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Webinar
Breaking BI Barriers:
Live Connectivity from SAP Analytics Cloud to non-SAP Data Sources
October 12, 2023
APOS

Today's Session

Key Topics

- Introduction
- SAC Connectivity Options
- Expanded Live Data Connectivity for SAC
- Data Connection
- Data Transformation
- Data Consumption
- New Feature Updates
- Q&A

APOS

Today's Presenters

ALLAN PYM

Chief Operating Officer
APOS

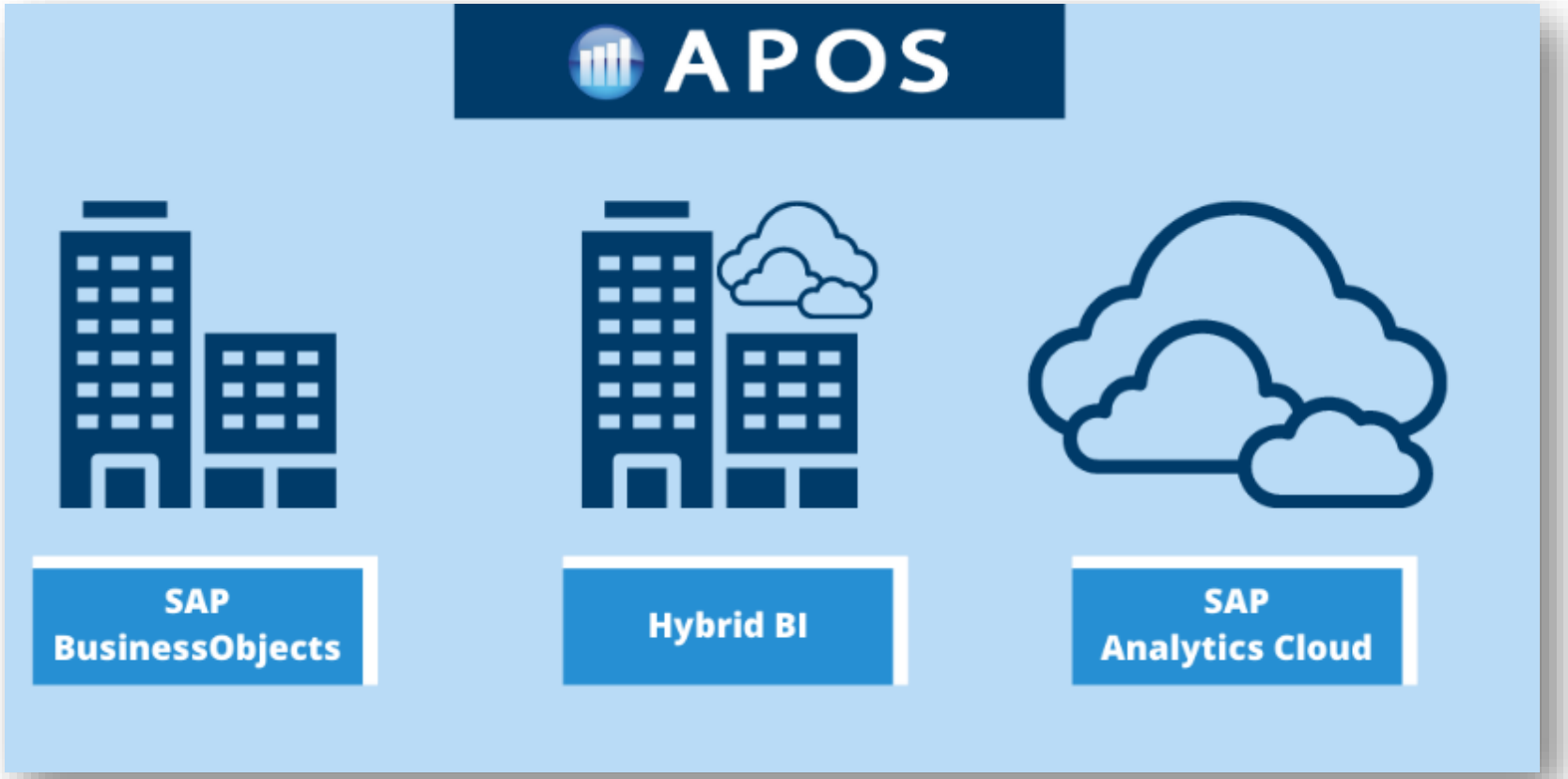
ALAN GOLDING

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

SAP Partner



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

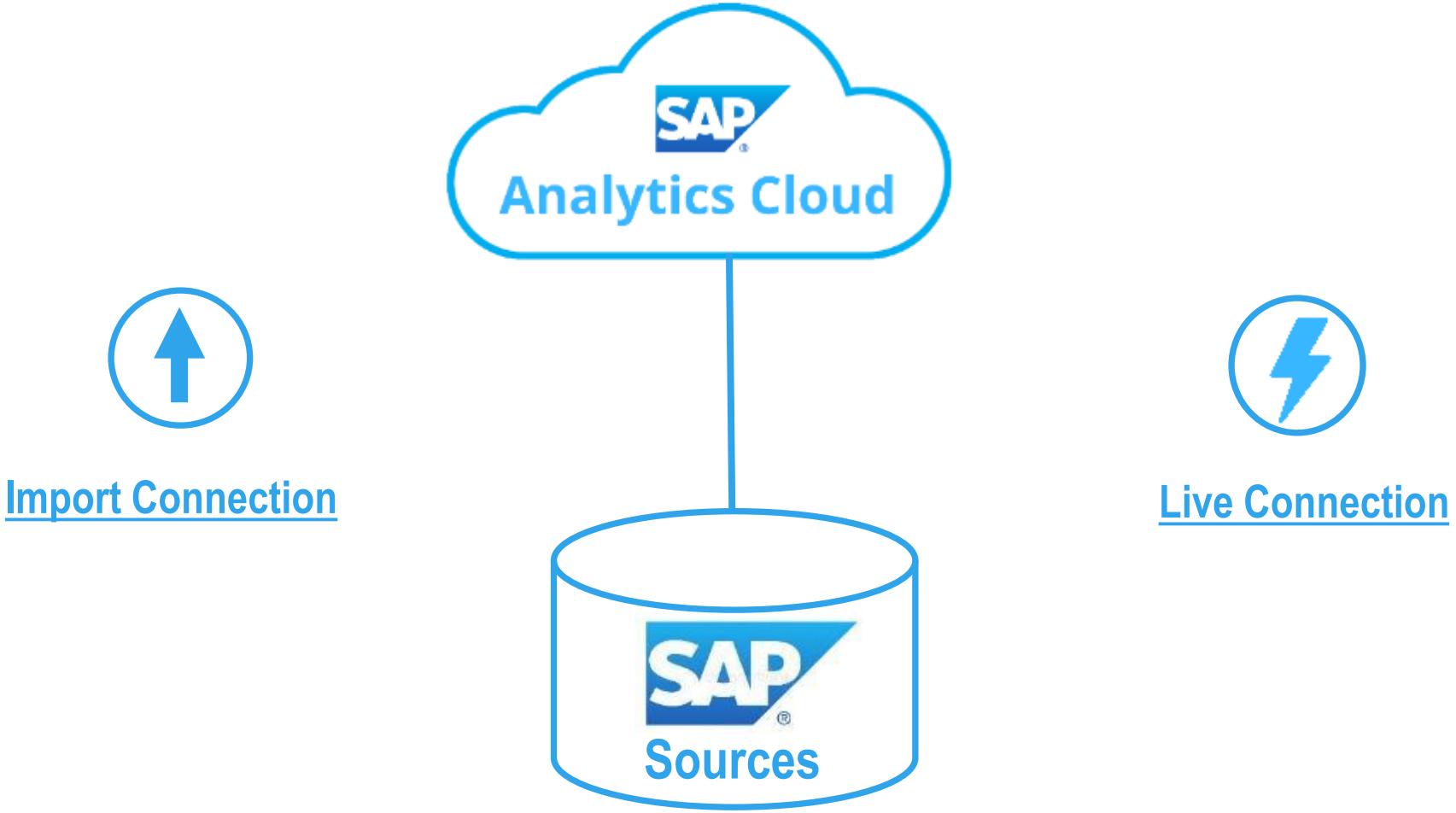
APOS Publisher for Cloud

- Automated broadcasting of personalized SAC reports to targeted users

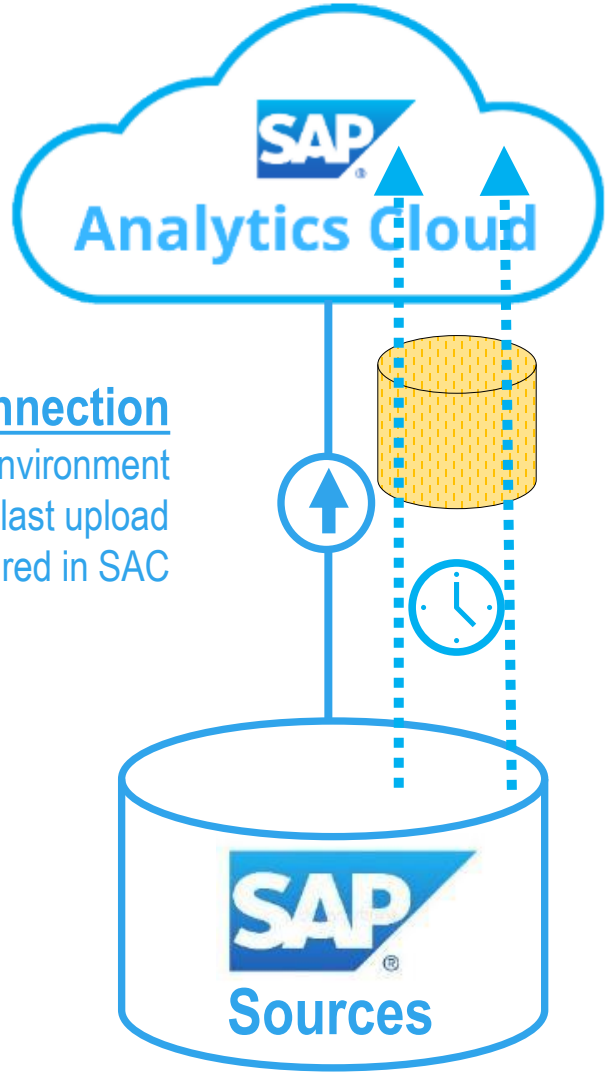
APOS Insight for Cloud

- Enhanced Monitoring, Auditing and Validation of SAP Analytics Cloud

SAC Connectivity – SAP Sources



Import Connectivity



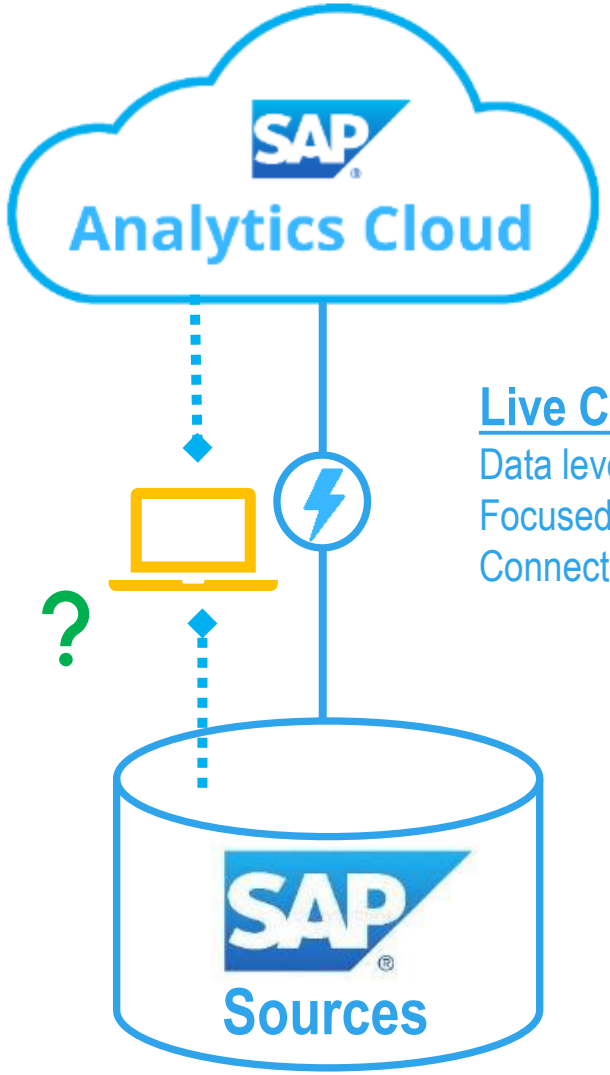
Import Connection

Data moved into SAC data environment

Data uploaded on a schedule, current to last upload

Modelled & secured in SAC

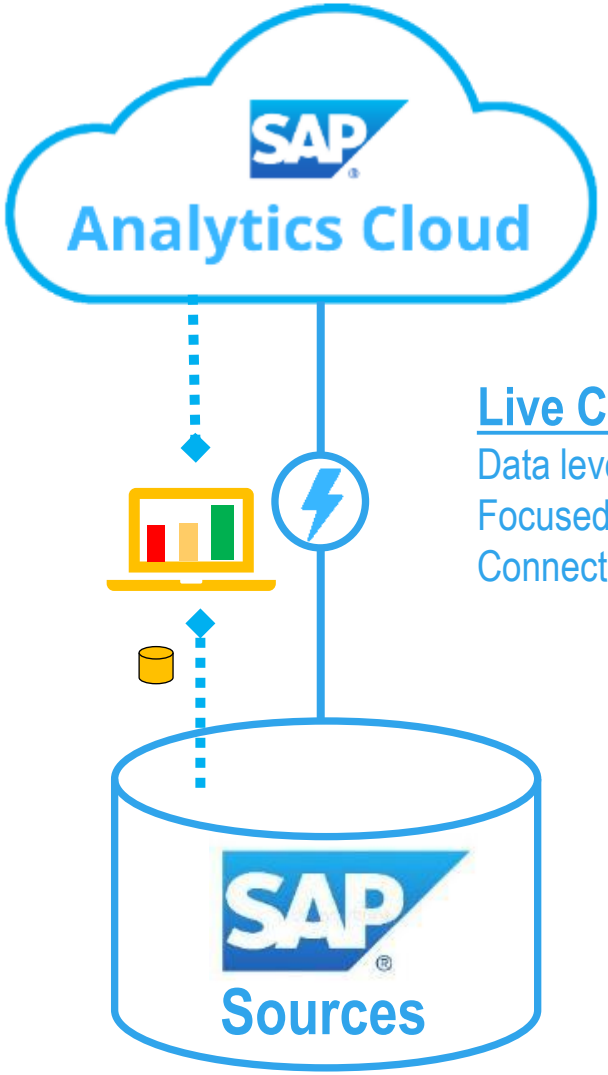
Live Connectivity



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

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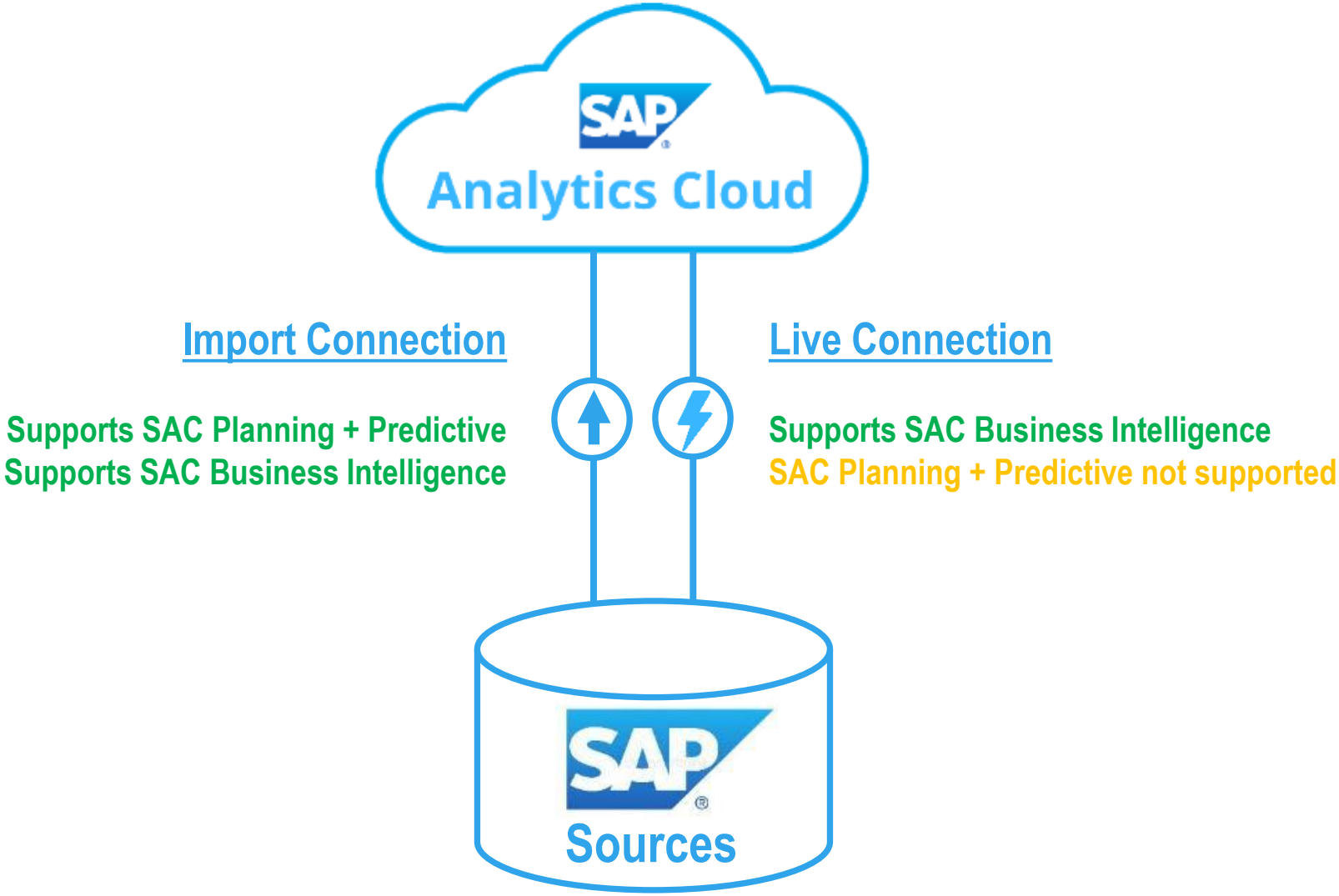
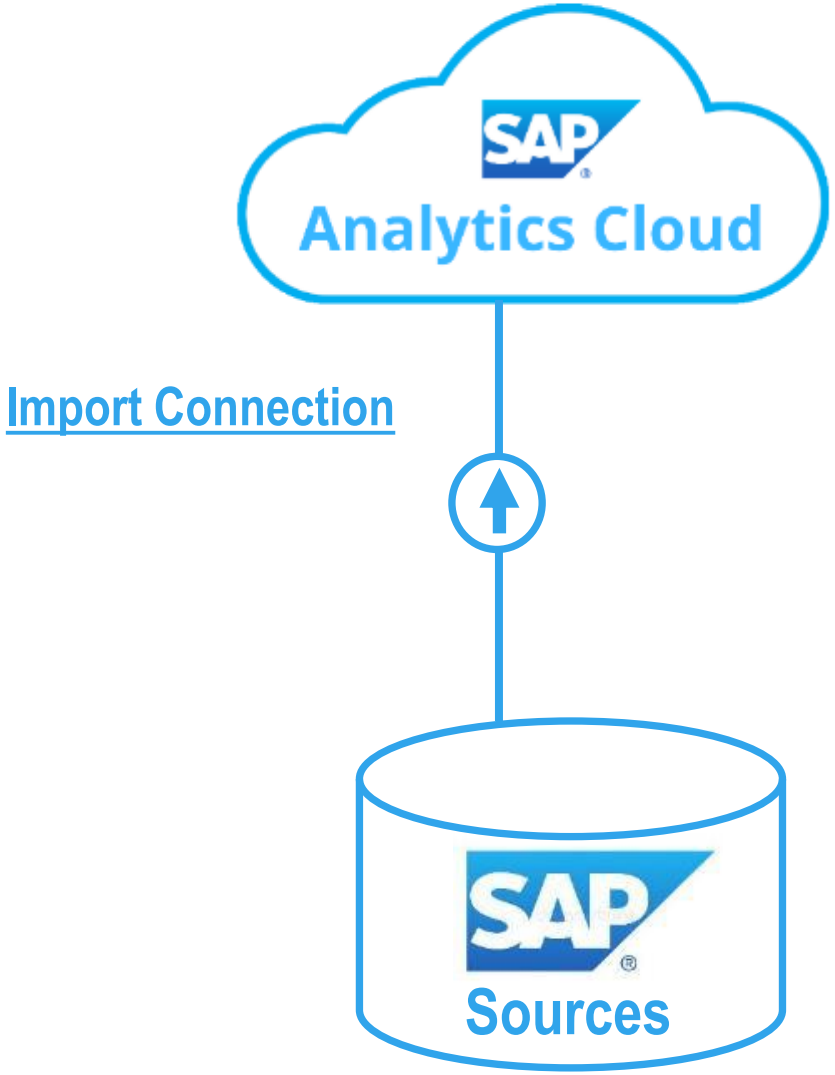
Connection into existing source modelling & security

