



Today's Session

Key Topics

- Technology Introduction
 - SAP Analytics Cloud
 - Snowflake Data Cloud
- SAP Analytics Cloud Connectivity Options
- APOS Live Data Gateway
 - Overview
 - Report Consumer & Developer Experience
 - Data Preparation & Transformations
 - Connections & Security
- Q&A see webinar console



Today's Presenters







ALLAN PYM

COO APOS

ALAN GOLDING

Solution Consulting Manager APOS

DAVID RICHERT

Principal Data Platform Architect
Field CTO Office
Snowflake

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

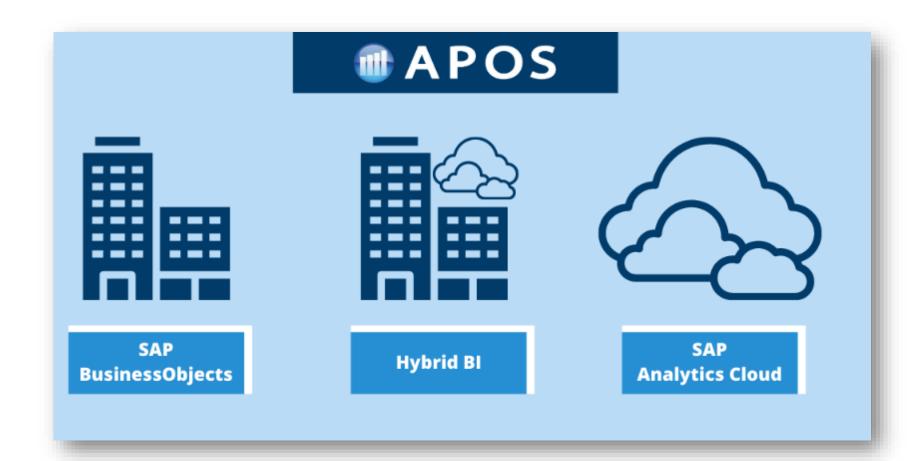














APOS Solutions for SAP BusinessObjects





APOS Insight

BI System Auditing

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

BI System Monitoring

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

BI Report Testing

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

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

• Bursting and Distribution of SAC content



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

What is SAP Analytics Cloud? ("SAC")





Business Intelligence

Reports, Dashboards, Visualizations, Analytical Applications



Planning

Plans, budgets, forecasts, and reports with enterprise planning features



Predictive

'Smart' features for built-in AI & ML functions within BI & Planning



What is SAP Analytics Cloud? ("SAC")





Business Intelligence



Planning



Predictive



- Fully cloud based analytics platform
- First released in 2015, alongside SAP S/4HANA
- SAC is SAP's BI and Planning platform for future
- SAC is embedded in all of SAP's current ERP and Line of Business applications
- Significant growth in adoption of SAC in recent years





David Richert
Principal Data Platform Architect Field CTO Office





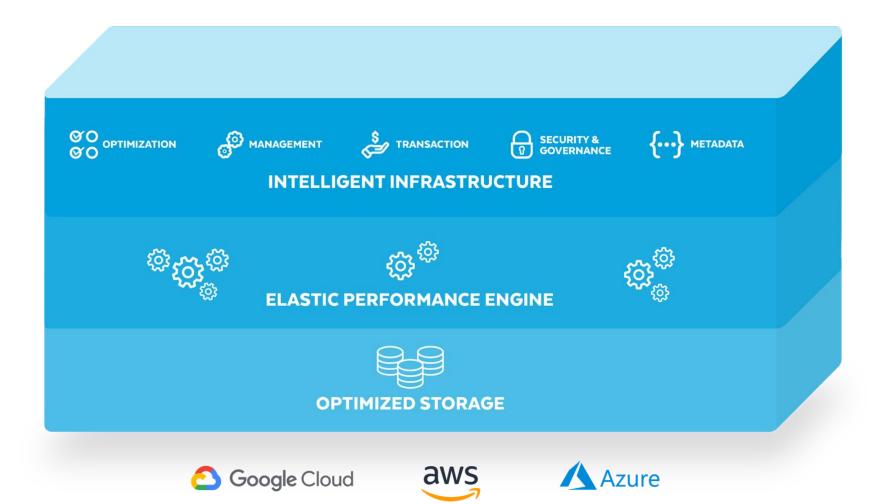
Snowflake Architecture

David Richert

April 2023

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Snowflake Architecture





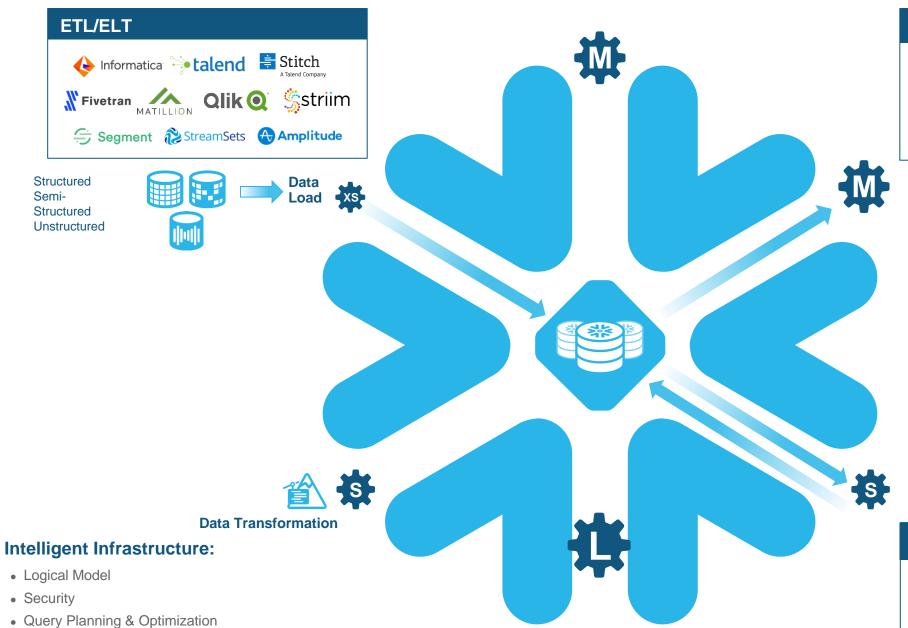
One Platform. Many Workloads.



