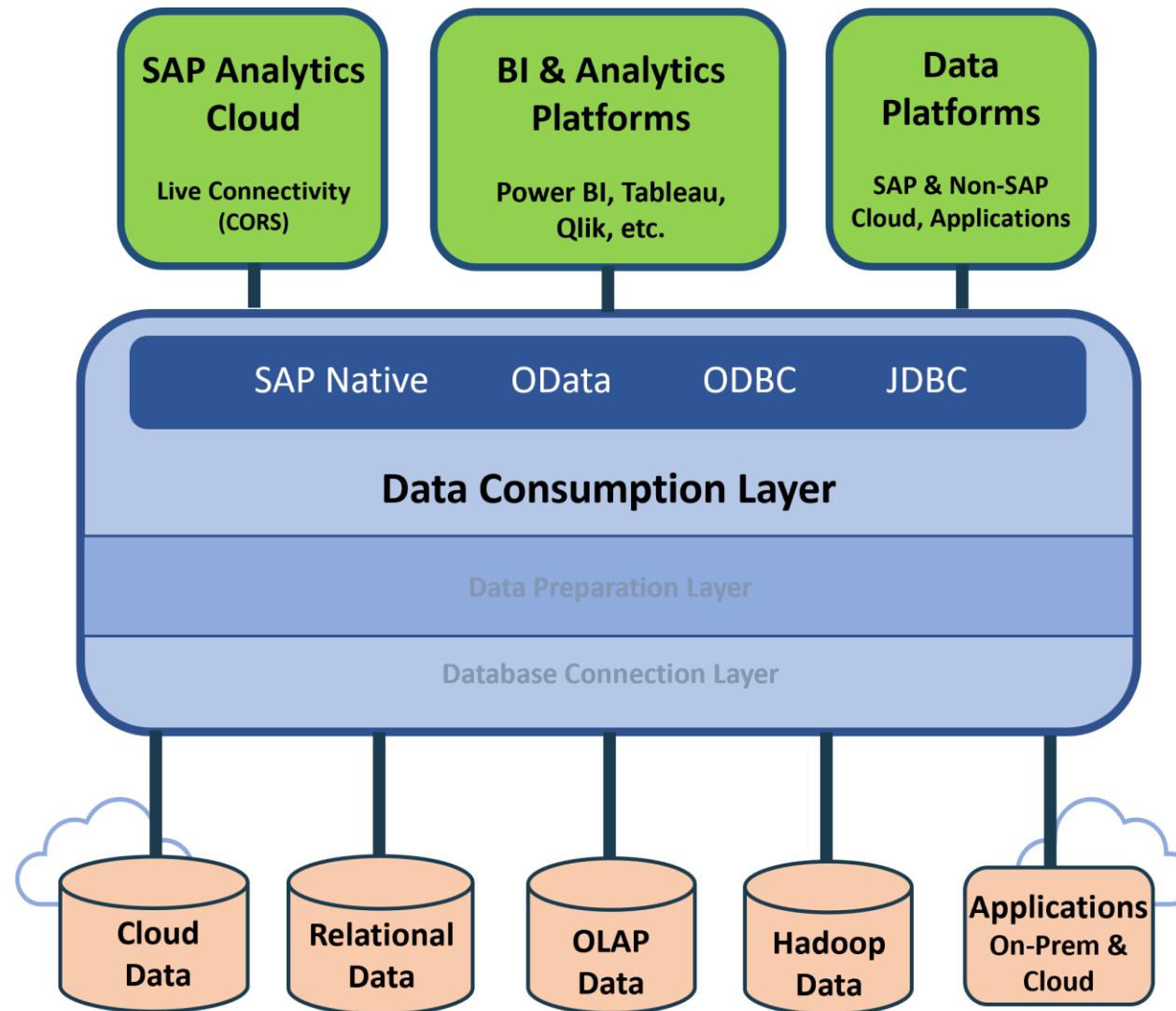
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APOS Live Data Gateway – SAP Landscape



APOS Live Data Gateway – Unified Semantic Layer



APOS Live Data Gateway – Session Summary

- SAP Analytics Cloud Connectivity Options
- Live Data Connectivity for SAC
- APOS Live Data Gateway
 - Overview
 - Security
 - Performance
 - Data Transformation
 - Expanded Connections
 - Expanded Consumption



APOS Solutions for SAP Analytics Cloud



APOS Live Data Gateway

- Live Connectivity from SAC to wide range of data sources



APOS Publisher for Cloud

- Automated broadcasting of personalized SAC reports to targeted users



APOS Insight for Cloud

- Enhanced Monitoring, Auditing and Validation of SAP Analytics Cloud



Upcoming Event



Unternehmensweite Zusammenarbeit als Team, durch unbegrenztes Aussenden und Empfangen von SAP Analytics Cloud Stories

Webinar - 25. Mai - 14 Uhr CET

Sie erfahren, wie Sie automatisiertes, datengesteuertes Broadcasting, sowie die folgenden neuen und erweiterten Funktionen auf Unternehmensebene nutzen können:

- Verbesserte Terminplanung
- Höher skalierbare Datenverarbeitung
- Verbesserte Sicherheit
- Freigegebene und private Ordner
- Ermöglichen Sie es Usern und Teams zusammenzuarbeiten und Inhalte zu teilen
- Gemeinsame und private Datenquellen
- BW User-Based Broadcasting
- Kommende Funktionen



Register at
www.apos.com/de

APOS Solutions for SAP BusinessObjects



APOS Insight

BI System Auditing

- System Inventory
- Security Analysis
- System Usage Analysis
- Report Impact Analysis

BI Report Testing

- Automated Report Testing
- Regression Testing
- Validation of Report Data
- Report Performance Testing

BI System Monitoring

- Advanced System Monitoring
- Operating Environment Monitoring
- Database Monitoring
- Process Monitoring

BI Query Surveillance

- Real-time BI Query Monitoring
- Query Performance Alerting & Auditing
- Query Intervention; Remote Cancelling
- Sensitive Data Audit



APOS Administrator

Object Management

- Bulk Security Management
- Bulk Settings Management
- System Objects Promotion
- Connections Maintenance

Schedule Management

- High-volume schedule management
- Multiple schedule properties editing
- Grid scheduling interface
- Repeatable scheduling templates

Instance Management

- Manage entire instance inventory
- Granular instance search
- Stop, pause, release, reschedule
- Rapid recovery to failed schedules



APOS Storage Center

- System Backup
- Content Archiving
- Content Versioning
- Selective Restoration
- Automated System Clean Up



APOS Publisher

- Systematic Content Delivery
- Advanced Document Bursting
- Enhanced Content Distribution
- Security and Encryption
- Statement Generation



APOS Web Intelligence Migrator

- Bulk conversion of Universes from UNV to UNX
- High-Volume Repoint Web Intelligence reports
- Success validation
- Controlled, project-based workflow

STAY CONNECTED



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Cloud and Sharing your experience?**

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LinkedIn!

QUESTIONS?

Please enter your questions in the Q&A panel.

Thank you!

Get in touch

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