Live & Import Connectivity



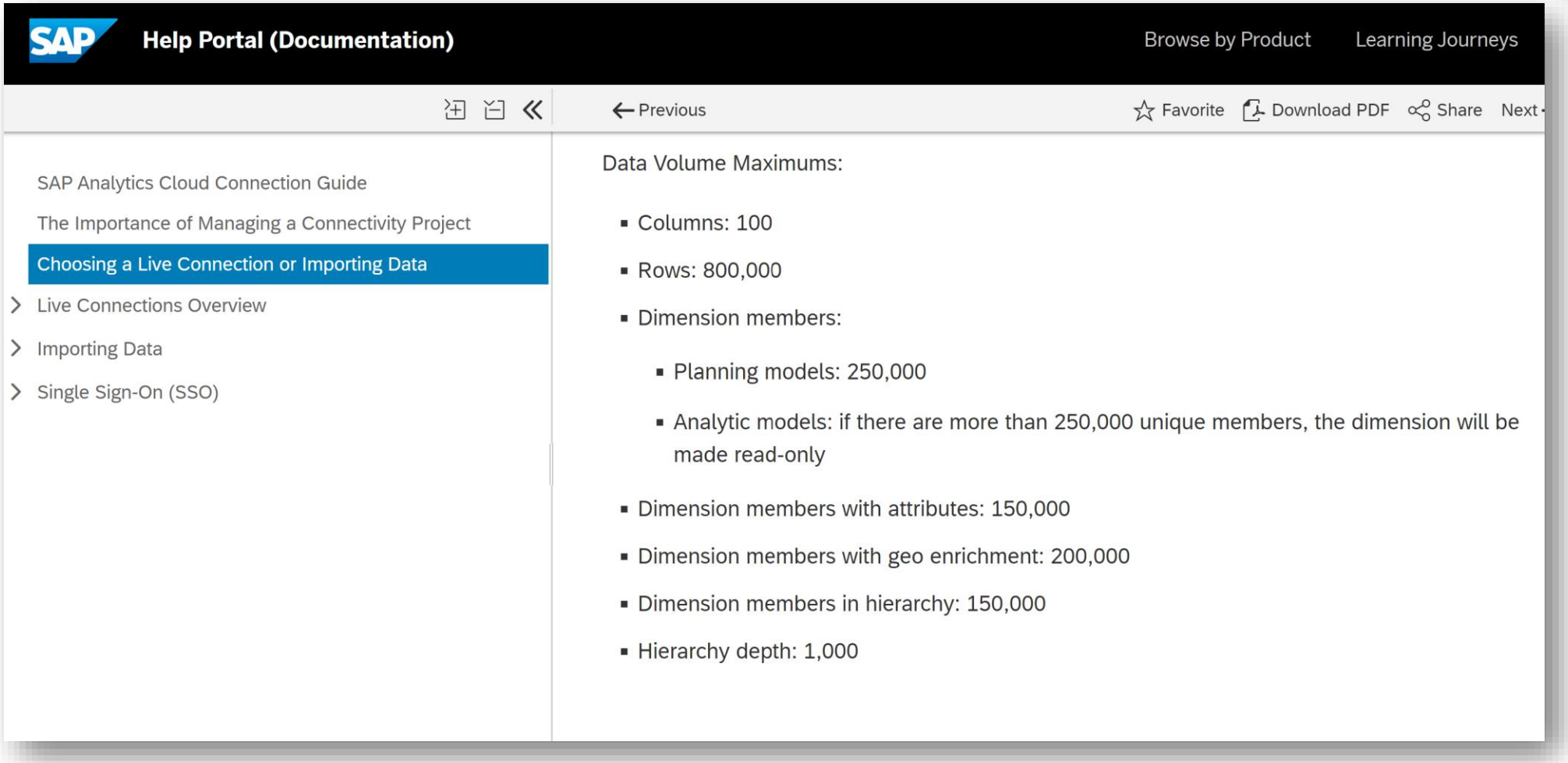
Decision Considerations - Import



- 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

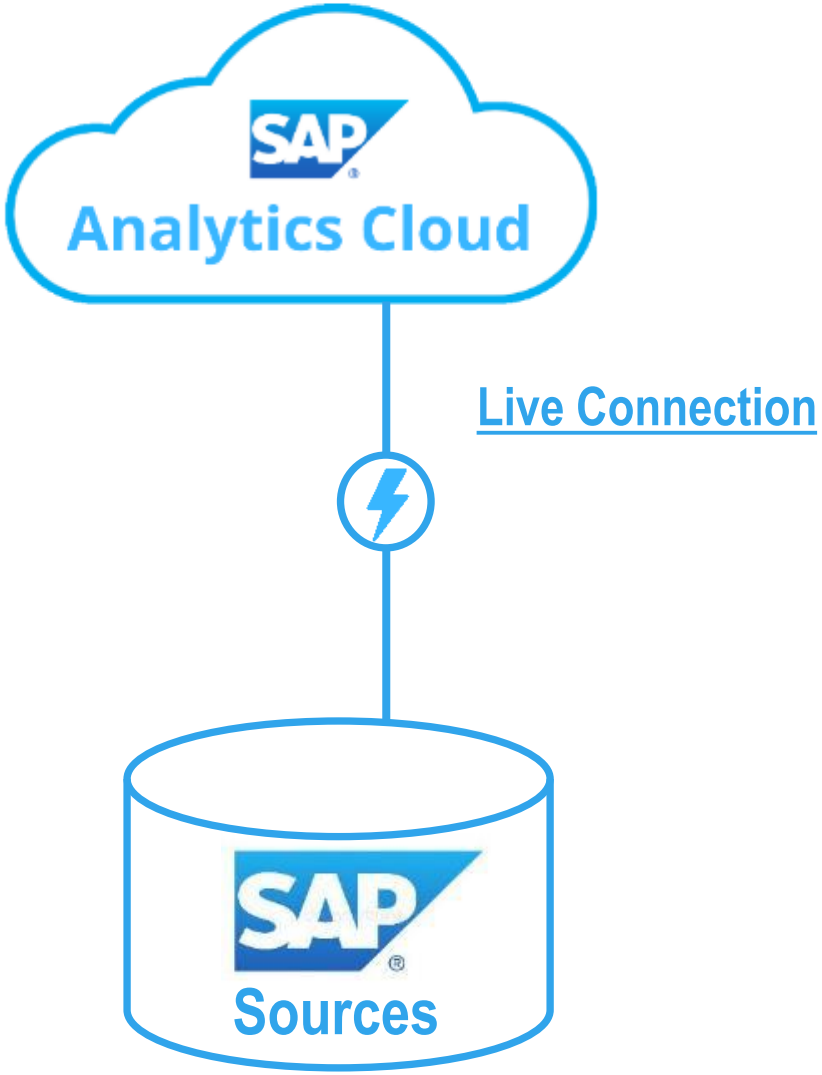
Import – Data Volume Limits



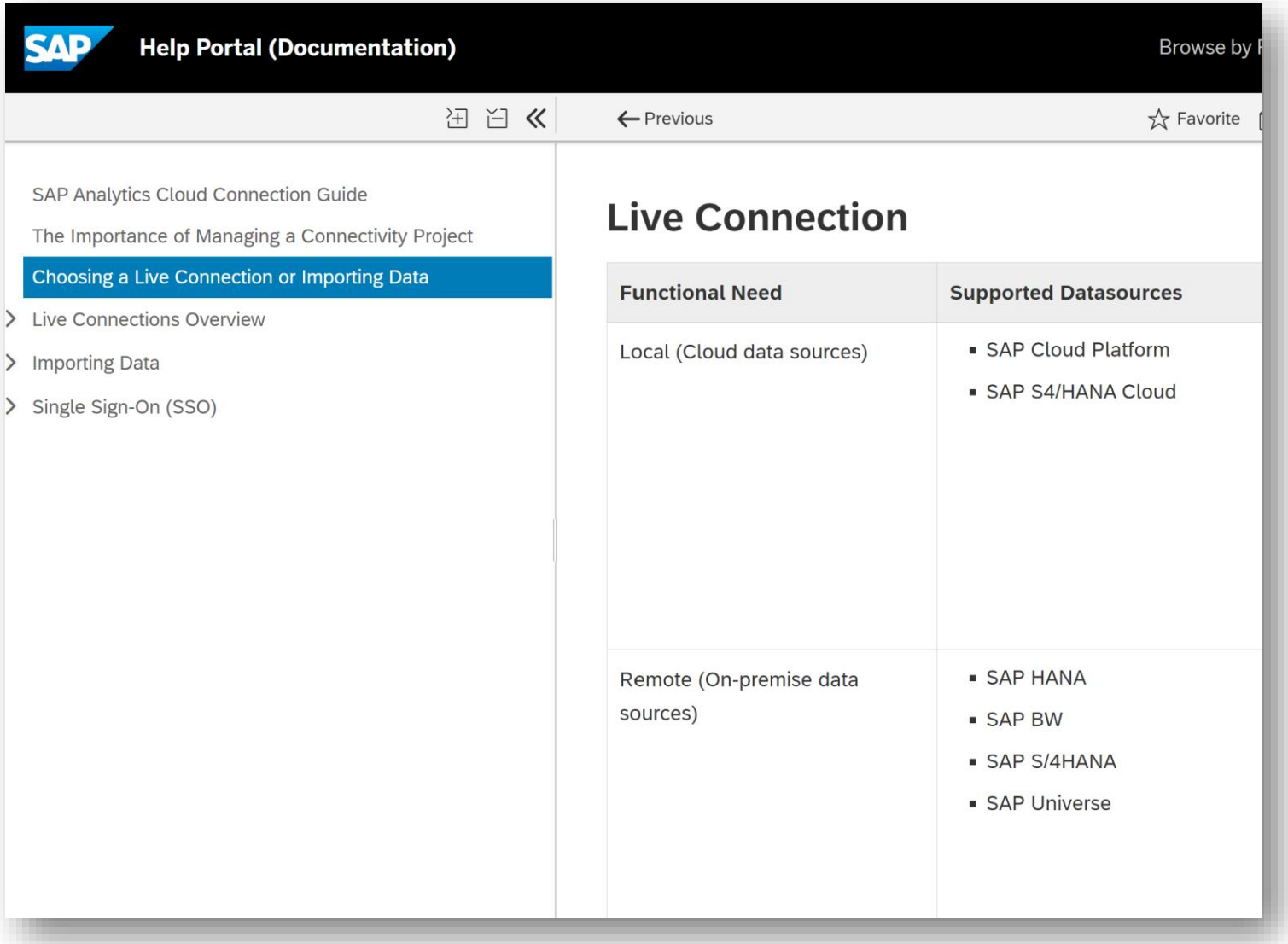
Decision Considerations - Live

- Data is not replicated
- Database security respected
- Database modelling retained
- Data is current
- No data volume limits
- Data stays behind firewall

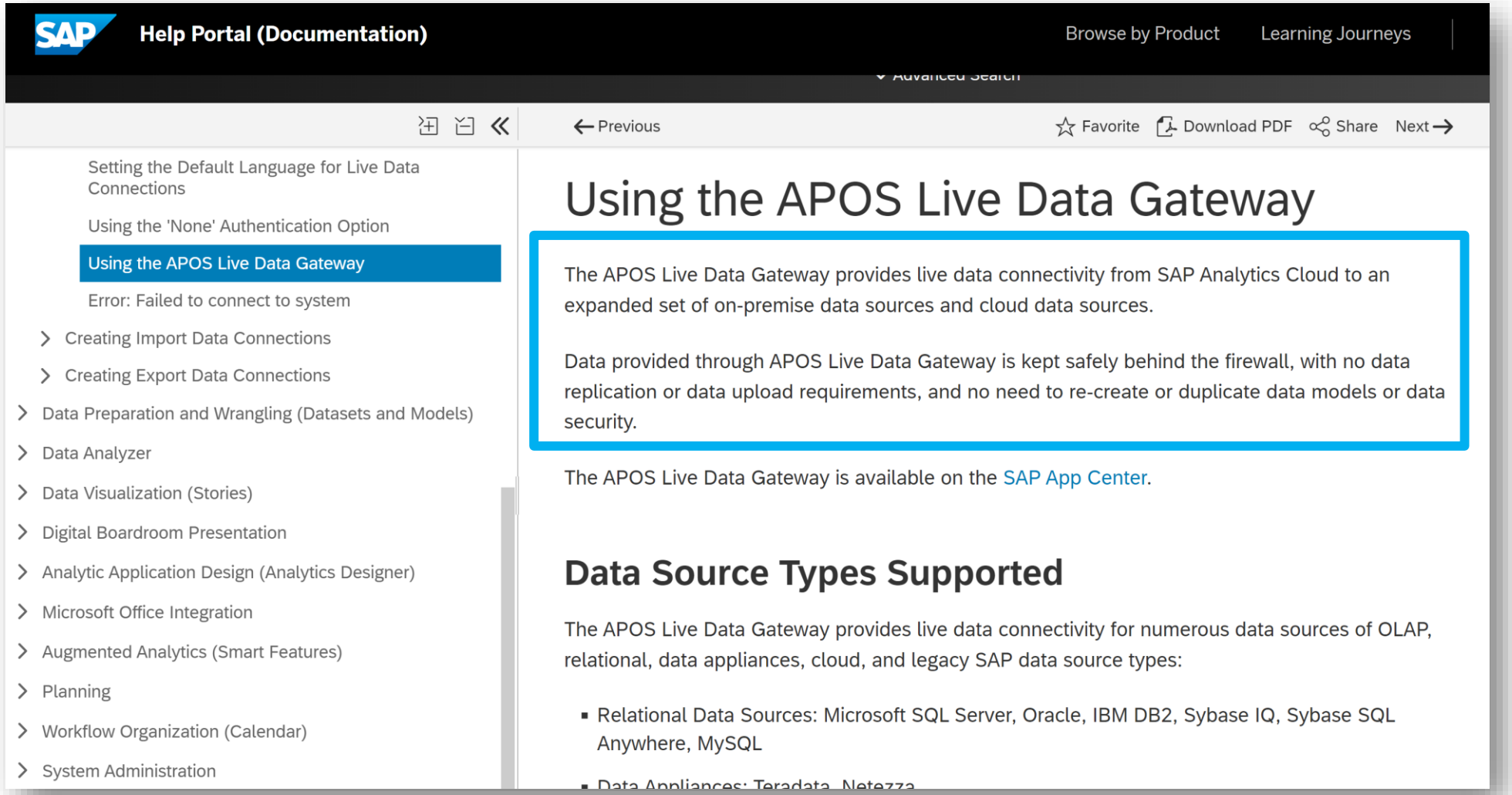
- No Planning/Predictive
- Limited sources supported **



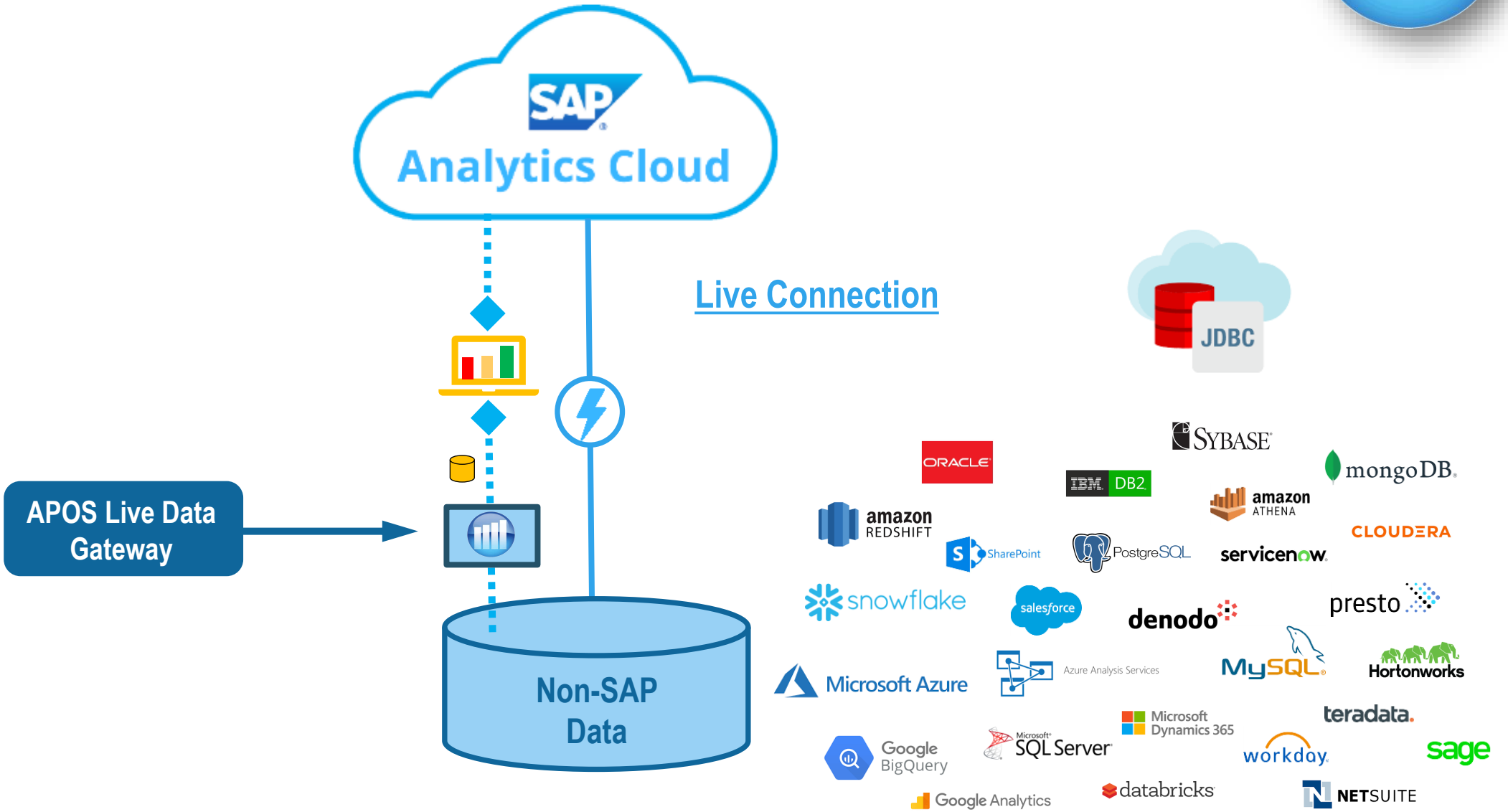
Live – Limited Sources Supported



APOS Live Data Gateway – Expand Live Options



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

Available on SAP Store

Customer Success

Major US energy company deploying Live Data Gateway to leverage live connection from SAC to Postgres and SharePoint stored data.