OUTCOMES

Insights Predictions Monetization Data Products

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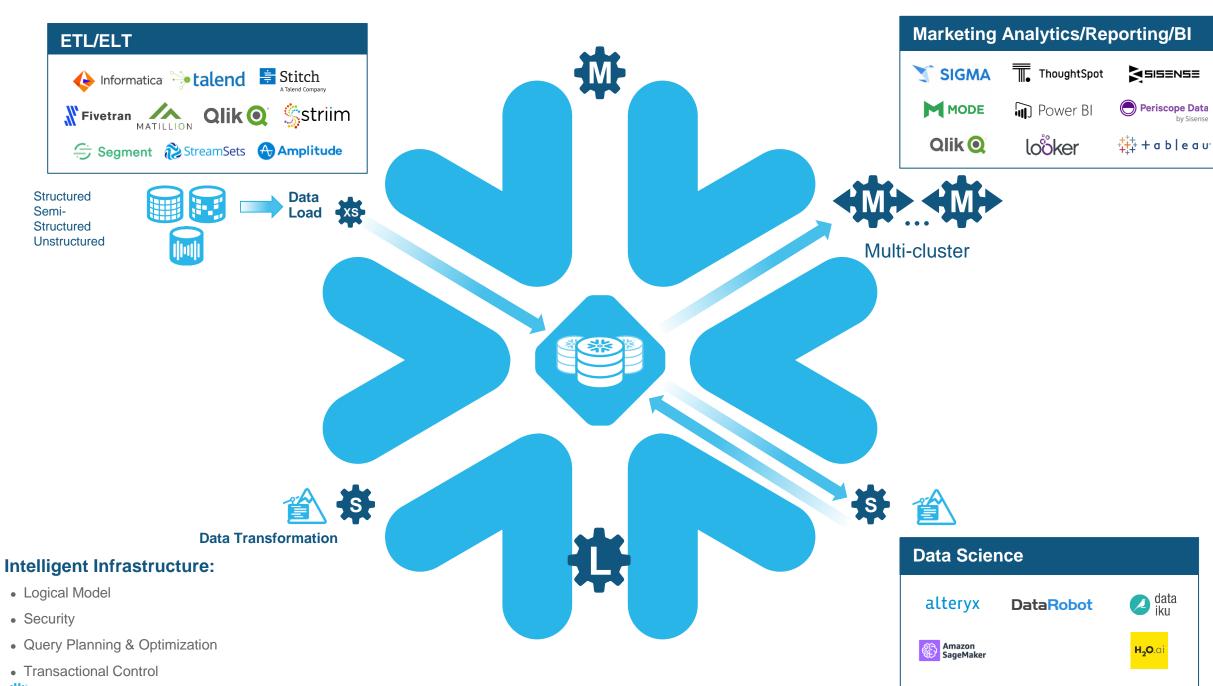


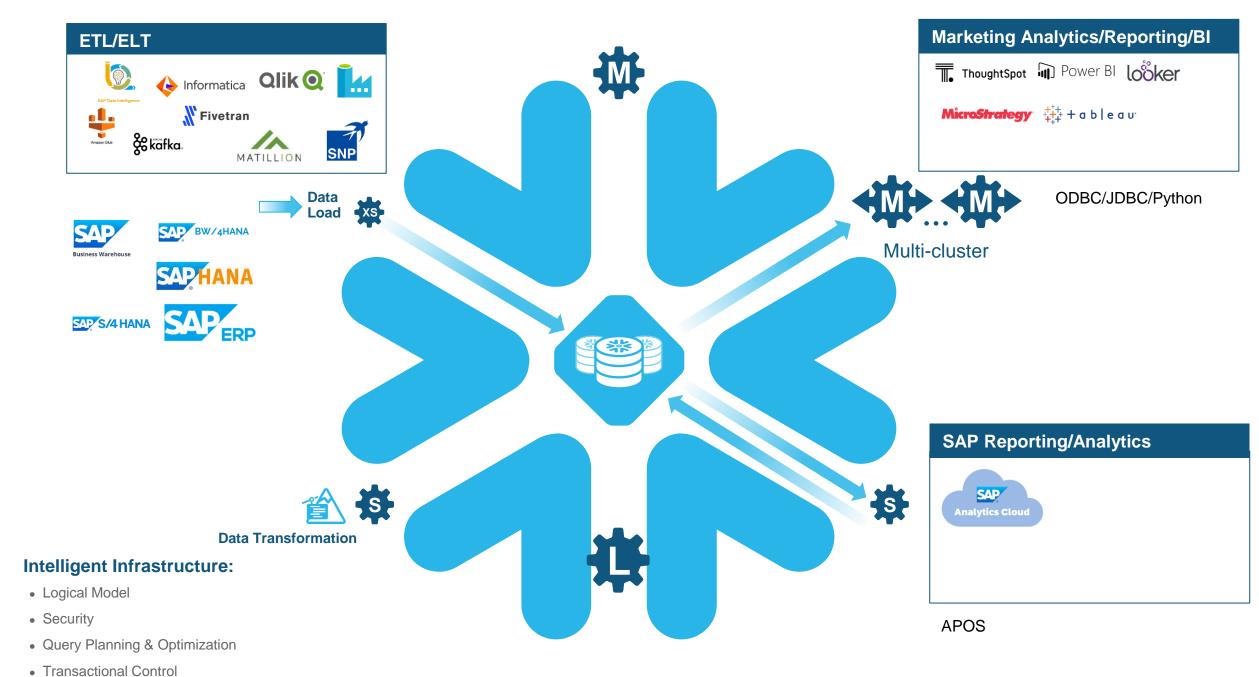






Transactional Control

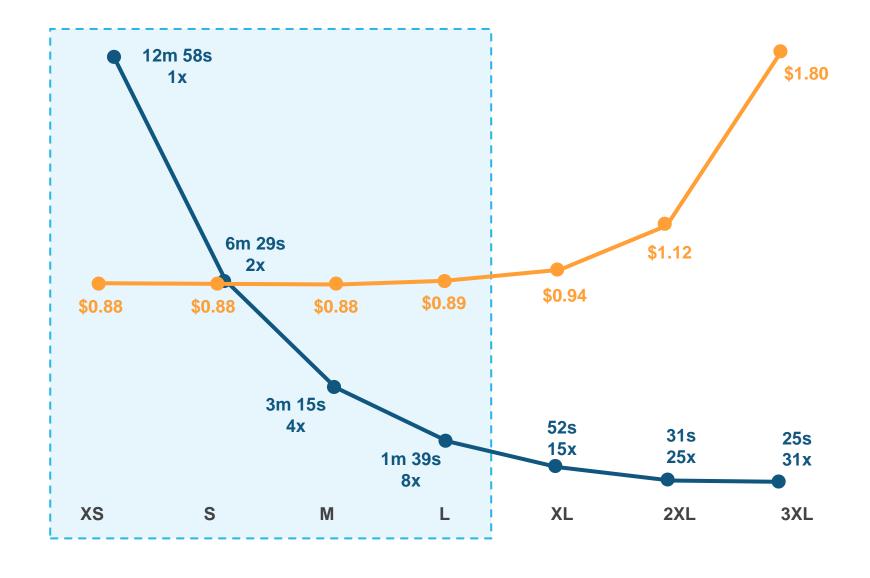




Scale Up – Loading 1BN Records

- Doubling the number of servers halves the run time
- But you pay per-server, per second of compute
- So you get your answer
 8X FASTER FOR
 THE SAME COST

- Cost
- Secs



Why Snowflake with SAP and all other Data

True Performant Self-Service



Run any number or type of job across all users and data volumes quickly and reliably.