Large global construction equipment manufacturer utilizes Live Data Gateway to enable reporting via live connectivity to Salesforce data and Google Analytics data

European-based mining corporation utilizes Live Data Gateway for live connectivity to their AWS Redshift data assets.

Australian LNG use Live Data Gateway company for connectivity to Snowflake data for financial analytics and key monthly operational reports, alongside S/4HANA reporting.

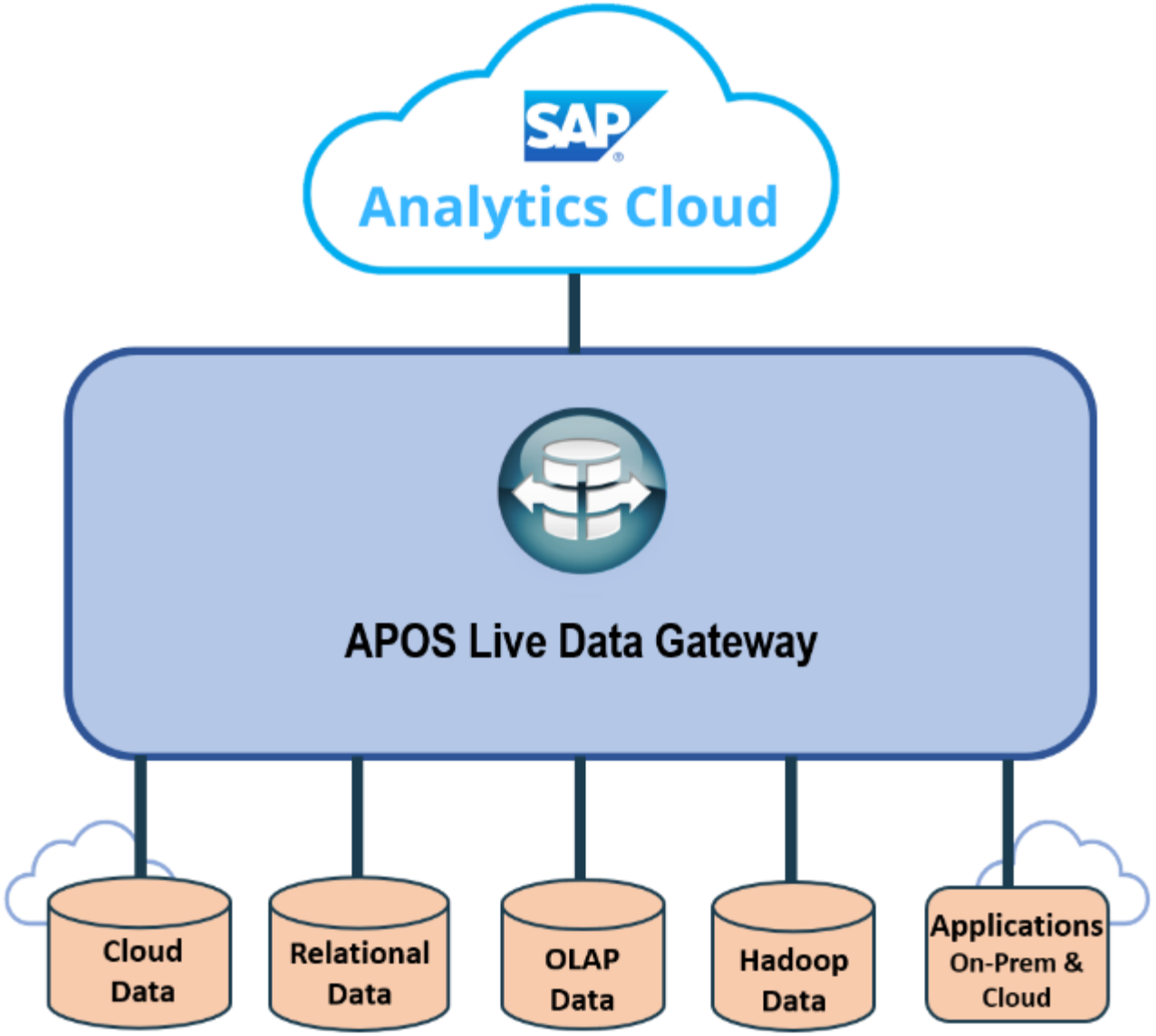
A global pharmaceutical corporation utilizes Live Data Gateway for live connection to Snowflake meeting strict security (SSO, OAuth) needs.

One of the 'Big 4' consulting firms leverages Live Data Gateway for an internal project that utilizes live connection from SAC to data in residing in Microsoft Azure

International banking group headquartered in France, utilizes Live Data Gateway for live SAC reporting to SAP Financial Consolidation module data (MS SQL Server)

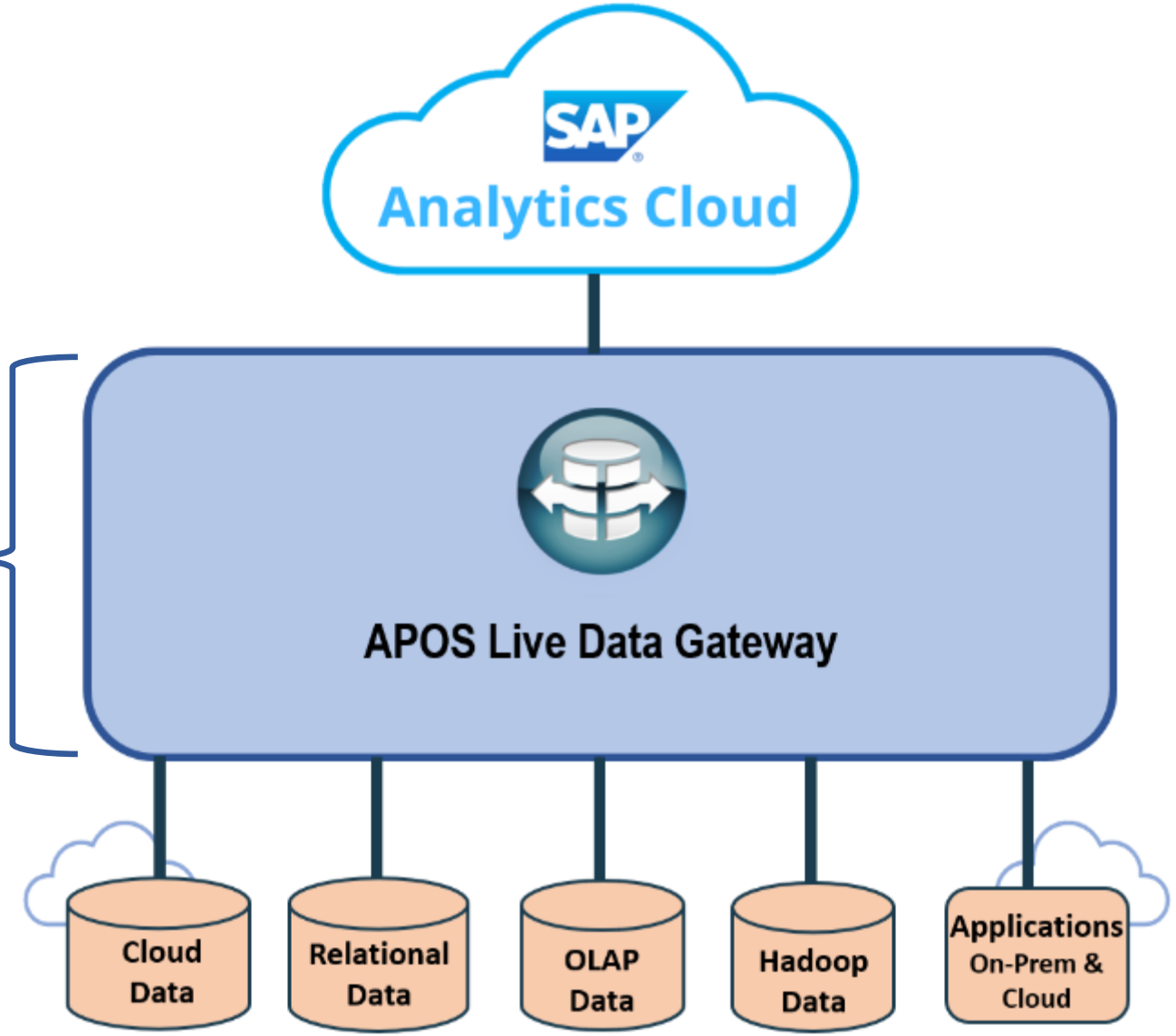
Alan Golding
Solution Consulting Manager
APOS

APOS Live Data Gateway

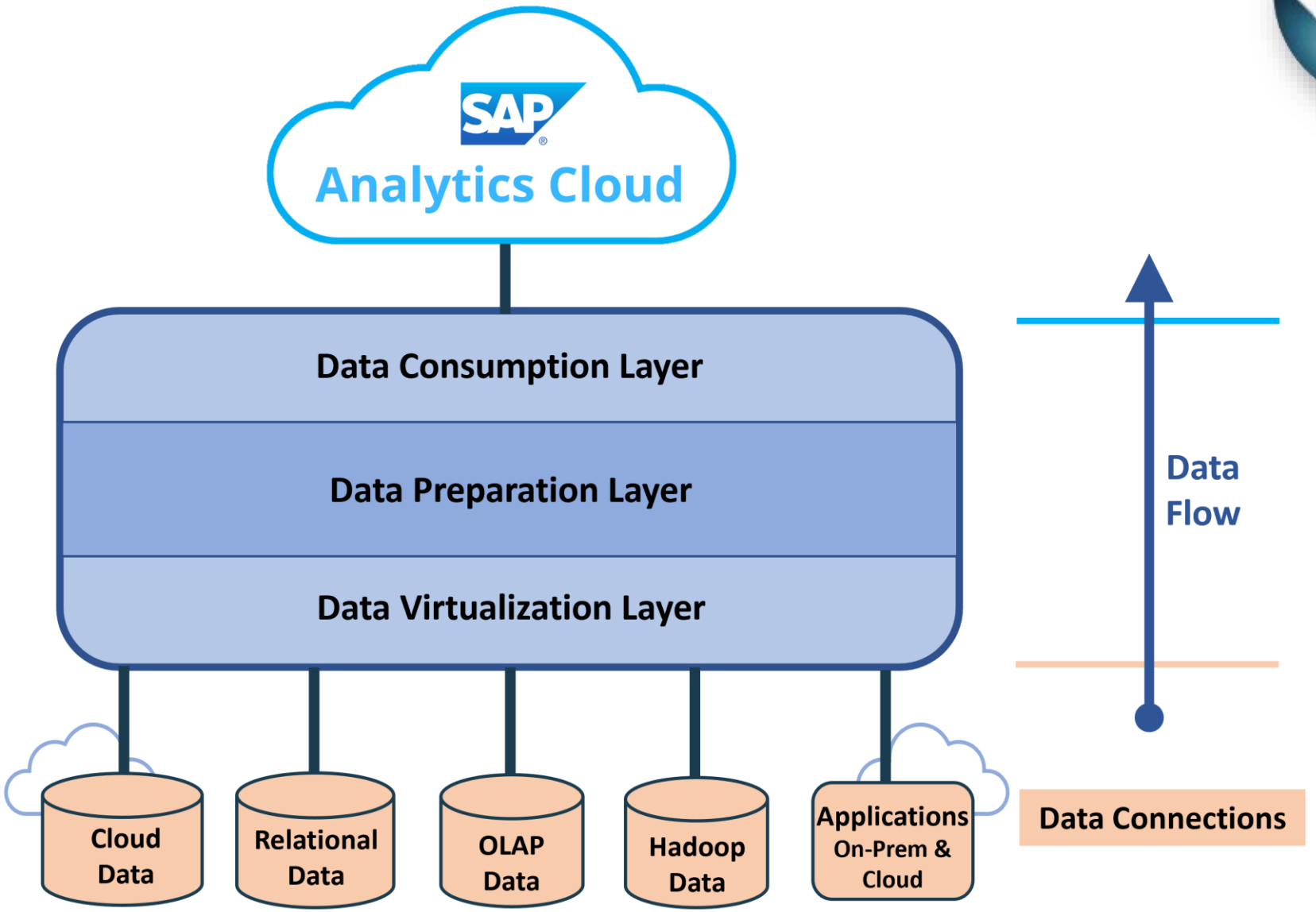


Live Data Gateway Server

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



APOS Live Data Gateway

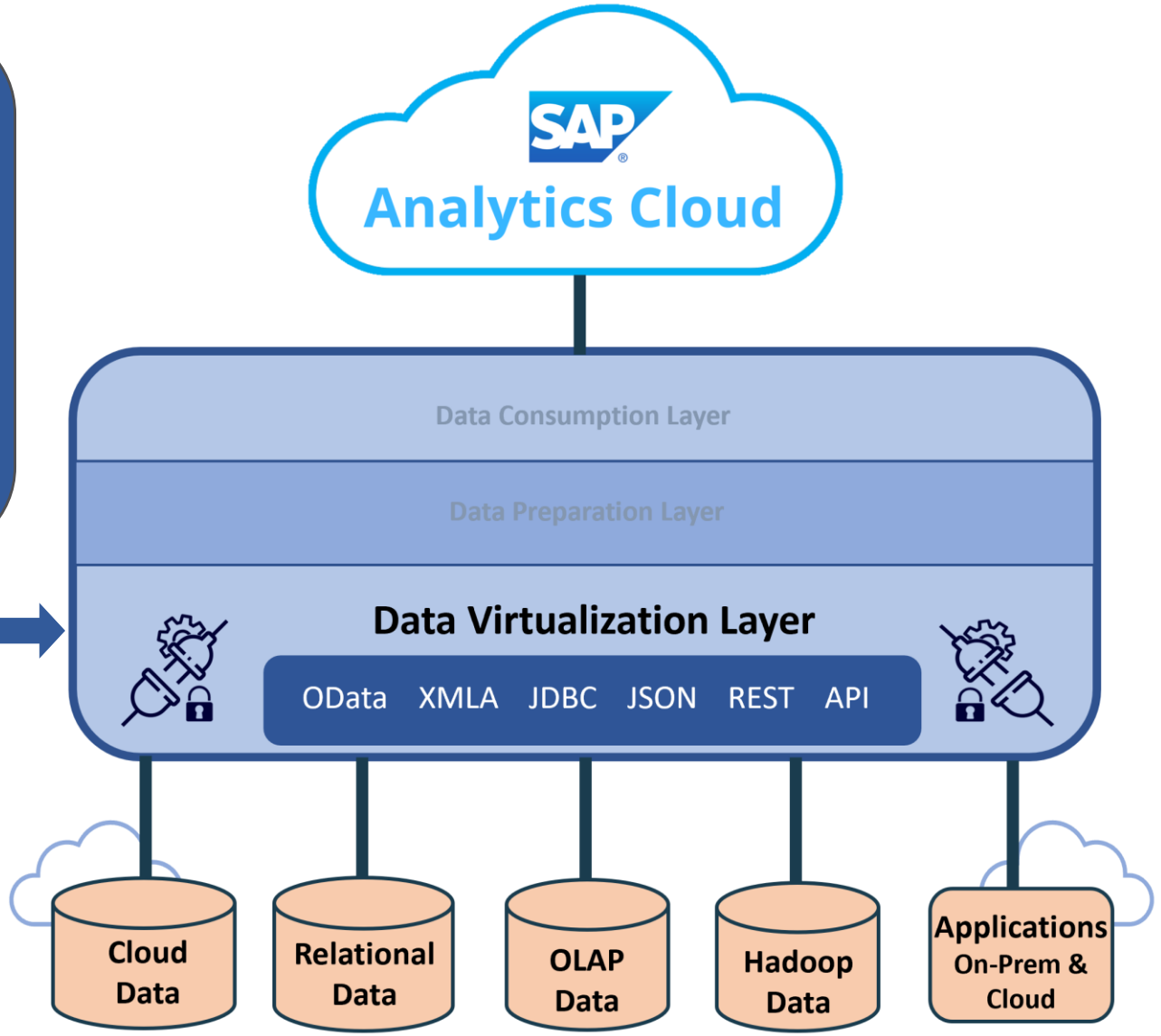


Database Virtualization Layer

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)

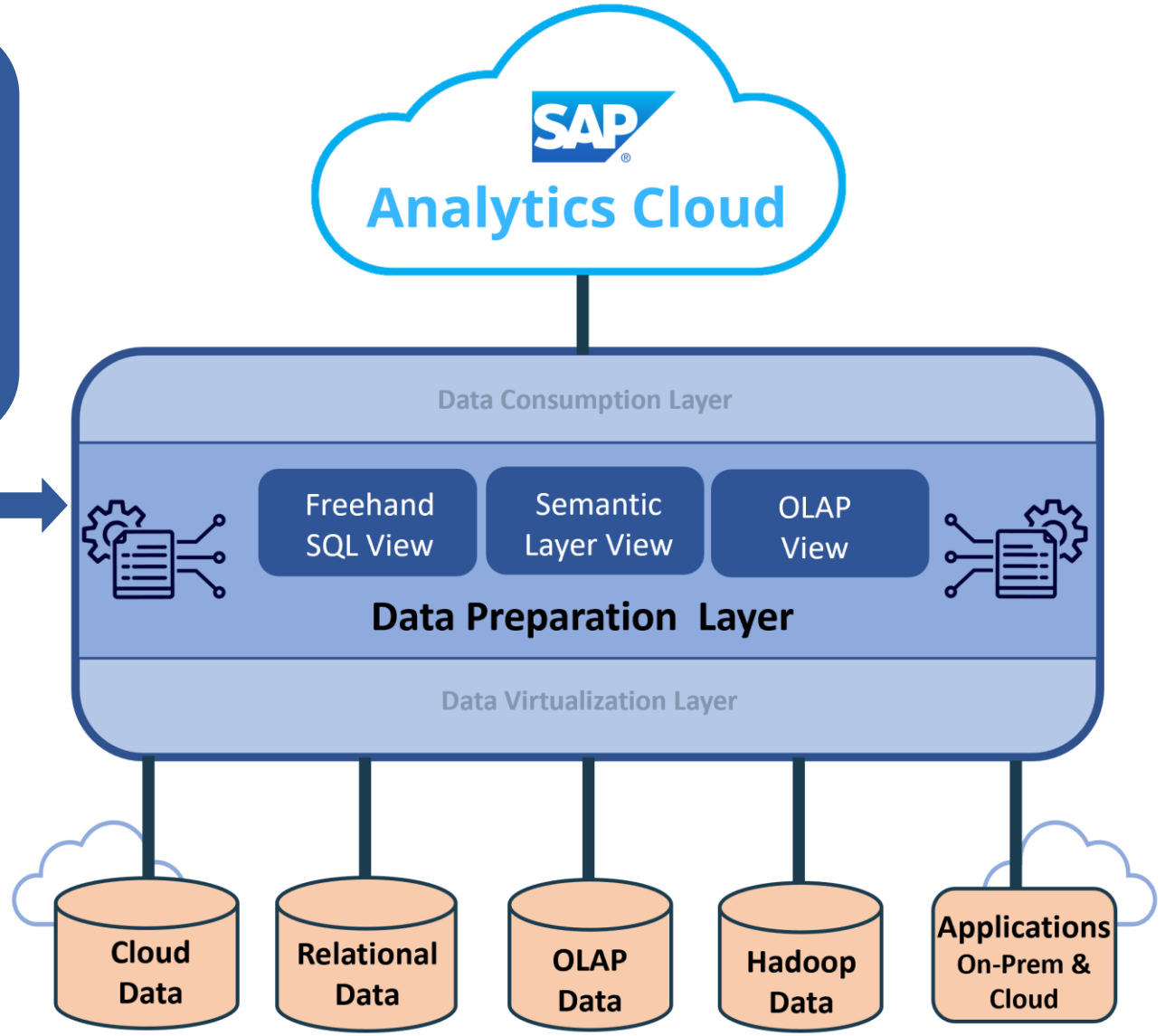


Data Preparation Layer

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

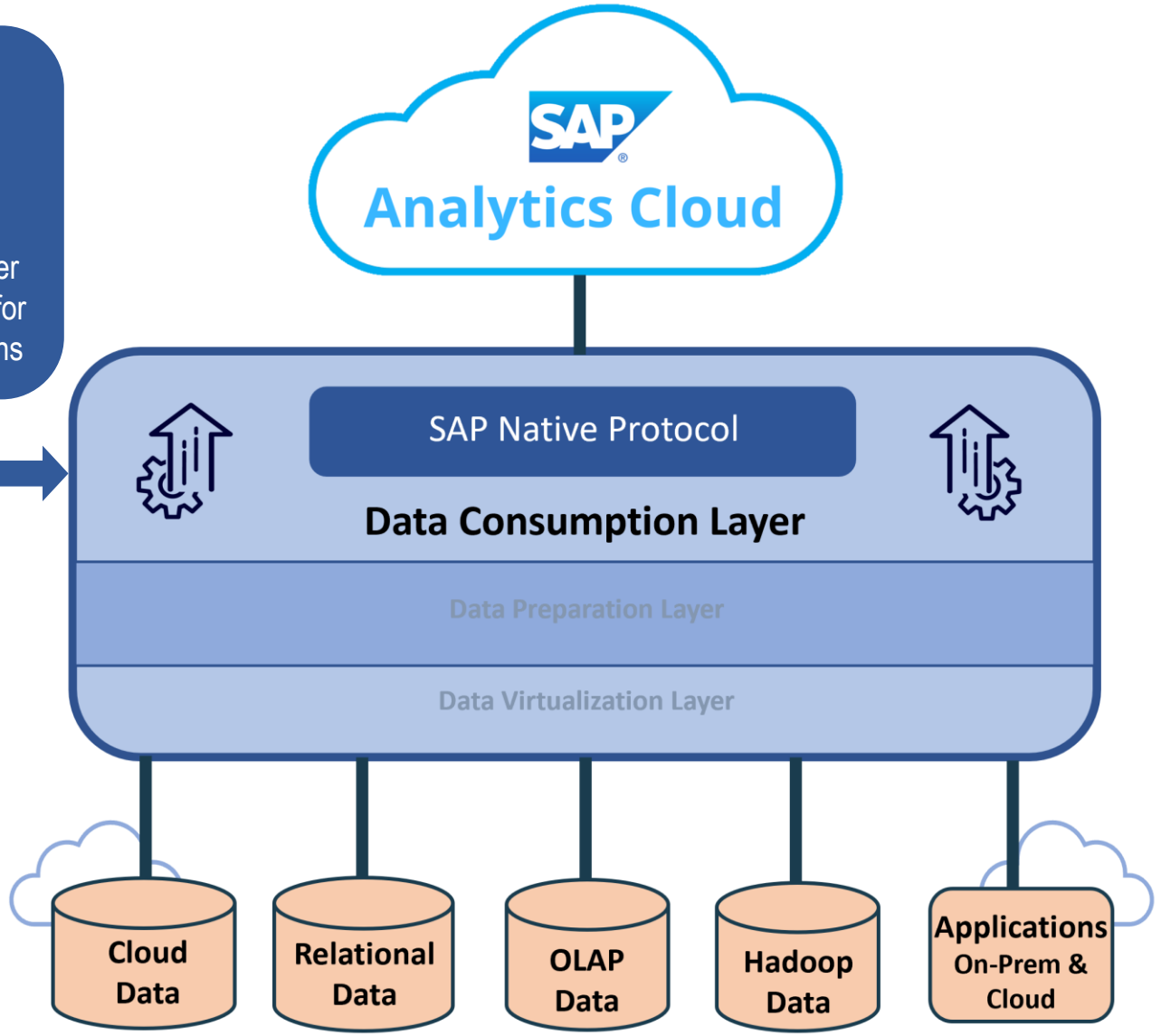


Data Consumption Layer

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



5 Simple Steps to Live Connectivity

1. Create connection from Live Data Gateway to data source
2. Create View in Data Preparation Layer of Live Data Gateway
3. Create connection from SAC to Live Data Gateway
4. Create Model / Data Set in SAC
5. Create SAC Report

Demonstrating the 5 Steps

5

Create SAC Report

4

Create Model / Data Set in SAC

3

Create connection from SAC to Live Data Gateway

SAC Story Creator

SAC Consumers

Data Consumption Layer

Create View in Data Preparation Layer of Live Data Gateway

2

LDG View Builder

Data Preparation Layer

Create connection from Live Data Gateway to data source

1

LDG Administrator

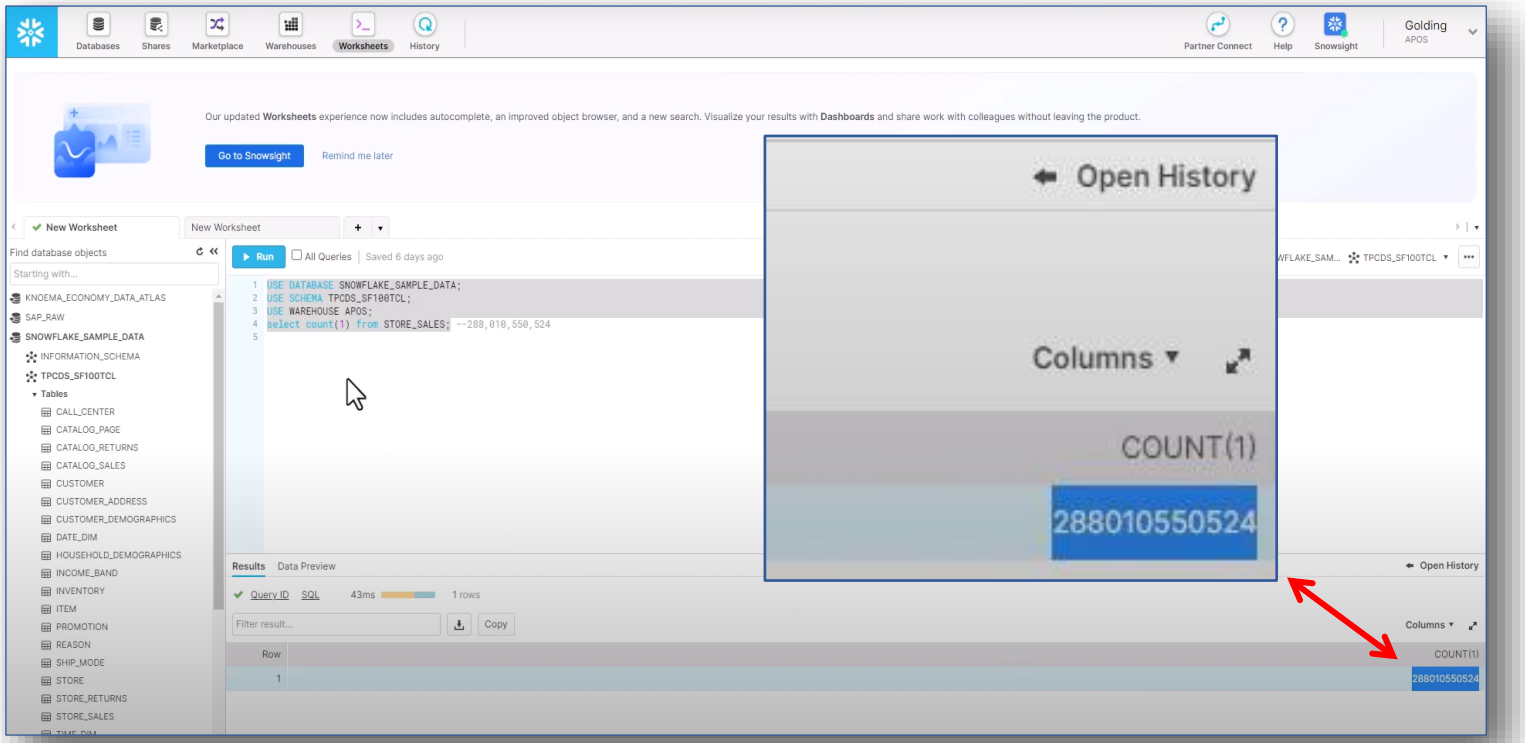
Data Virtualization Layer

Solution Overview

Performance

Performance Considerations

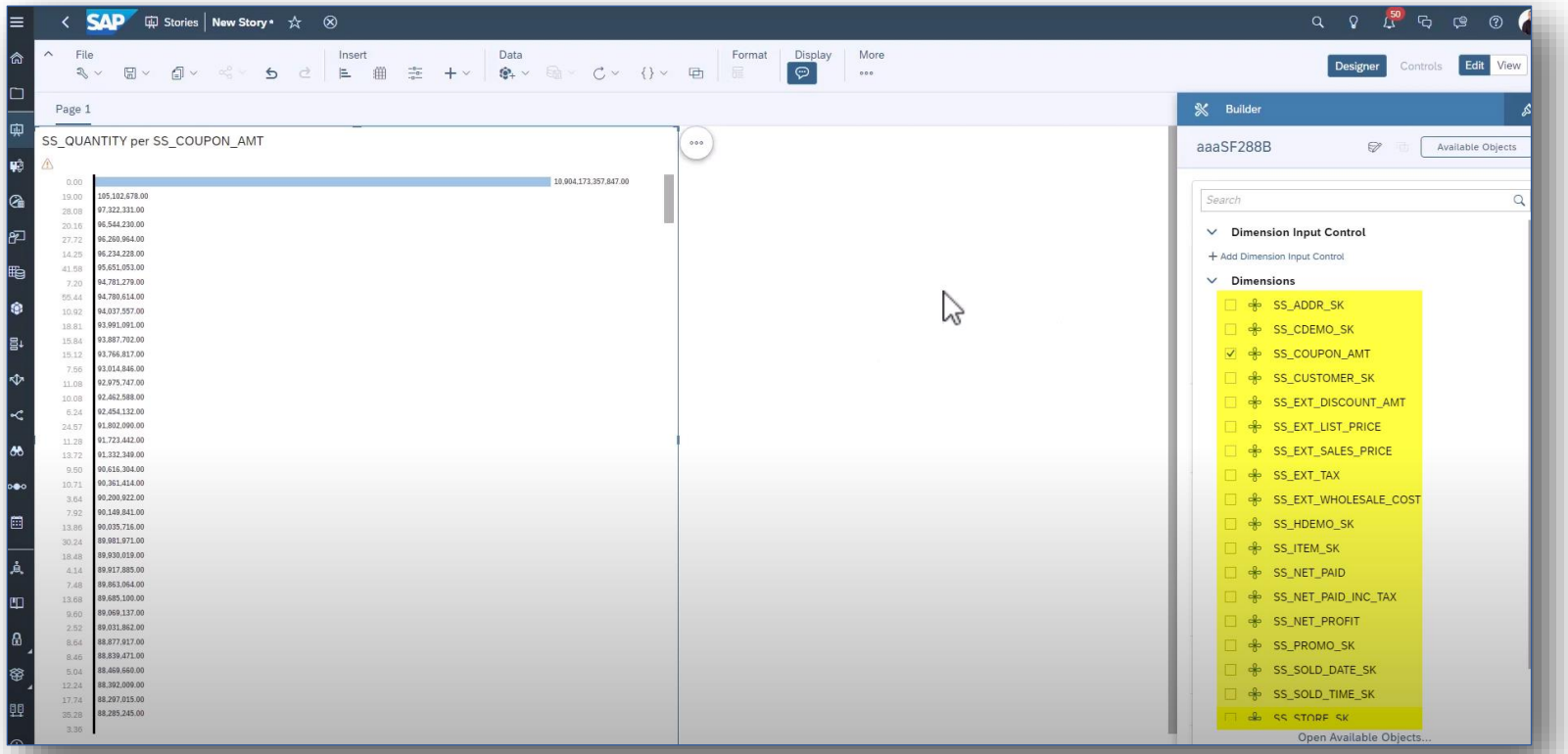
- No data being stored
- Data being read from source database
- No caching of data
- New queries initiated with each data request within SAC



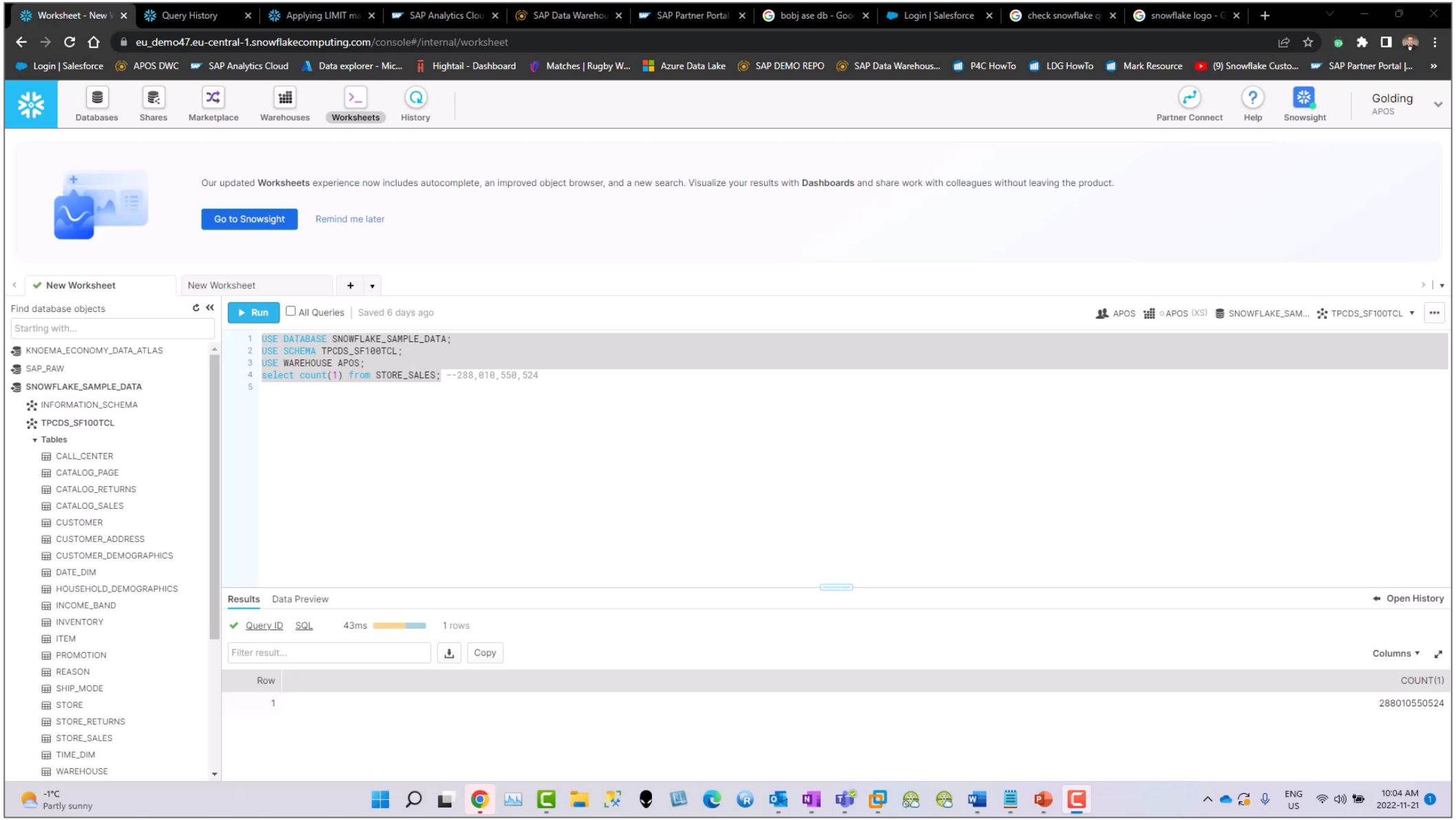
APOS Live Data Gateway – Performance Results

- 288 billion row data set
- 10.5 Terabytes
- On-the-fly aggregated queries

- Sub-2 second response time !