- Automated vertical (large query) and horizontal (concurrent) compute scaling for ingest, transformation, egress
- Common storage, isolated compute
- Only pay when you use it

It Just Works



Replace manual with automated to operate at scale, optimize costs, and minimize downtime.

- One system for dev, test, quality, prod
- Data engineering (multi-languages, functions, stored procs, external calls, automated data flows, recursive, pivot, arrays, undrop)
- Support Data Science modeling with Version Data and metadata

Connected to what matters



Extend access and collaboration across teams, workloads, clouds, and data, seamlessly and securely.

- Build your business ecosystem in Snowflake Marketplace/Private Data exchange
- Share data with no ETL or silos
- Maintain global business continuity
- Cross-cloud governance controls



SAC Connectivity – SAP Sources



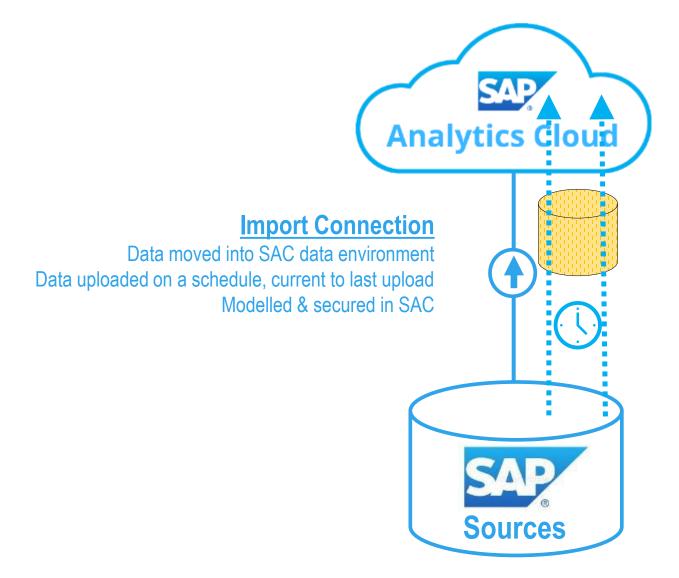






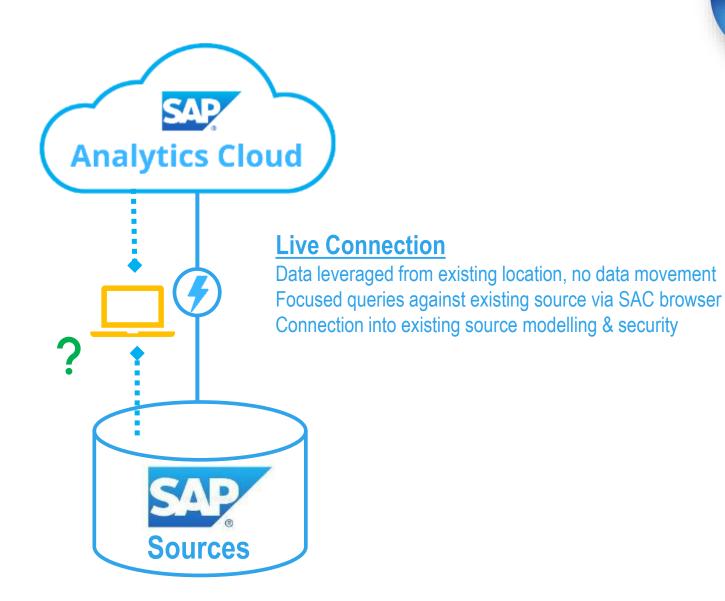
Import Connectivity





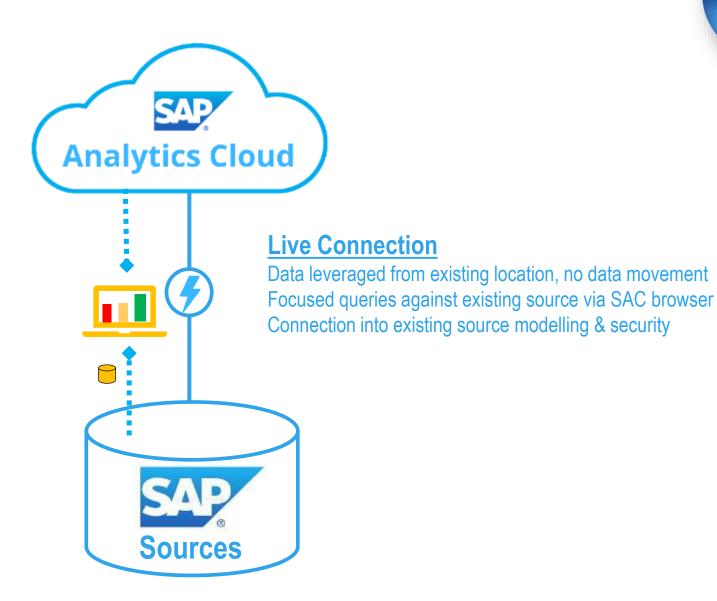
Live Connectivity





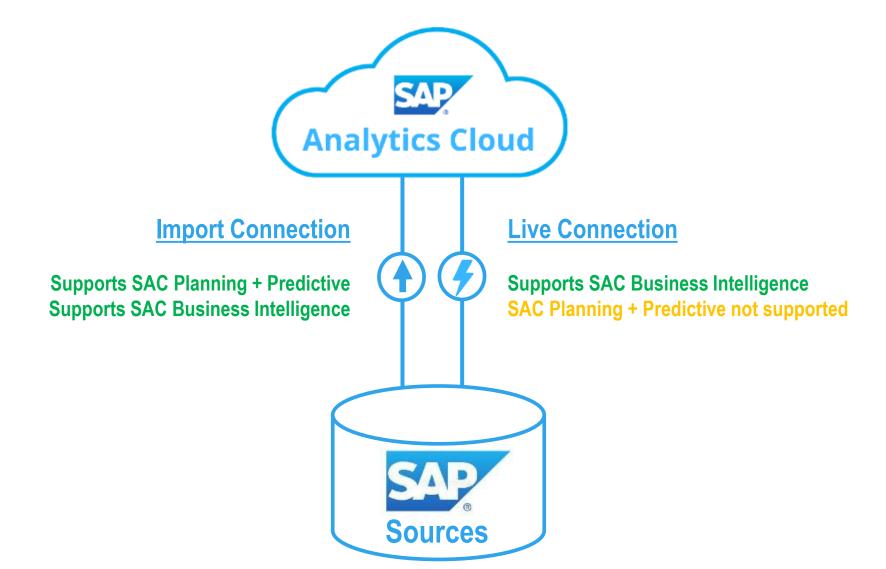
Live Connectivity





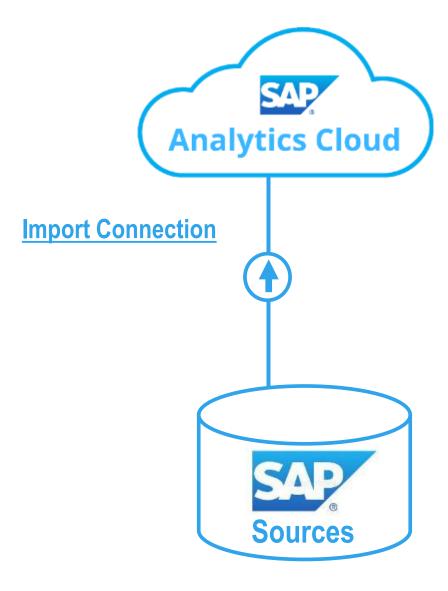
Live & Import Connectivity





Decision Considerations - Import

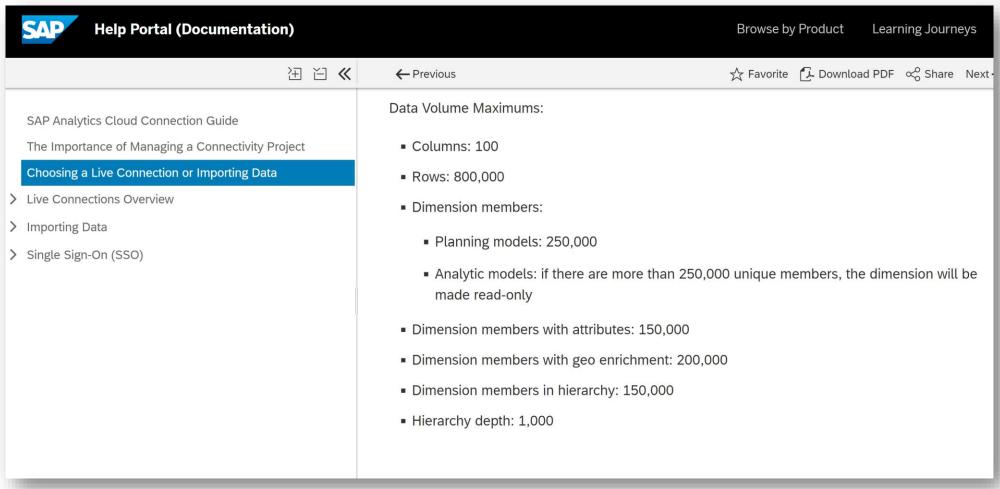




- Support for Planning & Predictive
- Native support for many sources
- Data replicated into SAC
- Source data security is lost
- Source data modelling is lost
- Data latency latest upload time
- Data volume limits **
- Data crosses firewall
- Data residency