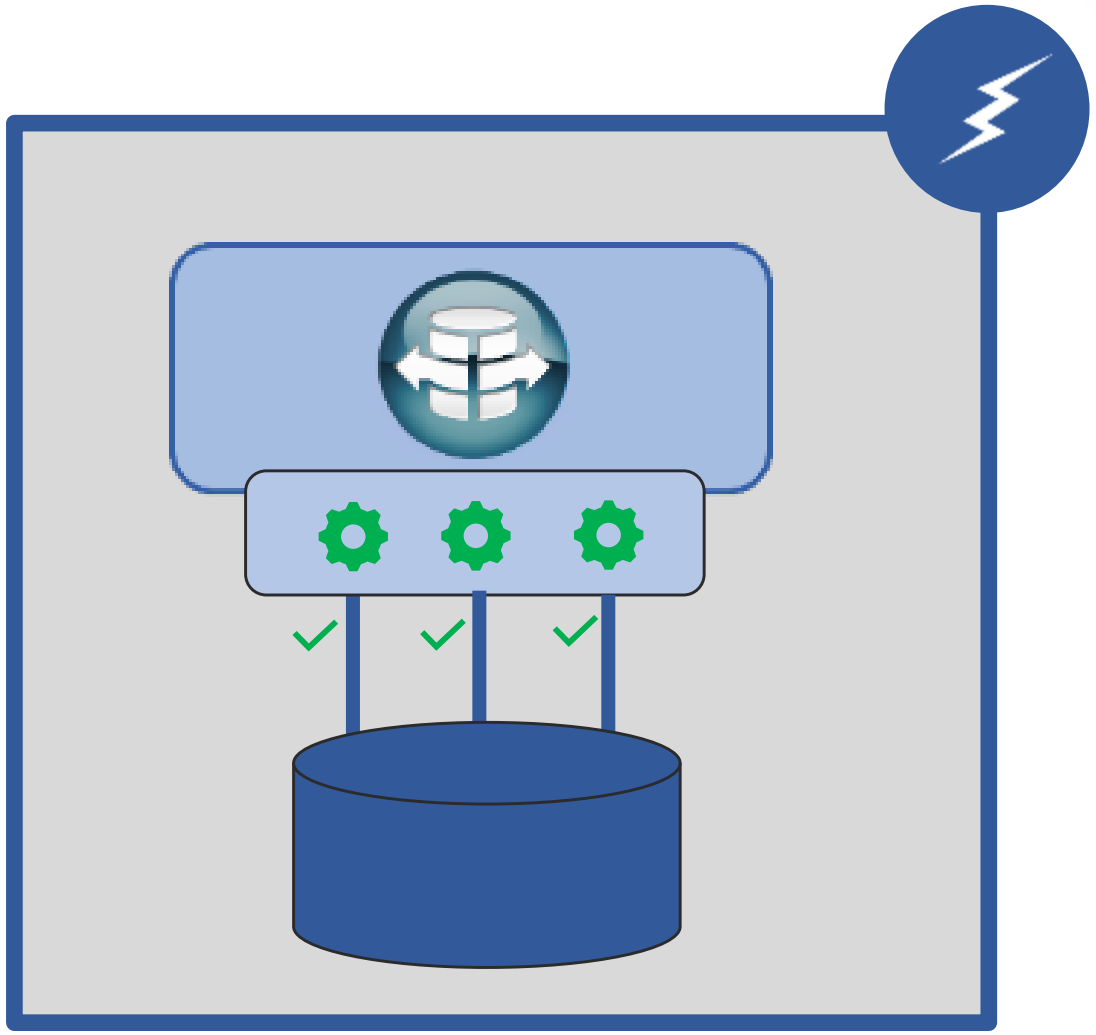
APOS Live Data Gateway



APOS Live Data Gateway – Performance

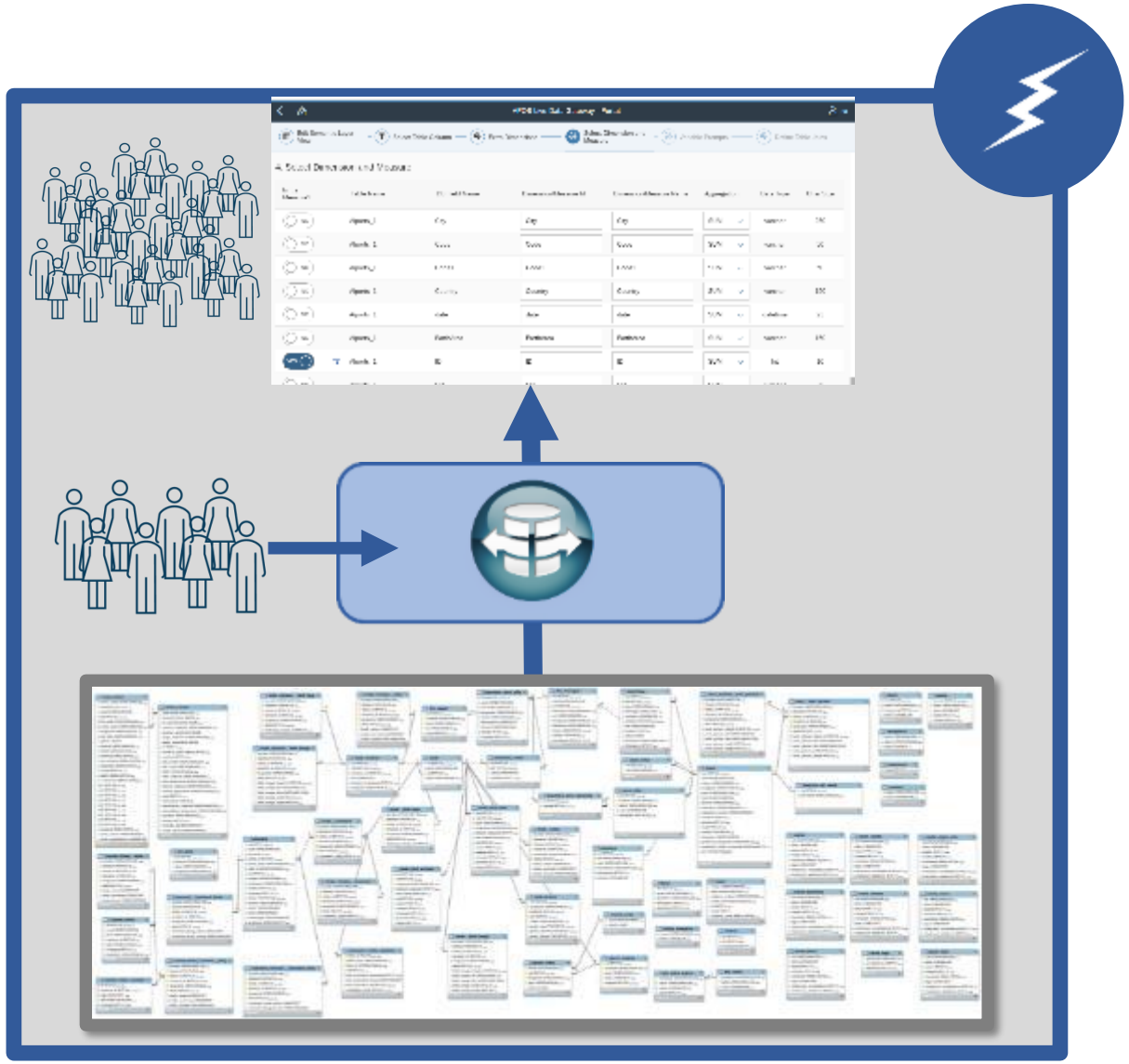
Connection Optimization

- Intelligent connection management
- Improved connection efficiency
- Reduce connection process overhead
- Improved Live Data Gateway performance and SAC report execution speeds



Data Transformations

APOS Live Data Gateway – Data Transformations

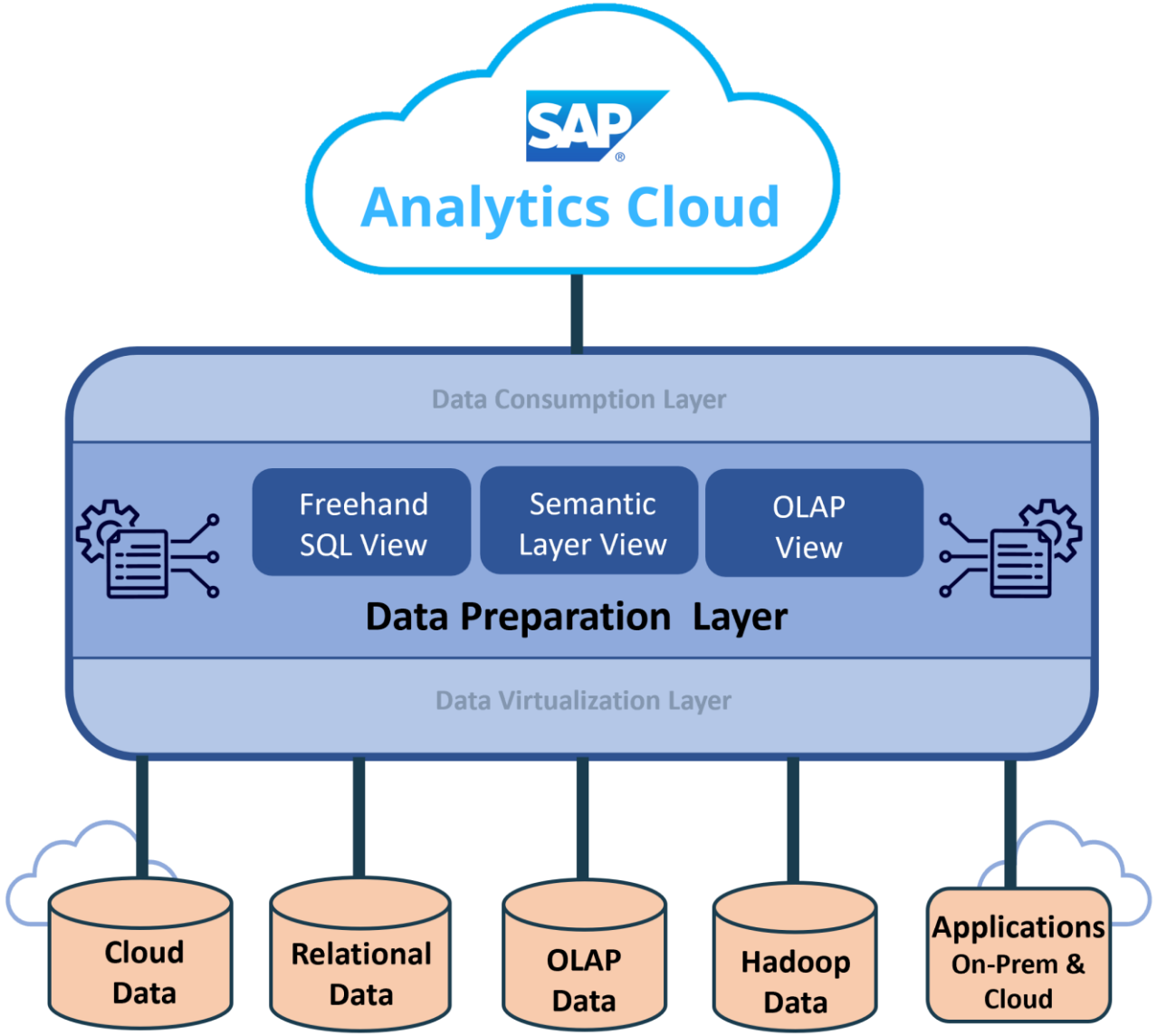


Self-Service Data Modelling

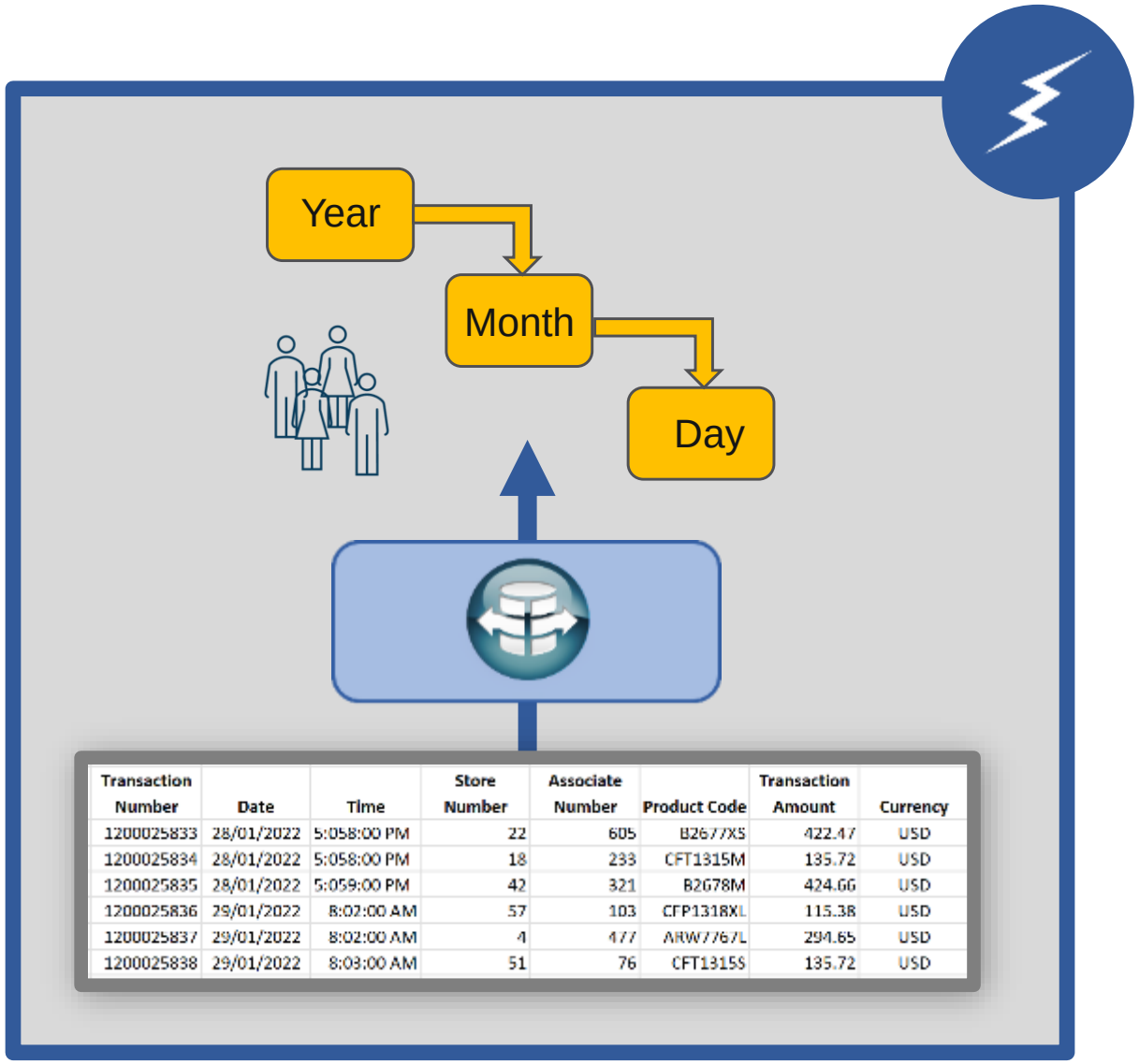
- Self-service creation of data modelling assets
- Expand from self-service analytics to self-service modelling
- Strengthen independence of analytics team
- Reduce IT dependence

- Web-based modelling interface
- Controlled user access to modelling
- SSO enabled
- Multiple options for building views

Data Preparation Layer



Data Transformations



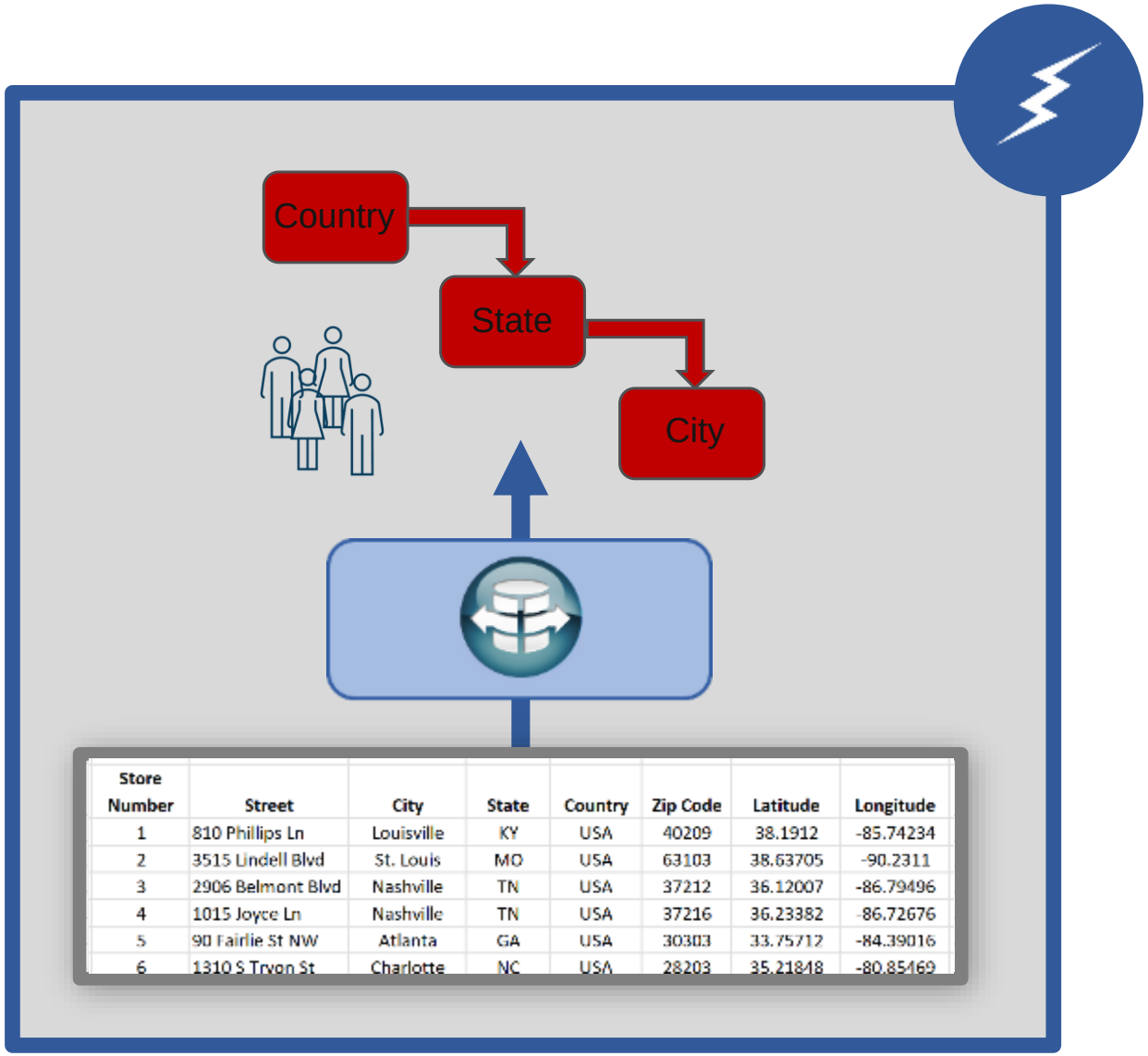
Transaction Number	Date	Time	Store Number	Associate Number	Product Code	Transaction Amount	Currency
1200025833	28/01/2022	5:058:00 PM	22	605	B2677XS	422.47	USD
1200025834	28/01/2022	5:058:00 PM	18	233	CFT1315M	135.72	USD
1200025835	28/01/2022	5:059:00 PM	42	321	B2678M	424.66	USD
1200025836	29/01/2022	8:02:00 AM	57	103	CFP1318XL	115.38	USD
1200025837	29/01/2022	8:02:00 AM	4	477	ARW776/L	294.65	USD
1200025838	29/01/2022	8:03:00 AM	51	76	CFT1315S	135.72	USD

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

Data Transformations

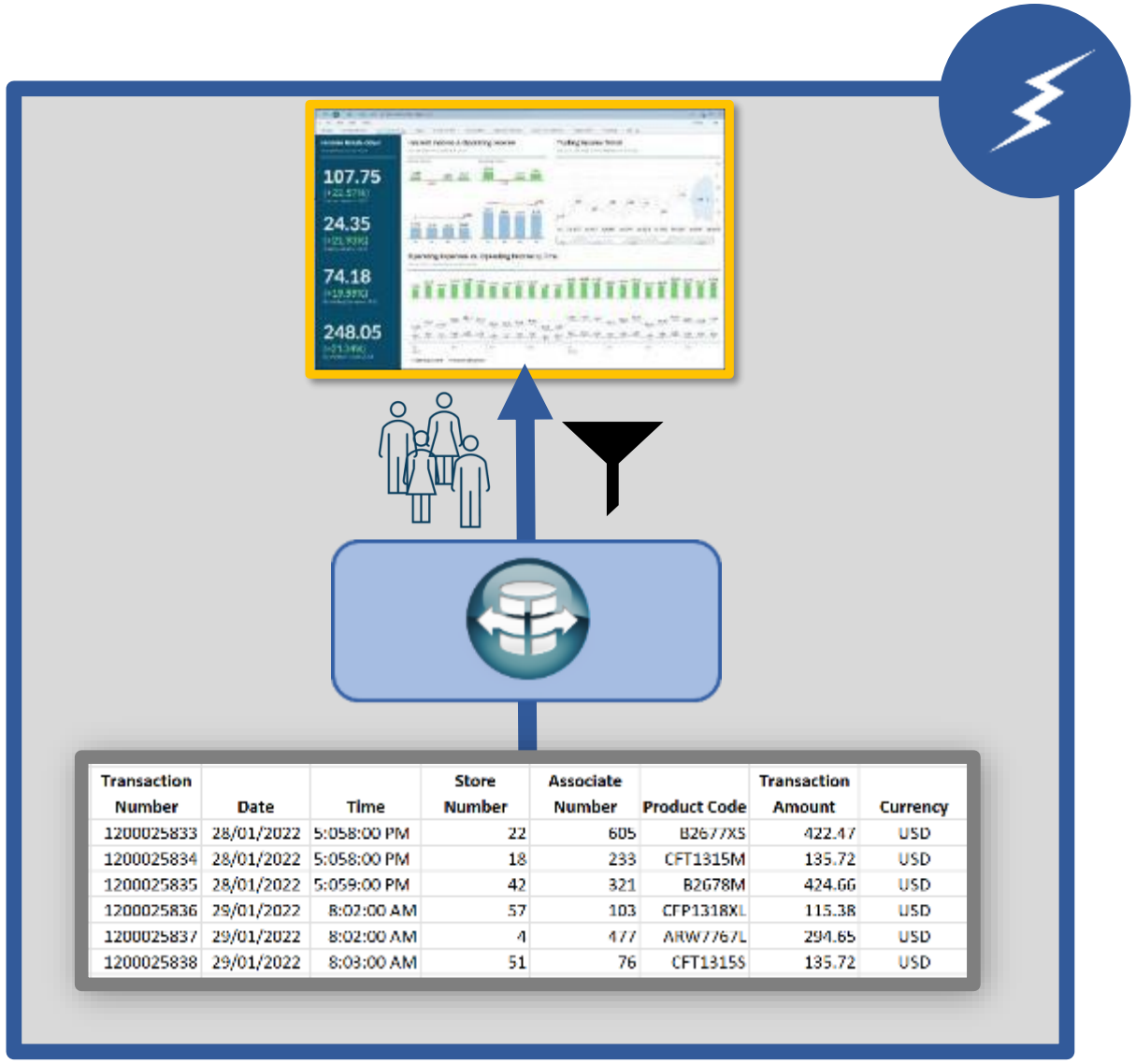


Custom Hierarchies

- 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

Data Transformations



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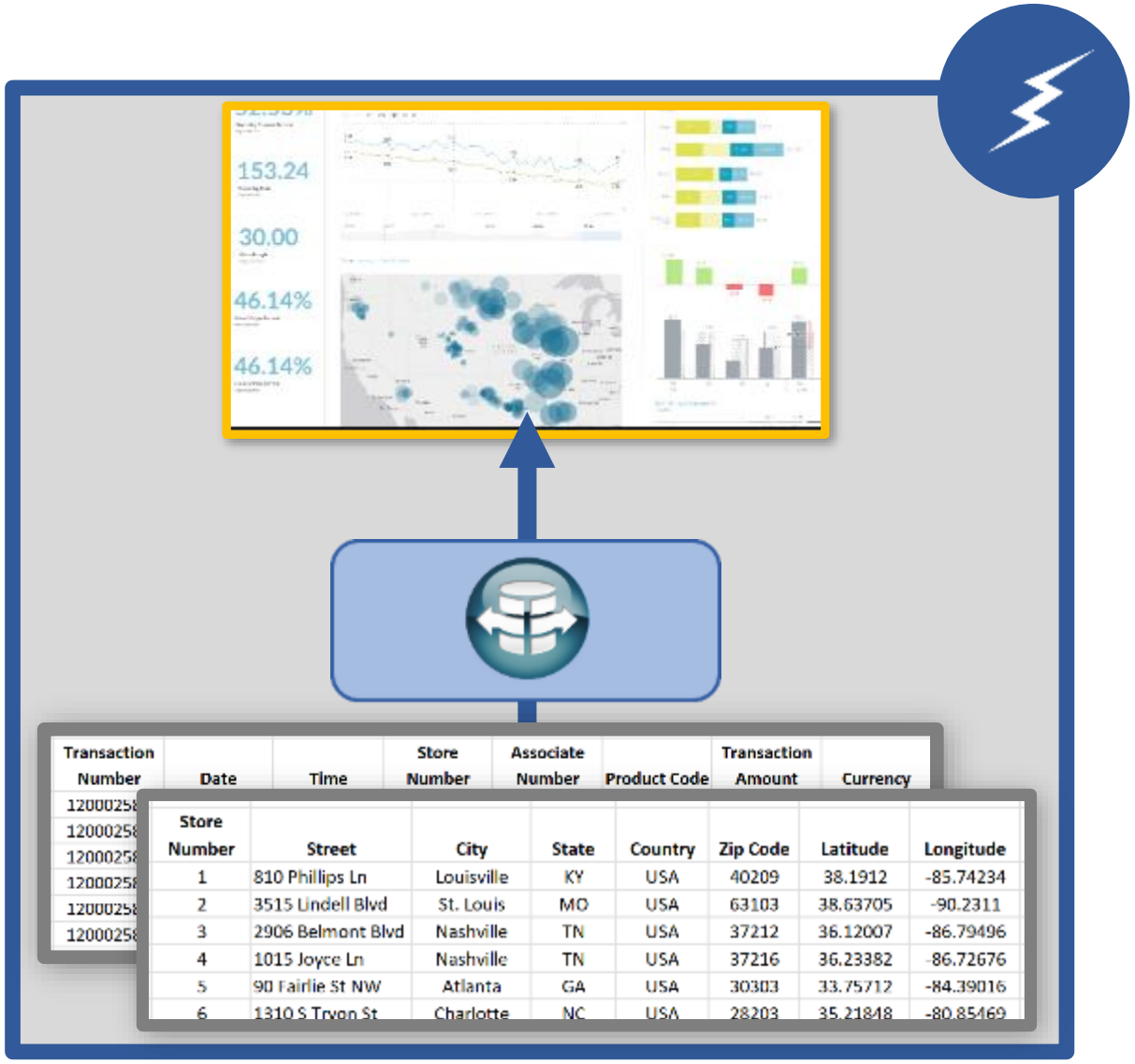
1200025838	29/01/2022	8:03:00 AM	51	76	CFT1315S	135.72	USD

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

Data Transformations

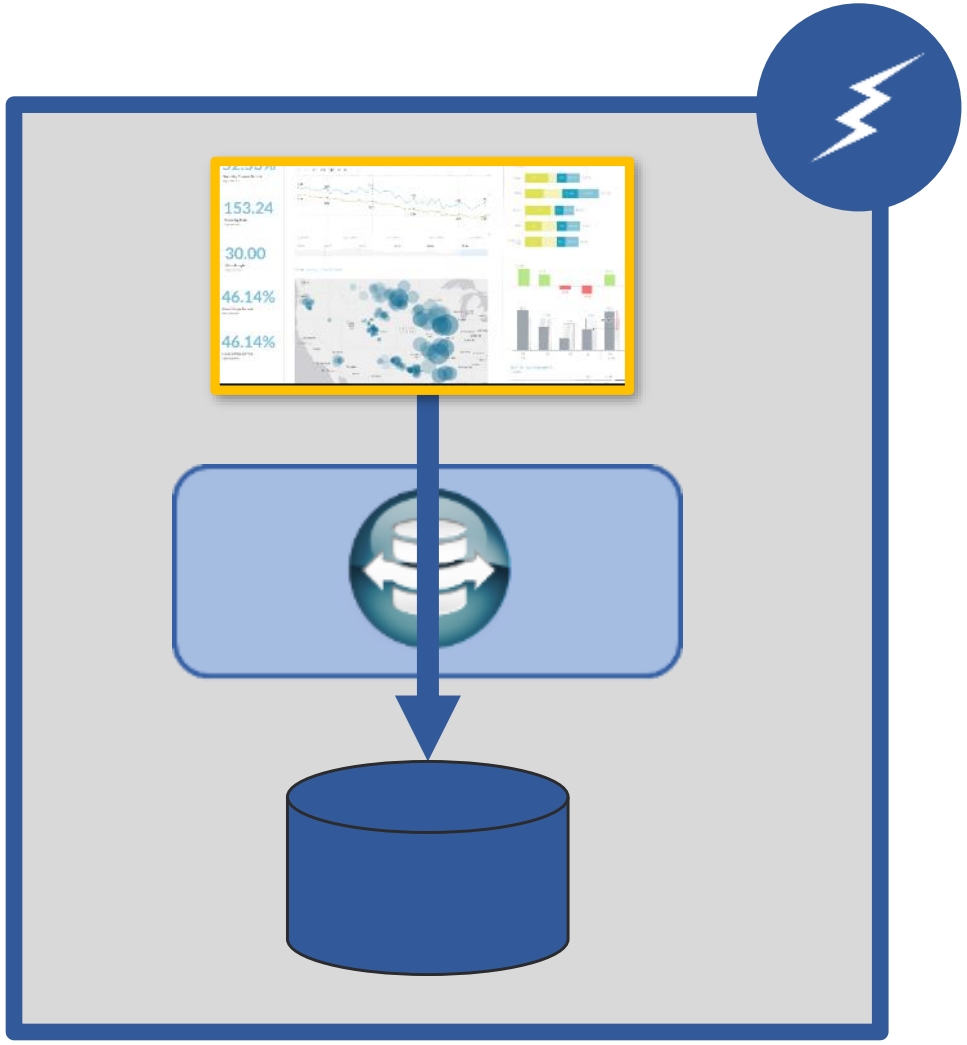


Geospatial Data

- 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

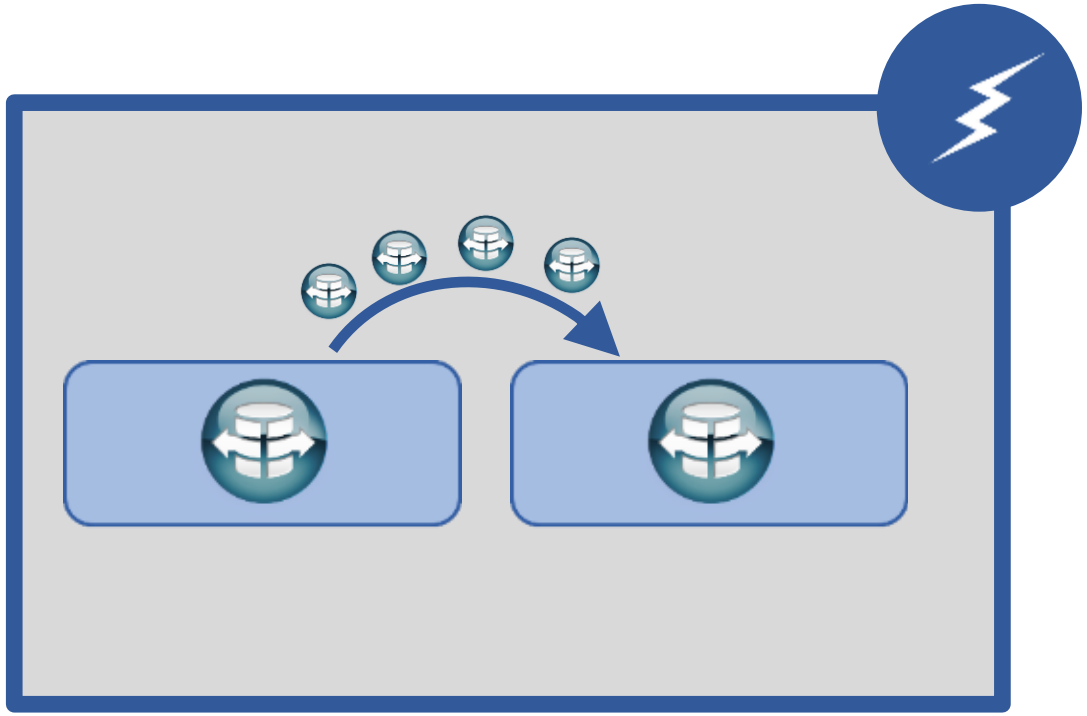
Data Transformations



Database Passthrough

- Optional database passthrough rather than building APOS semantic layer views
- Direct access to database tables or views
- Automated defining of measures & dimensions
- Removes need for duplicate modelling when already exists
- Access full database catalogue

Data Transformations



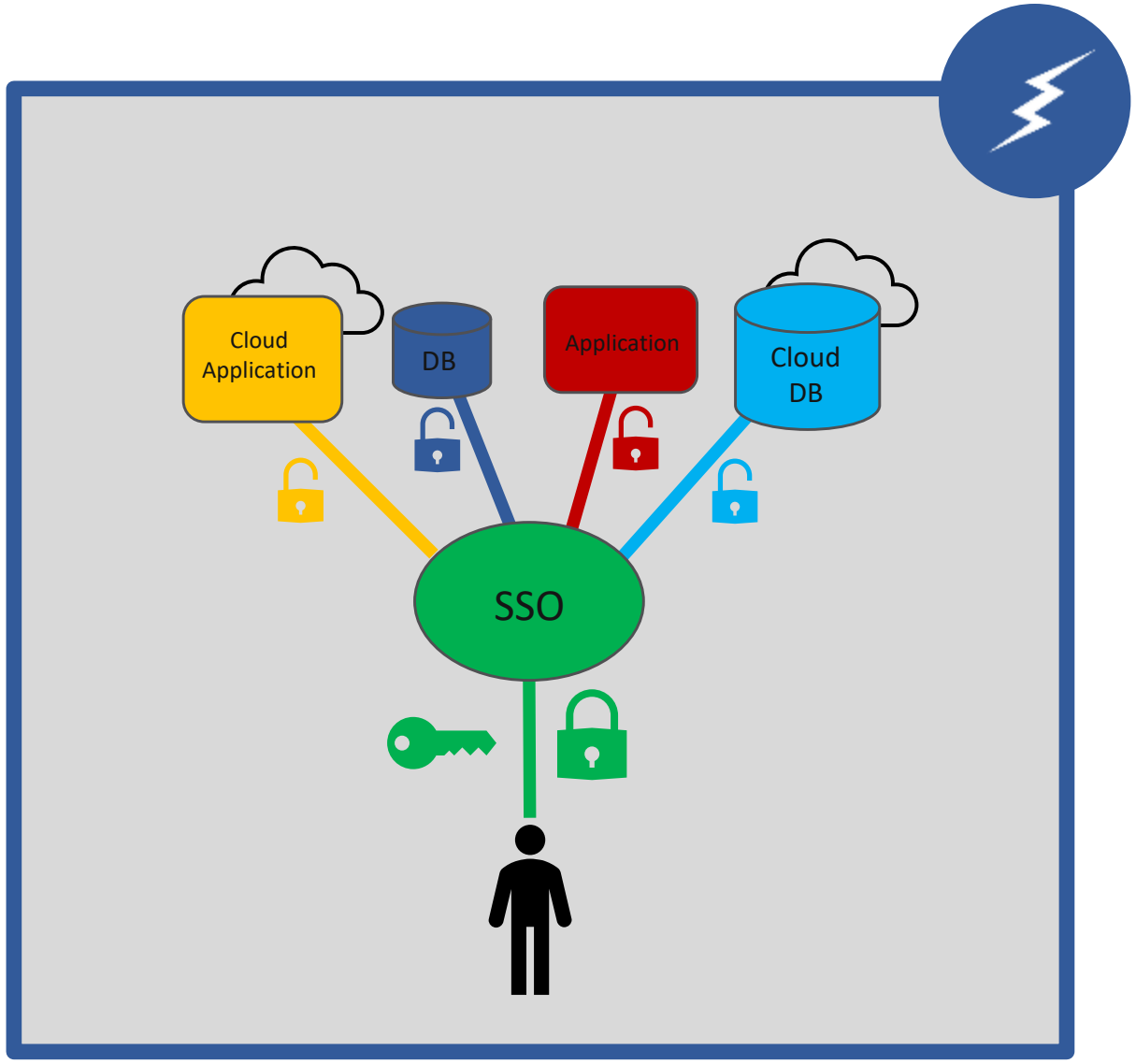
View Management

- Backup and restore of APOS Views
- Seamless migration between Live Data Gateway environments (Dev/Test/Prod)
- APOS View Rollback
- Safeguard Views through development lifecycle

Data Preparation Layer Overview

Security

APOS Live Data Gateway – Security

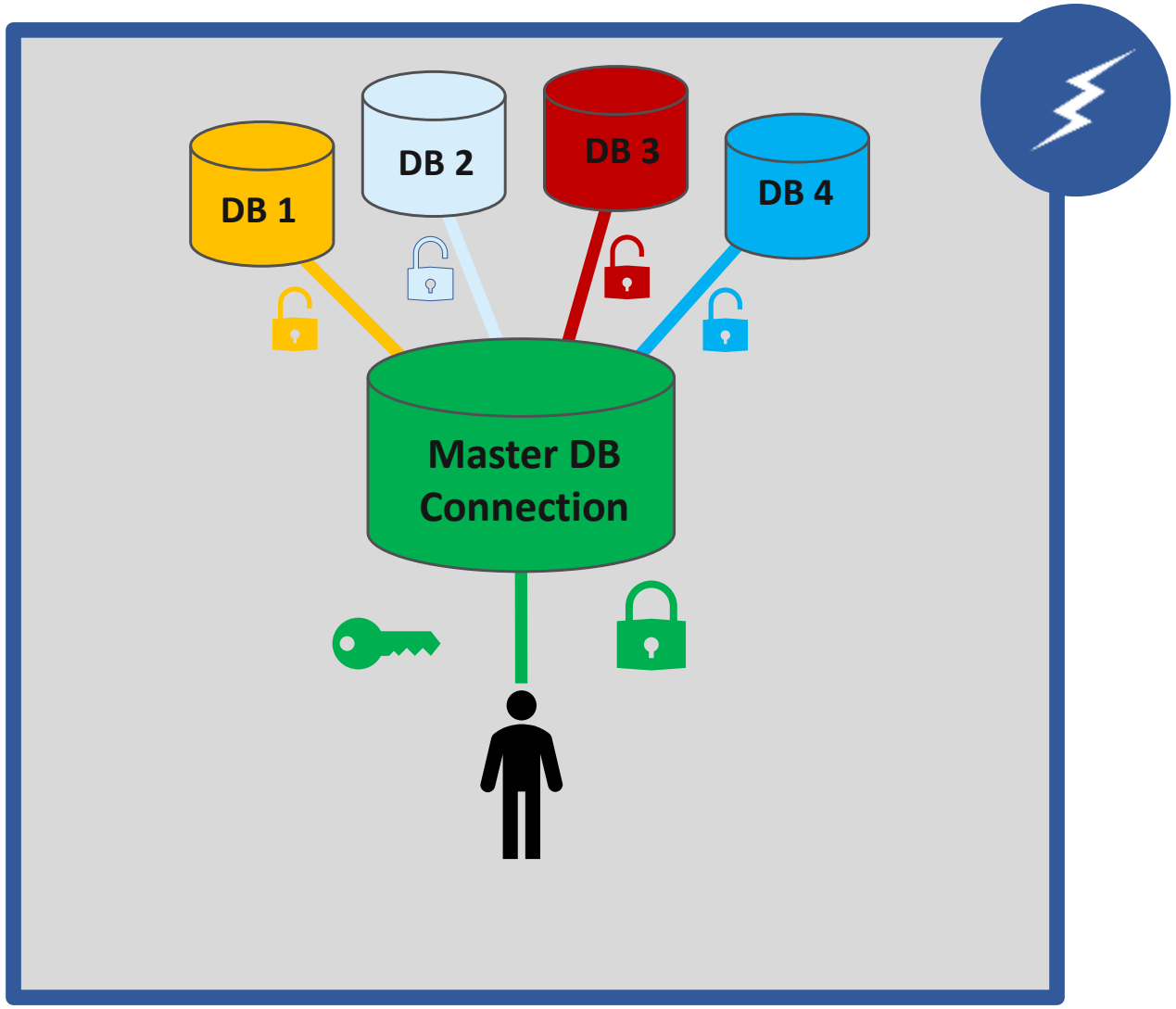


Single Sign On

- Unified security authentication
- Integrated to enforce data base security
- Simplified user experience

- Various SSO options supported
- SSO Technologies we work with:
  - SAML
  - Azure AD
  - OKTA
  - Google Cloud IDP
  - OAuth
  - Kerberos with WinAD
  - Keypair Authentication
  - User Impersonation
  - Pre-Defined Cached User