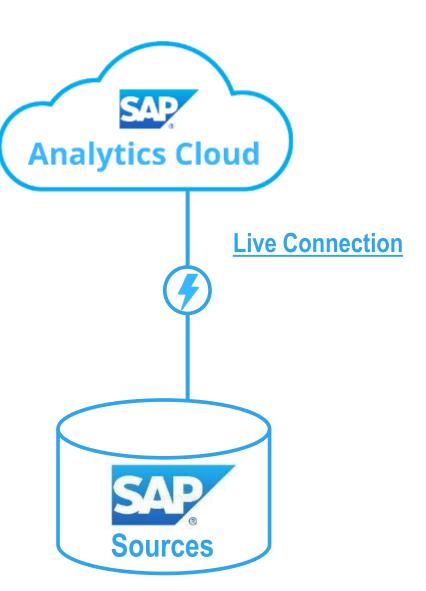
Import – Data Volume Limits



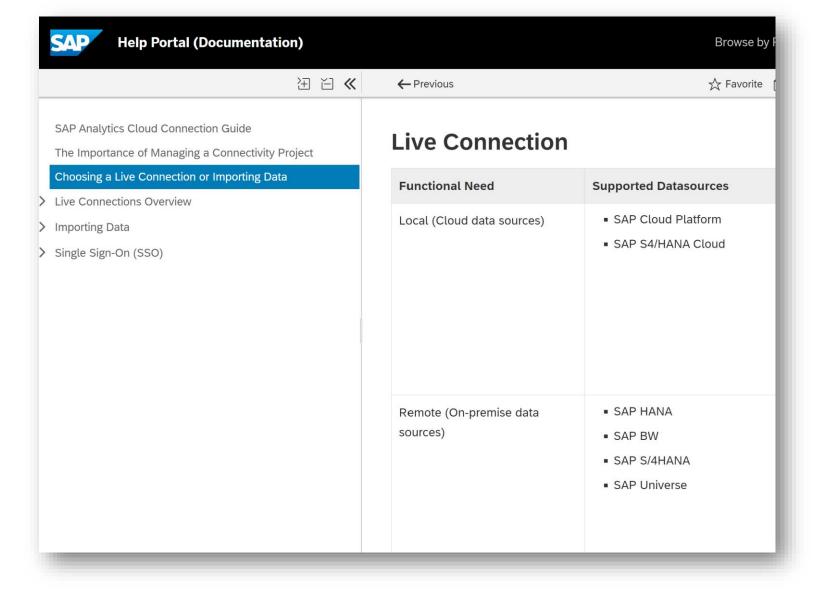


Decision Considerations - Live

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

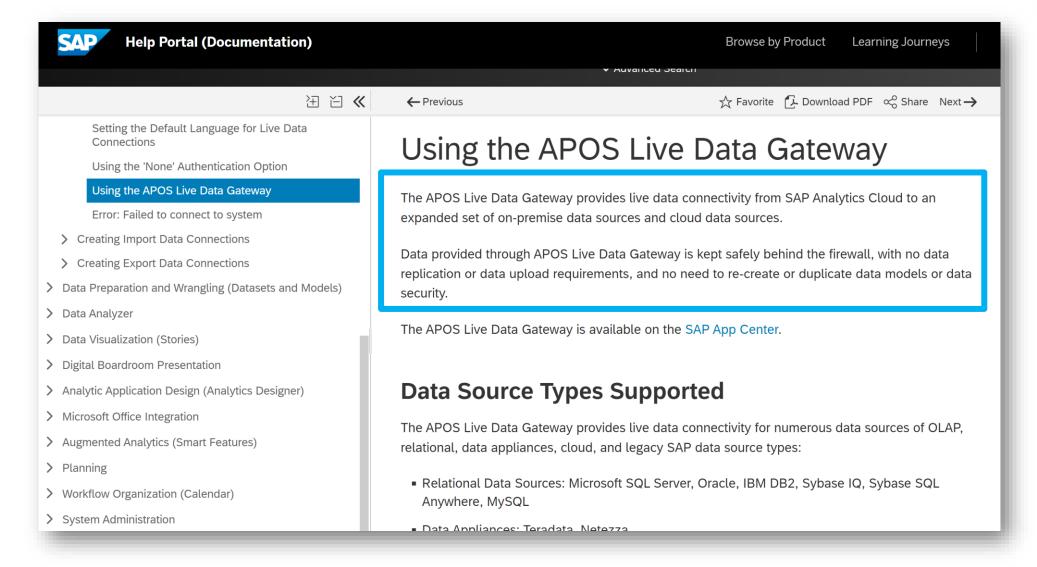


Live – Limited Sources Supported





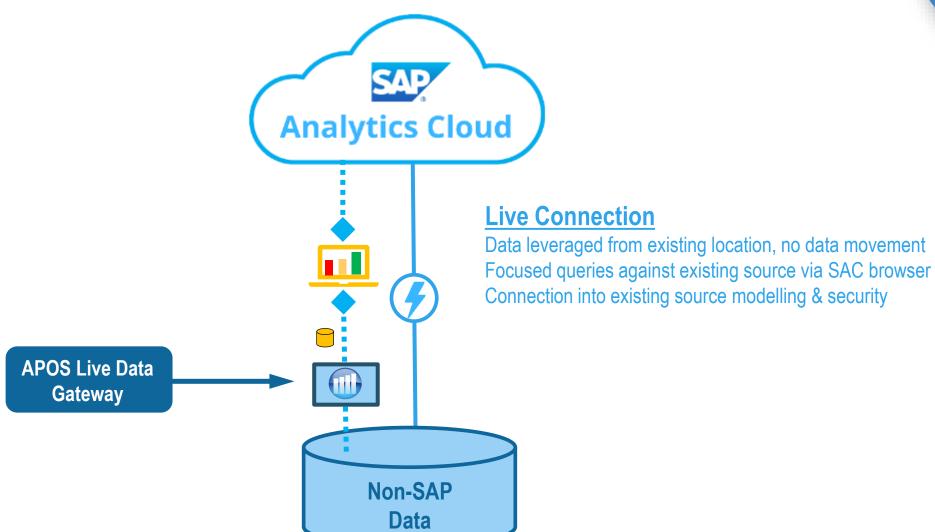
APOS Live Data Gateway – Expand Live Options





APOS Live Data Gateway – Expand Live Options

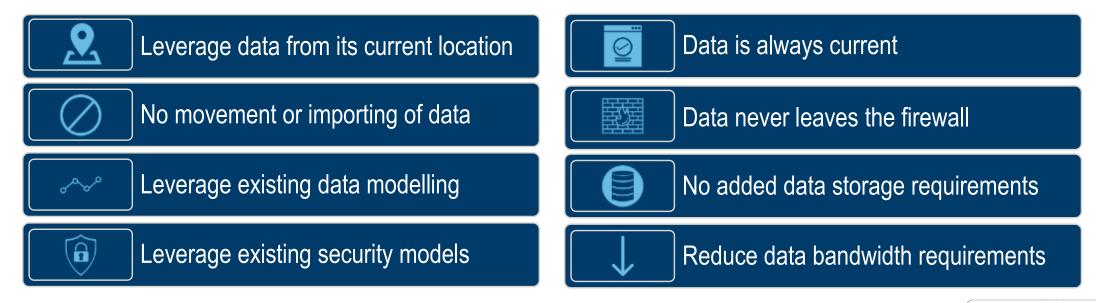




APOS Live Data Gateway – Unlock Live Data



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





Customer Success





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



Large global 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.