APOS Live Data Gateway – Security



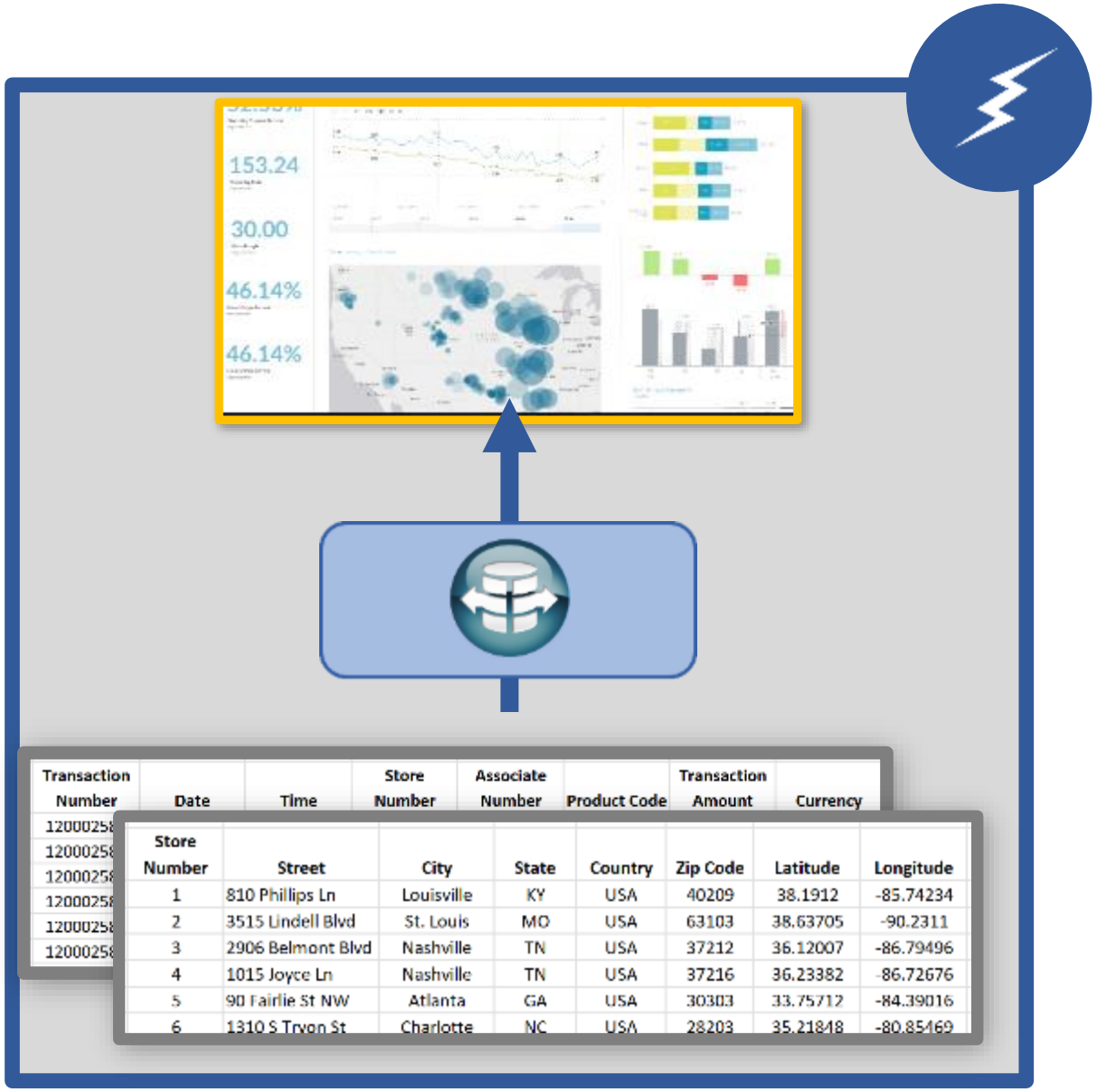
Shared Connectivity

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

Connection & Security Overview

Expanded Connections

Cloud Data Sources



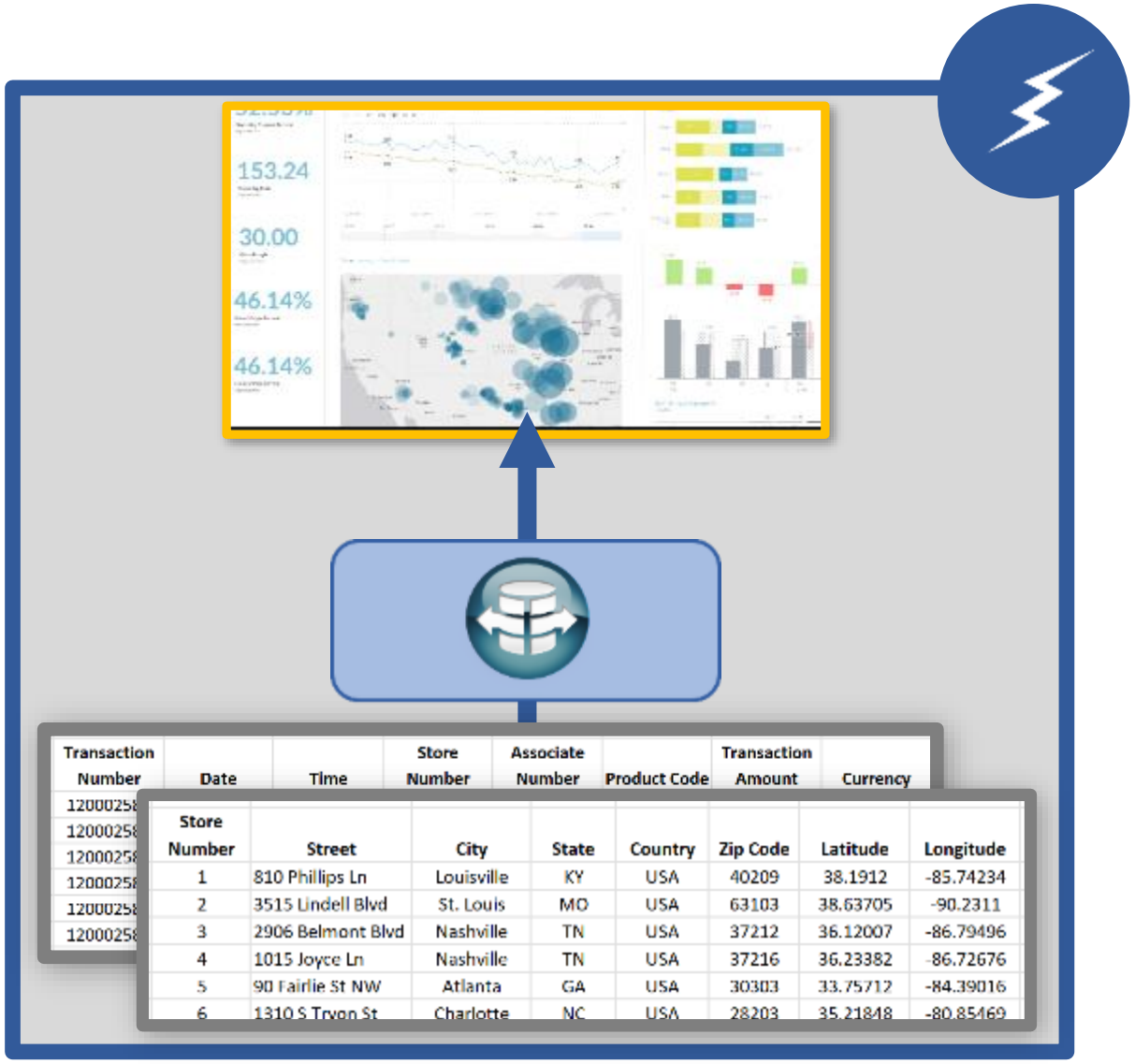
snowflake

Google BigQuery

aws

Microsoft Azure

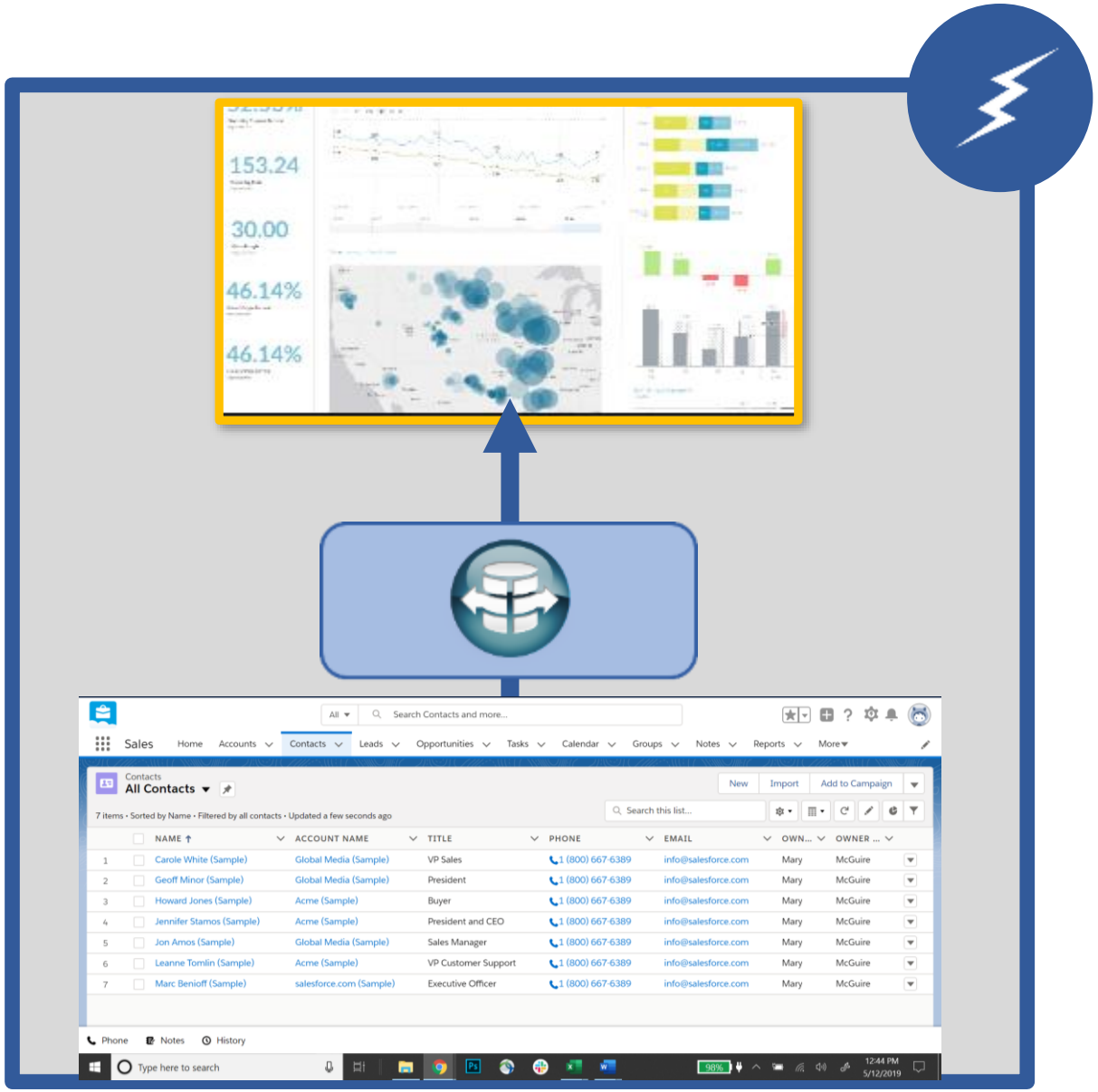
Unique Data Sources



SharePoint

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

Unique Data Sources



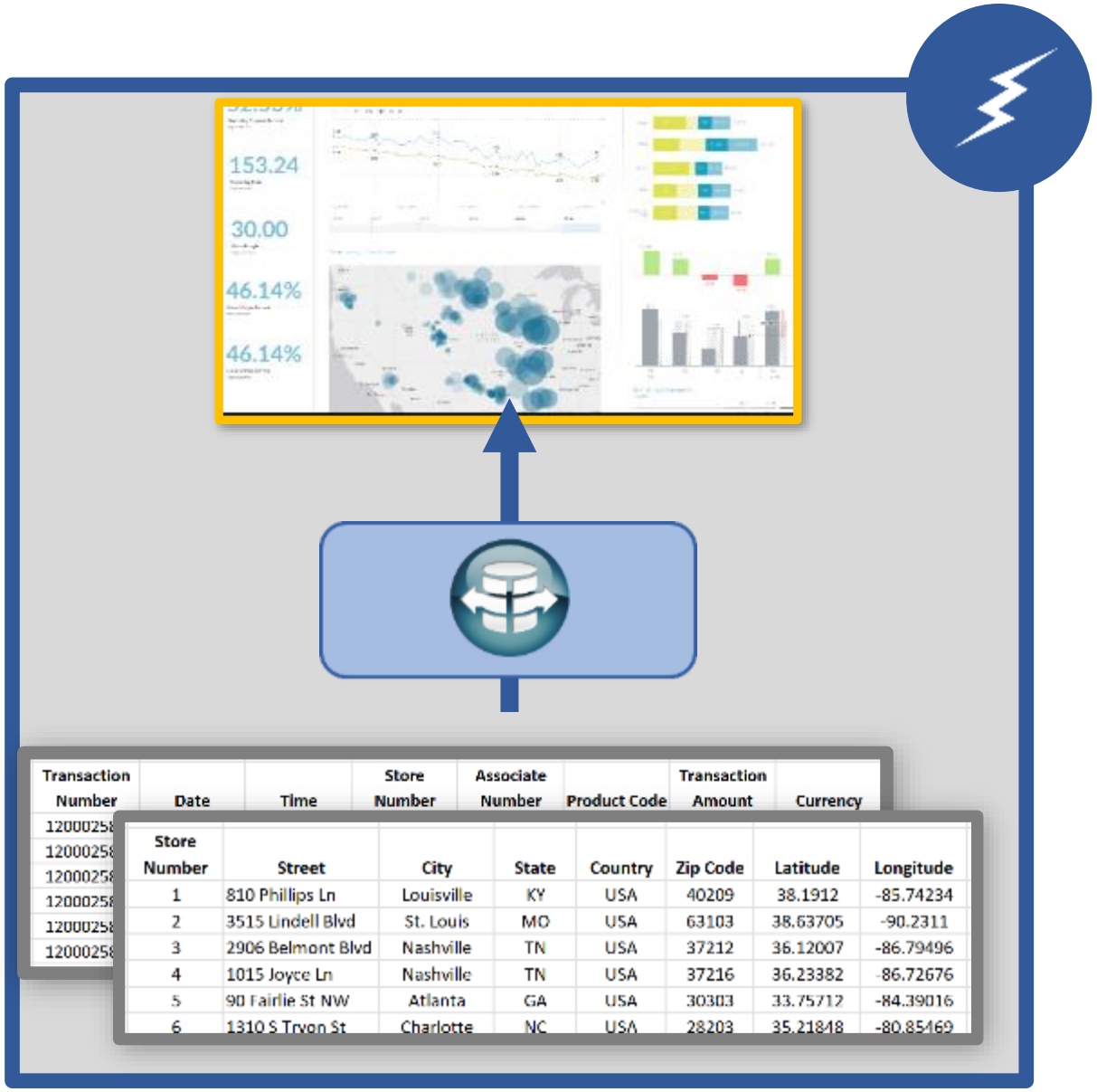
- ✓ Salesforce Accounts
- ✓ Salesforce Opportunities
- ✓ Salesforce Customers
- ✓ etc.

Unique Data Sources

Google Analytics

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

Generic JDBC Connectivity



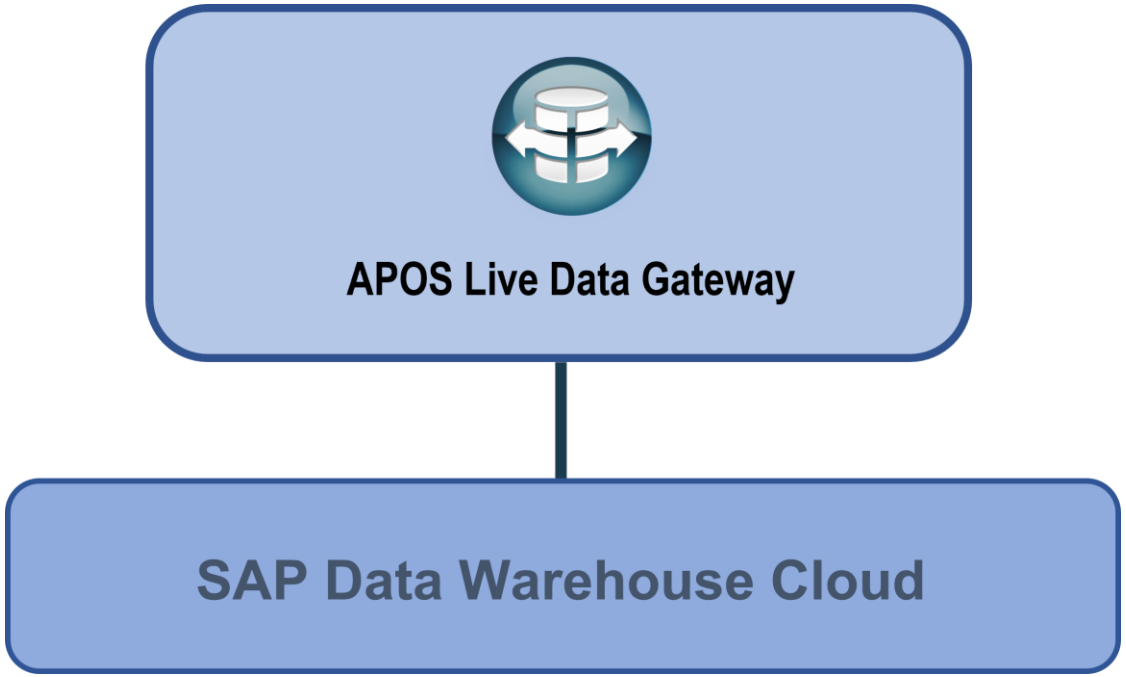
Transaction Number	Date	Time	Store Number	Associate Number	Product Code	Transaction Amount	Currency
1200025							
1200025							
1200025							
1200025							
1200025							
1200025							

Store Number	Street	City	State	Country	Zip Code	Latitude	Longitude
1	810 Phillips Ln	Louisville	KY	USA	40209	38.1912	-85.74234
2	3515 Lindell Blvd	St. Louis	MO	USA	63103	38.63705	-90.2311
3	2906 Belmont Blvd	Nashville	TN	USA	37212	36.12007	-86.79496
4	1015 Joyce Ln	Nashville	TN	USA	37216	36.23382	-86.72676
5	90 Fairlie St NW	Atlanta	GA	USA	30303	33.75712	-84.39016
6	1310 S Tryon St	Charlotte	NC	USA	28203	35.21848	-80.85469

Generic JDBC

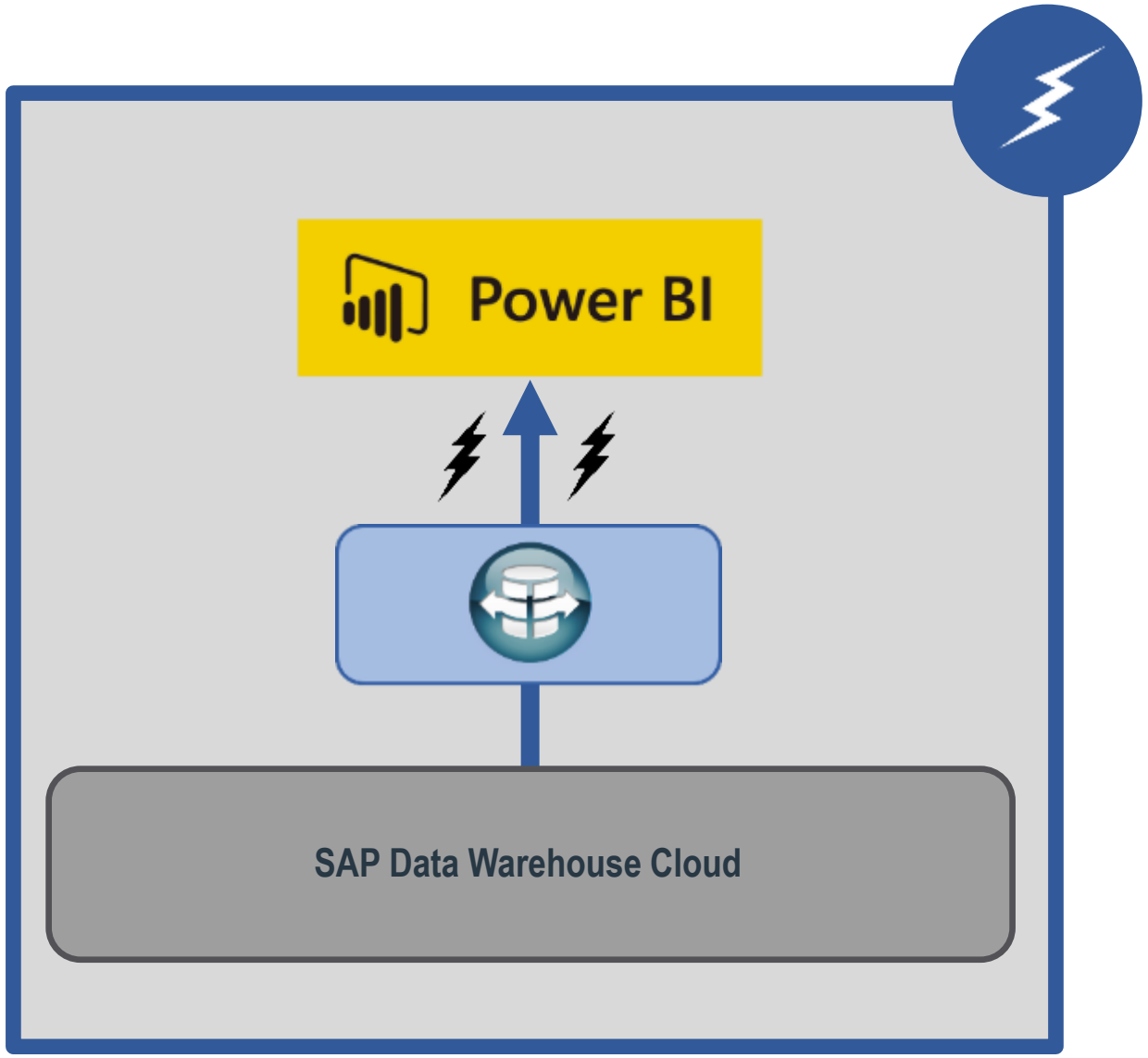
- ✓ Live connectivity to other data sources that support JDBC with APOS Live Data Gateway