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



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



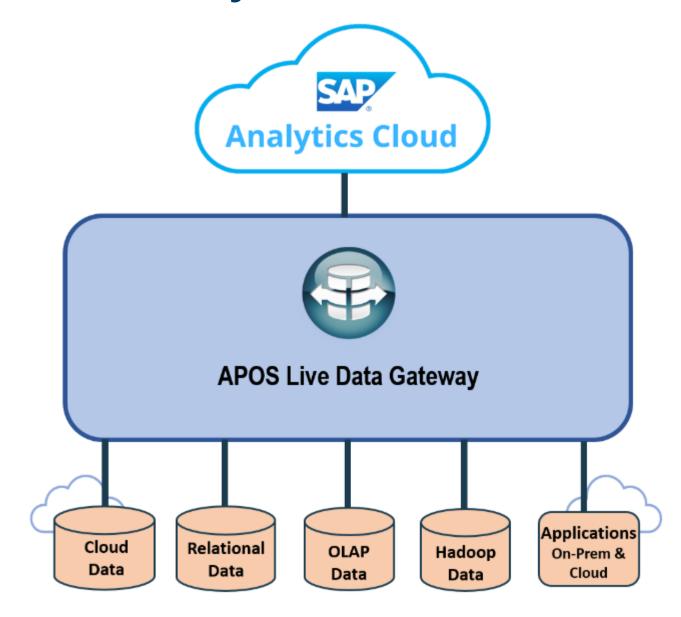




Alan Golding
Solution Consulting Manager
APOS

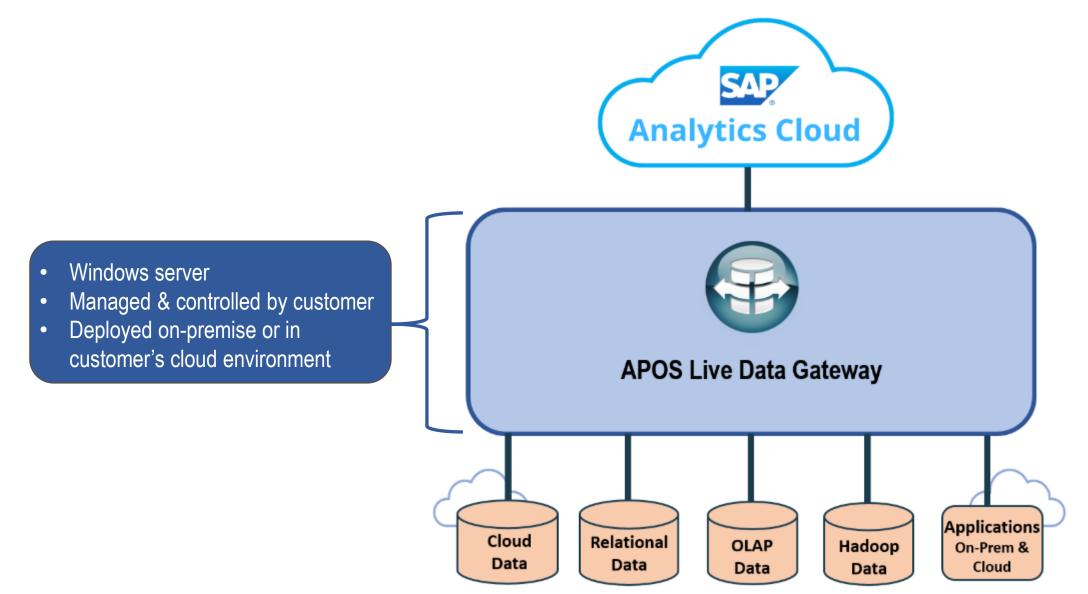
APOS Live Data Gateway





Live Data Gateway Server





Supported Sources

R

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

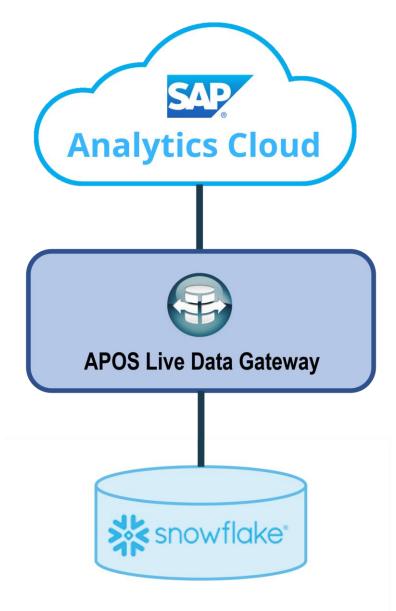
- Denodo
- Google BigQuery
- Google Cloud Platform
- Hortonworks
- Informix
- Microsoft SQL Server
- Microsoft Analysis Services
- Azure Blob
- Mongo DB, Mongo DB Atlas
- MySQL
- Netezza
- Oracle
- Oracle Essbase

- 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



Uniting SAC & Snowflake





Customer Success



A leading global pharmaceutical corporation headquartered in Switzerland and United States utilizes APOS Live Data Gateway to provide a live connection from Snowflake to SAP Analytics Cloud that also meets strict security requirements and a Single Sign-on process that uses OAuth credentials.



A large multi-chain retailer in Europe utilizes APOS Live Data Gateway to provide a live connection from Snowflake to SAP Analytics Cloud to fulfill analytics goals without data replication, and also provide integrated security with Snowflake for a simplified Single Sign-on process.



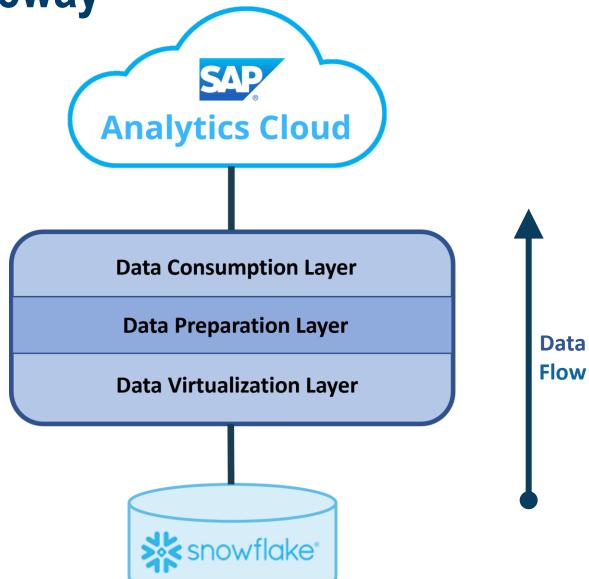


A Swiss-based, top-tier pharma / healthcare company with global operations runs SAP Analytics Cloud as a key go-forward analytics solution addressing operational and executive reporting needs. Live connection to their Snowflake environment has provided critical Snowflake data for these needs.

Australian LNG exploration/production/supplier/export company runs SAP Analytics Cloud (SAC) for connectivity to SAP S/4HANA, and also needed live connectivity to their Snowflake data for financial analytics and key monthly operational reports.



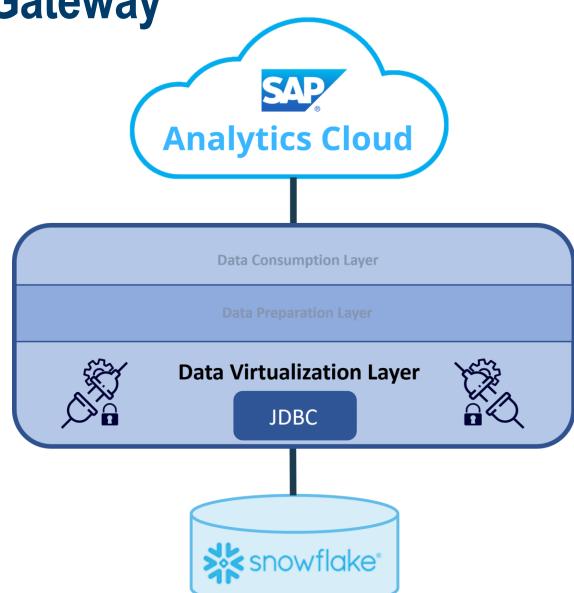




Data Virtualization Layer

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)

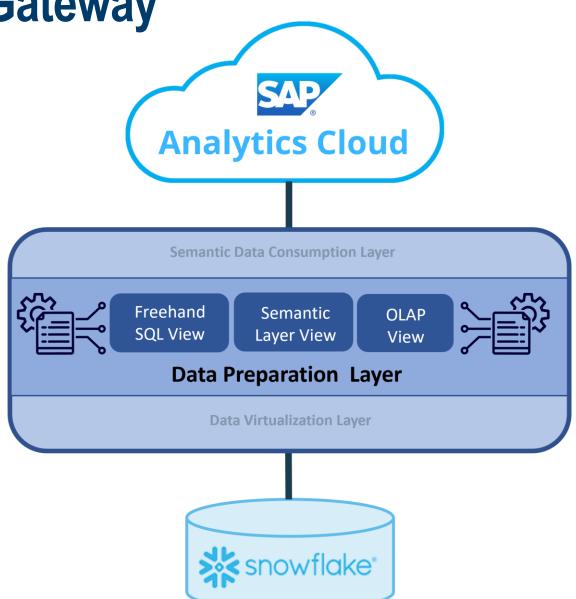




Data Preparation Layer

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

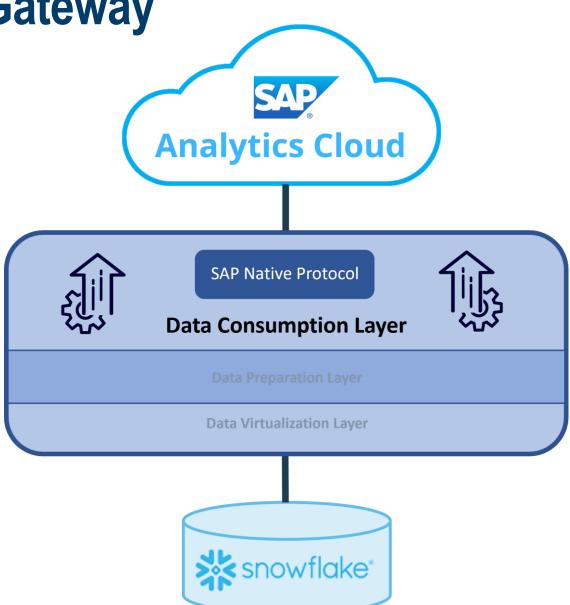




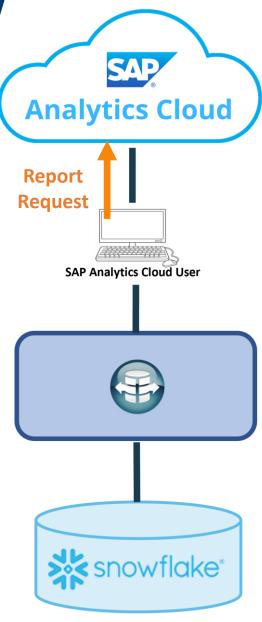
Data Consumption Layer

Key Functions

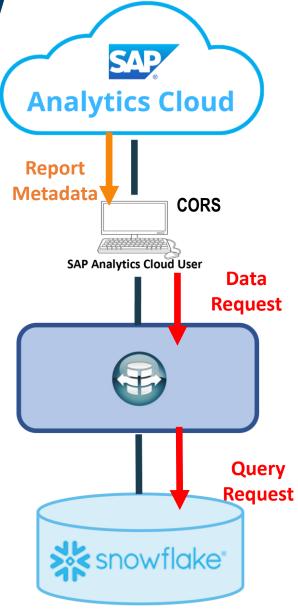
- Establish direct connectivity and communication with SAC User browser
- Supply data via SAP Native Protocol for SAC Story and SAC Application actions



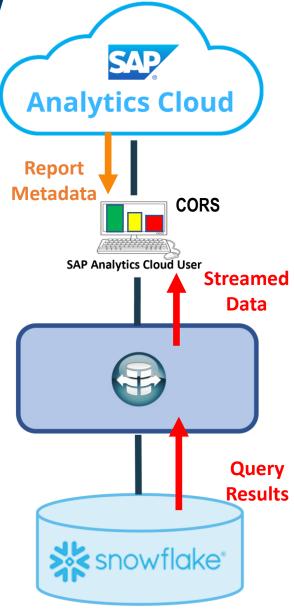
















Solution Overview

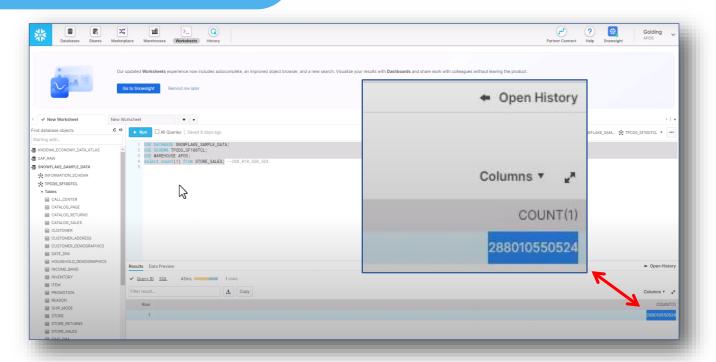
To see the live demo, watch the webinar on demand