Live Connectivity to SAP Datasphere



Expanded Consumption

APOS Live Data Gateway

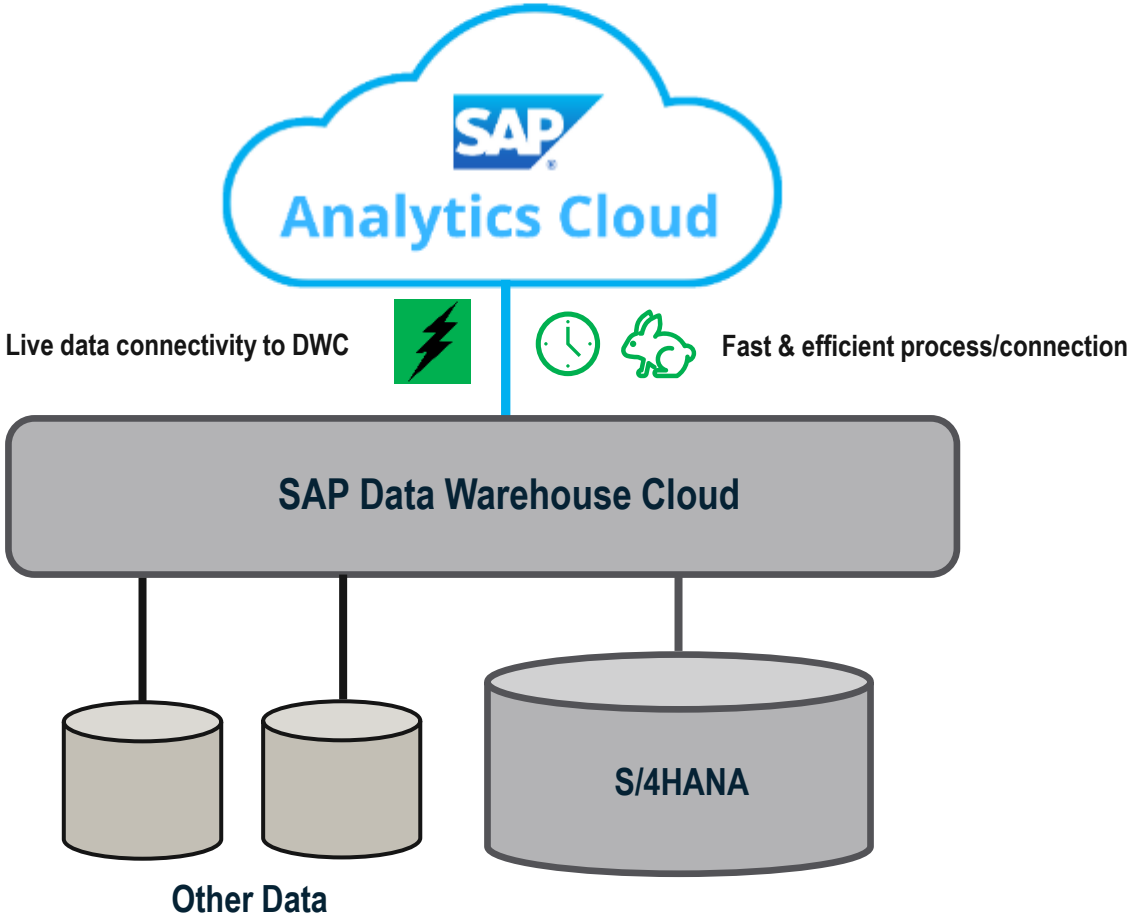


Power BI to SAP Datasphere Support

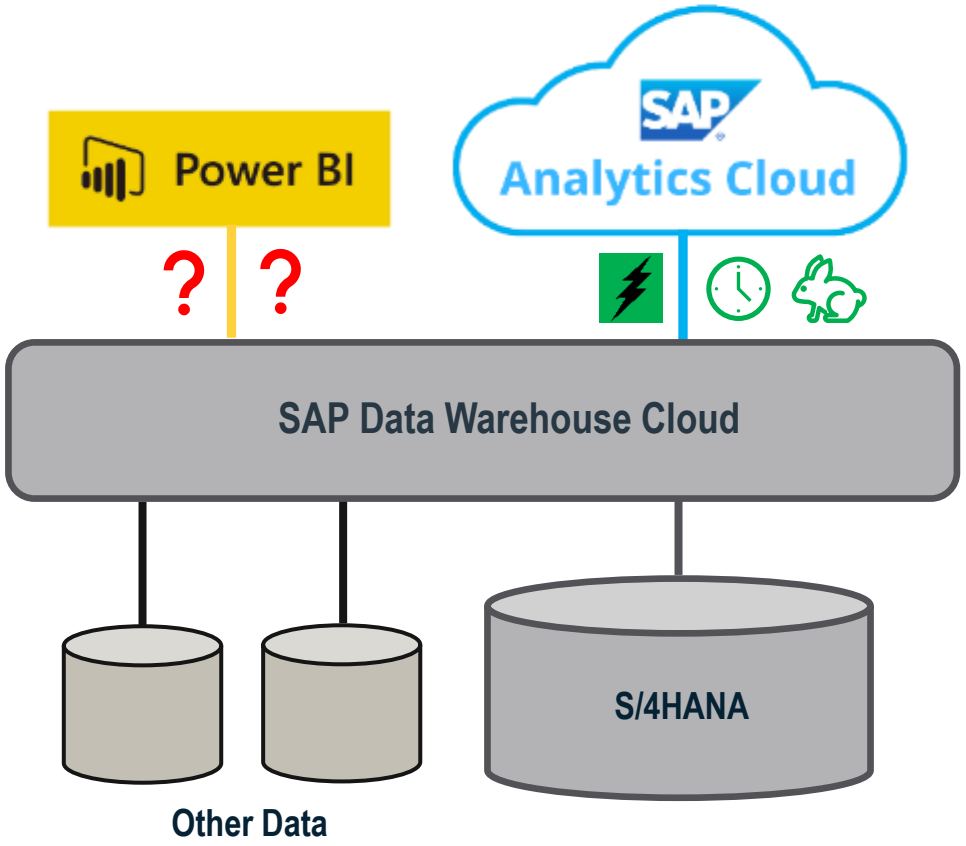
- Connect live from Power BI to SAP Datasphere
  (Data Warehouse Cloud / DWC)
- Expand how SAP Datasphere data can be leveraged

- 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

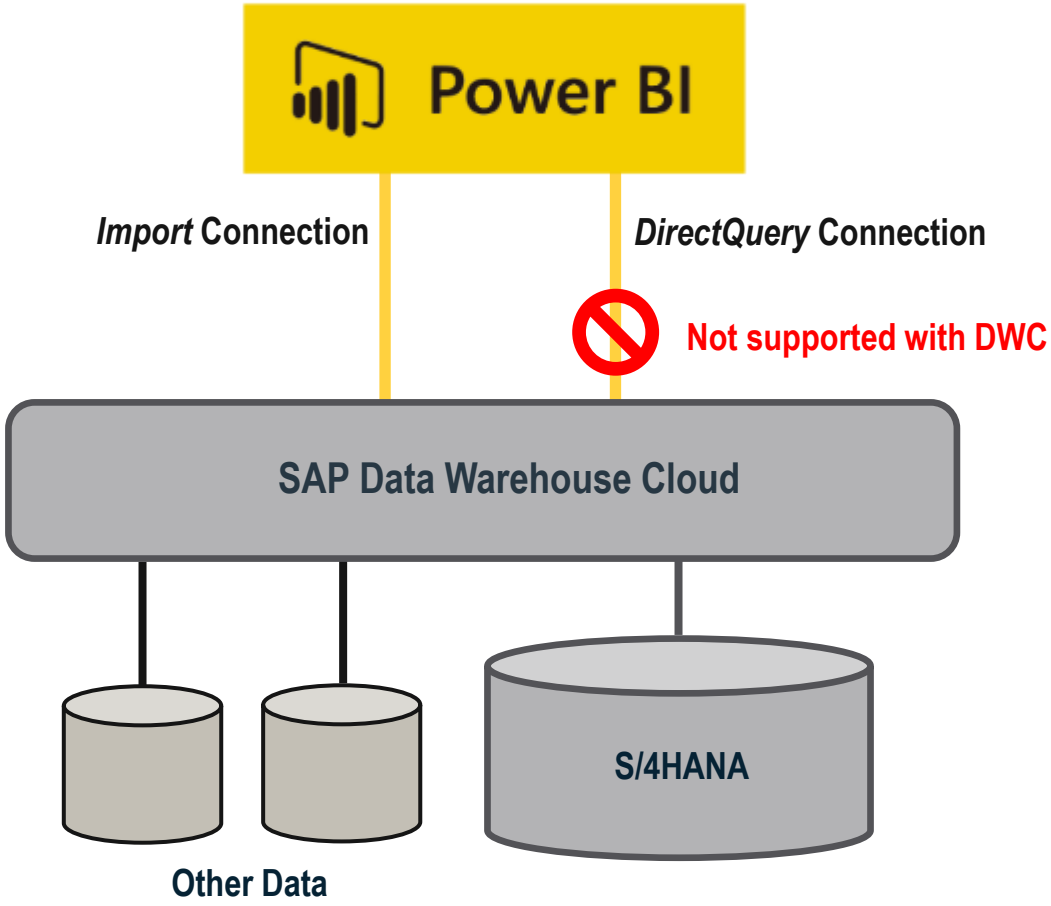
Live Connectivity from SAC to SAP Datasphere



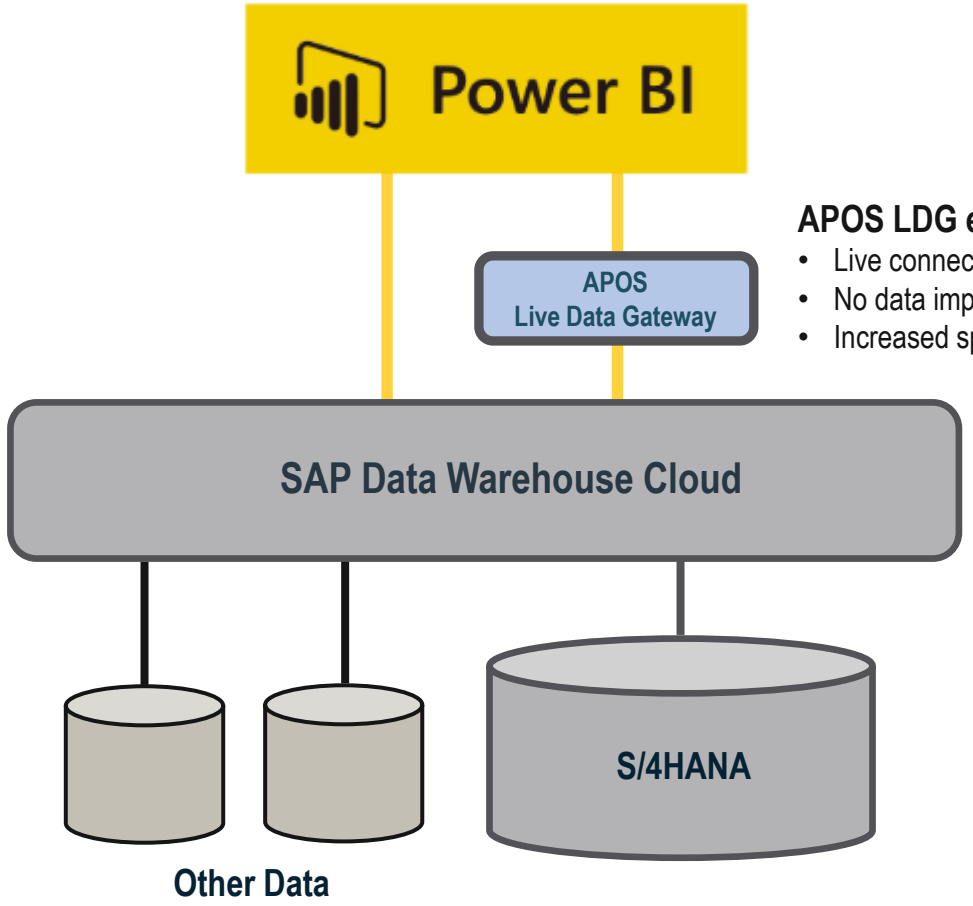
Power BI Connectivity to SAP Datasphere



Power BI DirectQuery to SAP Datasphere



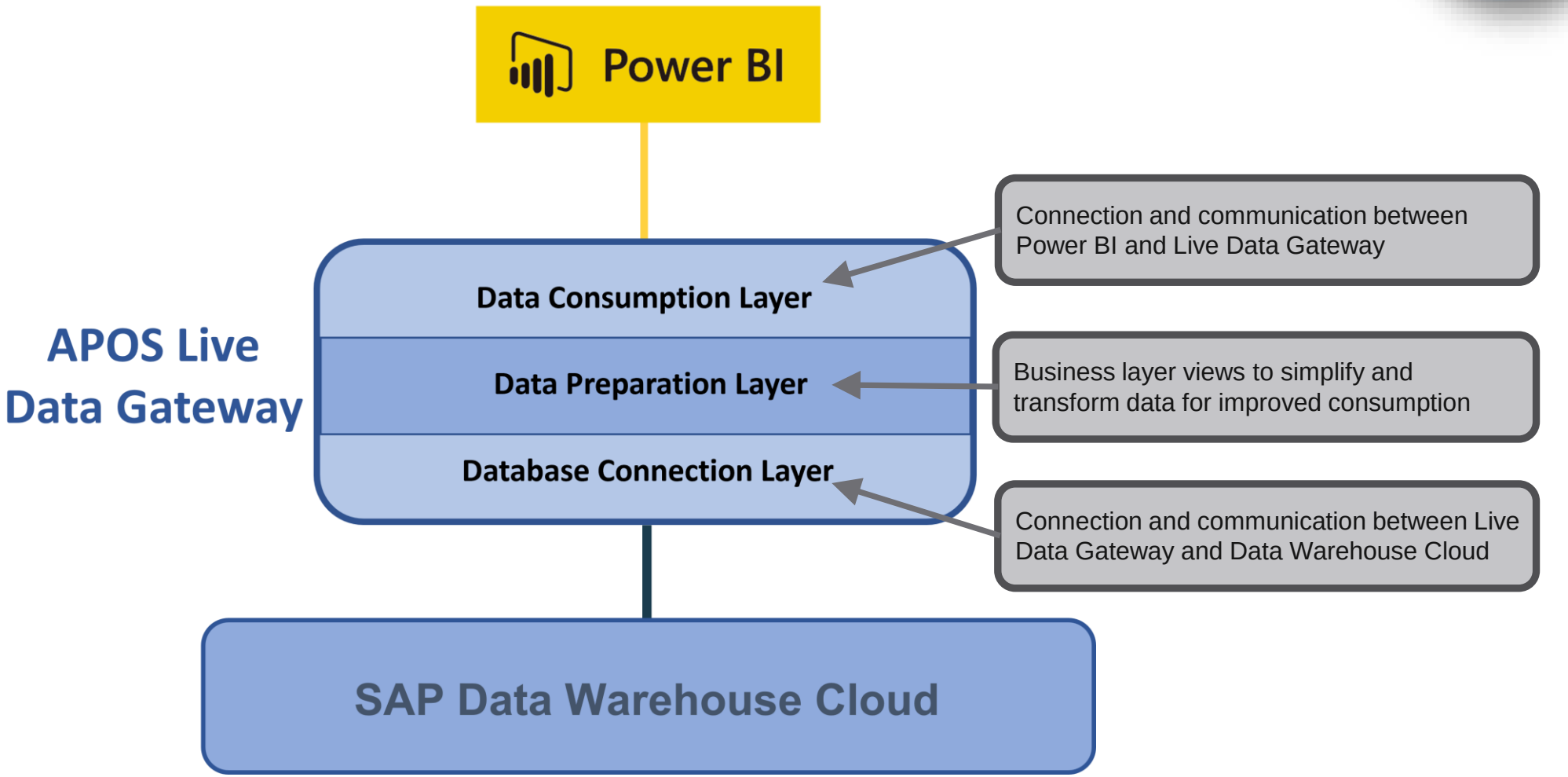
DirectQuery to Datasphere with Live Data Gateway



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

DirectQuery 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 Warehous... | P4C HowTo | LDG HowTo | Mark Resource | SAP Partner Portal |... | 13. Troubleshooting...

SAP Data Builder | BI TEST | View - Employment View

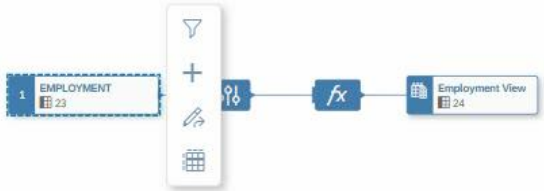
General | View | Edit

Details

Repository | Sources

Search

- Tables
- Views
- Intelligent Lookups



69%

Data Preview: EMPLOYMENT (1000) | Errors

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

23

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

AGYSUB

APOS Live Data Gateway – Session Summary

- SAP Analytics Cloud Connectivity Options
- Live Data Gateway for SAC
  - Performance
  - Data Transformation
  - Security
  - Expanded Connections
- Live Data Gateway for Datasphere
  - Supported Power BI Options
  - Power BI DirectQuery

APOS Live Data Gateway

Free 30-Day Evaluation

APOS will provide the software and technical resources needed for you to test drive Live Data Gateway in your environment

www.apos.com
Info@apos.com

EXTEND
SAP ANALYTICS

APOS Live Data Gateway

www.apos.com

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

Enhanced Enterprise Broadcasting of SAP Analytics Cloud Reports with APOS Publisher for Cloud Solution - Webinar

October 26, 2023

Join us for this live session looking at how the APOS Publisher for Cloud solution meets and exceeds enterprise-level bursting, broadcasting, publishing and distribution requirements, and how these requirements are driving adoption of APOS Publisher for Cloud. Here's your chance to see how this can work for you.

Learn how to leverage automated, data-driven SAC report broadcasting with:

- Data-driven dynamic rules
- Multiple format options
- Multiple destinations
- Scheduling
- Shared vs private deployments
- Simplified configuration
- Widget level bursting
- Consolidation of multiple reports
- Scheduling/conditional bursting
- Security/filtering/variables
- Optimized presentation support
- High-volume export
- Grid/table Excel consolidation
- System Scalability

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

QUESTIONS?
Please enter your questions in the Q&A panel.

APOS

Thank You!

Get in Touch

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SAP Partner