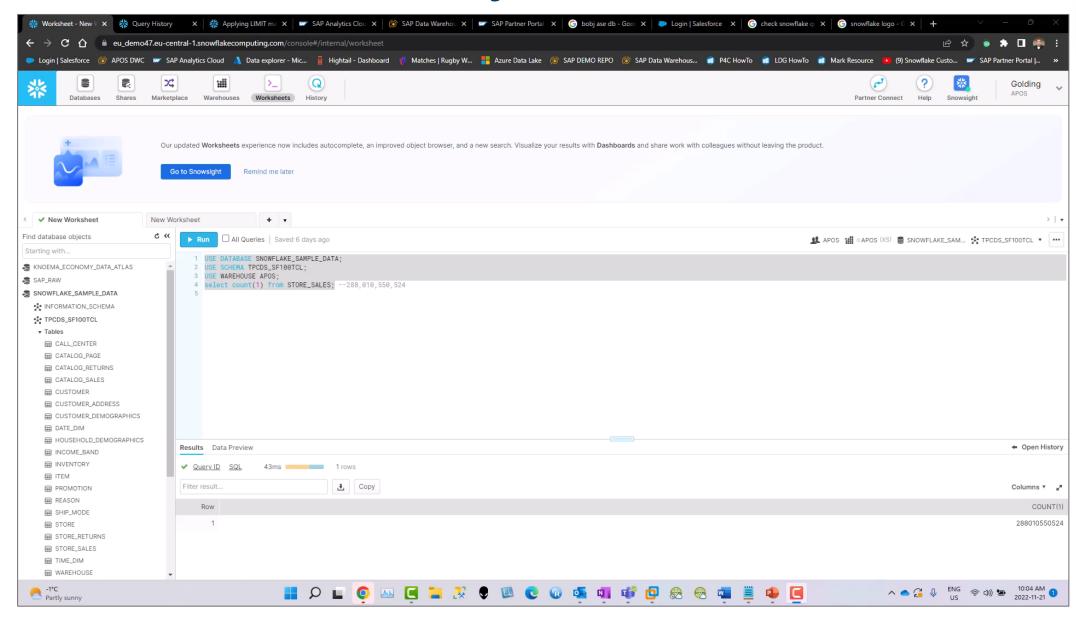
Performance

Performance Considerations

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





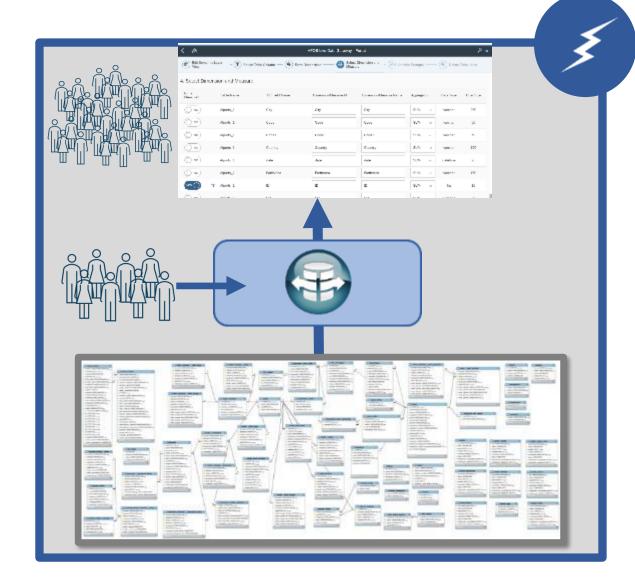






Data Preparation Layer

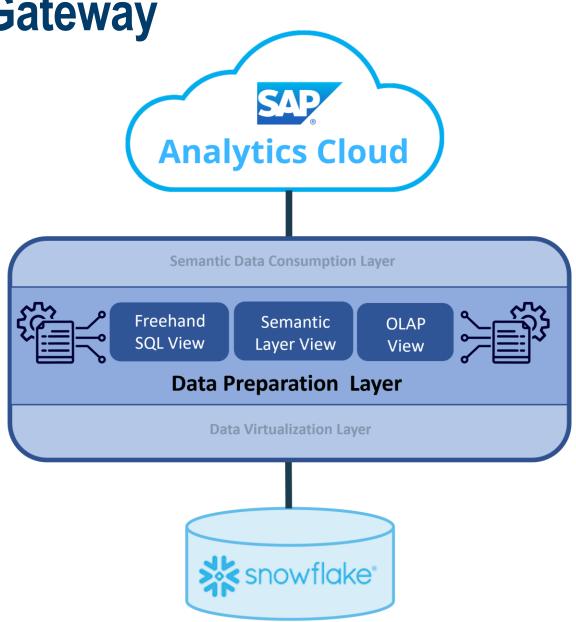
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Simplify Snowflake Data Access & Control

- Semantic layer / Business layer
- 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

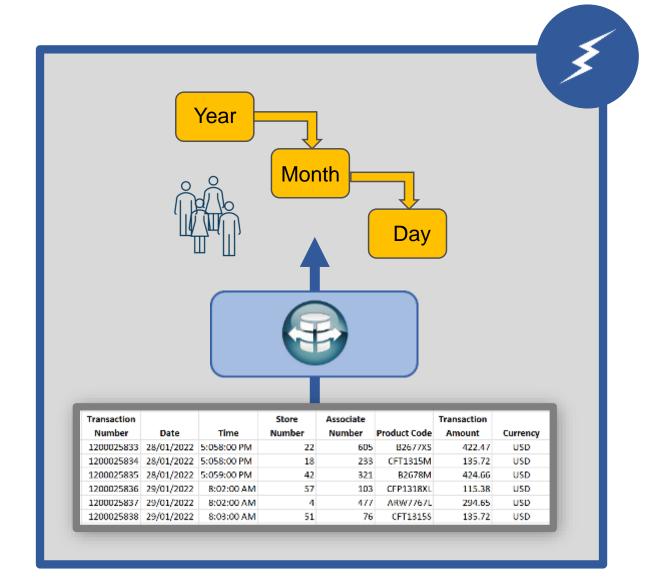






Data Preparation Layer Overview

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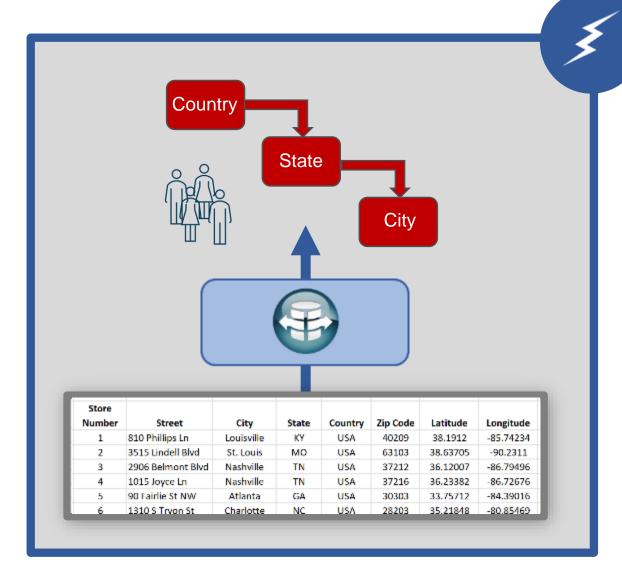




Date Dimension Support

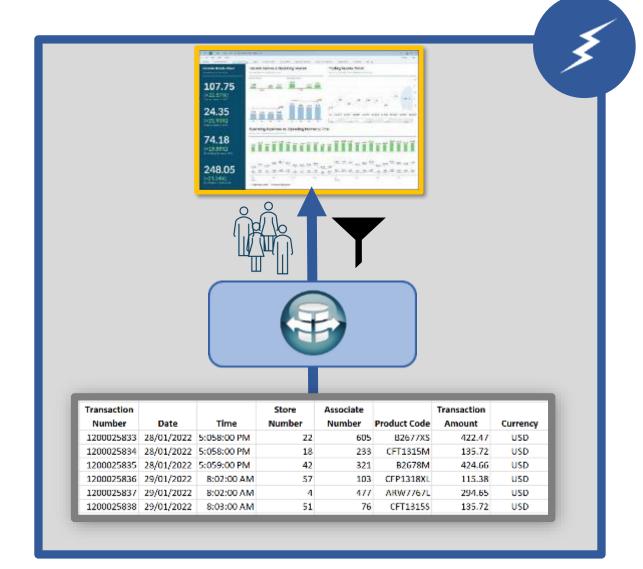
- Create date hierarchies on non-hierarchical data
- Simplified user navigation and experience
- Improved analysis
- Custom date dimensions support
- Hierarchical date dimension support
 - Drill Down
 - Time Series Charts
 - Variance Charts
- Hierarchies available as individual dimensions





Custom Hierarchy Support

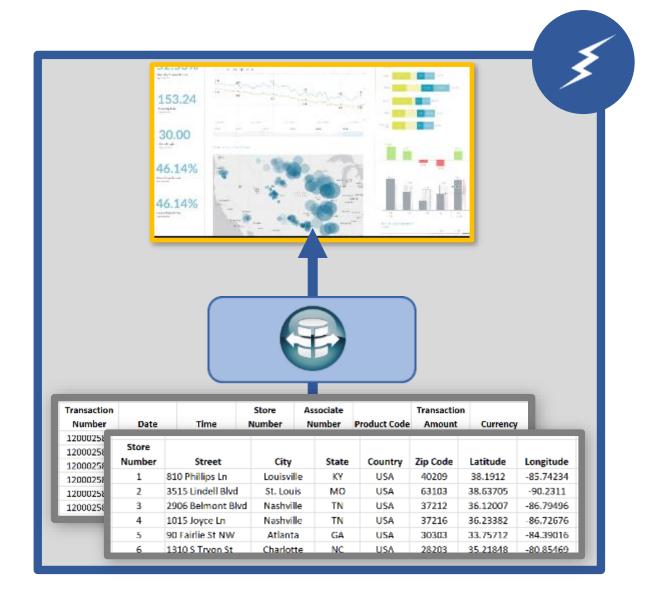
- Create custom hierarchies on non-hierarchical data
- Simplified user navigation and experience
- Improved analysis
- Provide ability to create custom dimensions on nonhierarchical data
- Simplified user experience for building and consuming analytics
- Drill down functionality for non-date based dimensions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





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





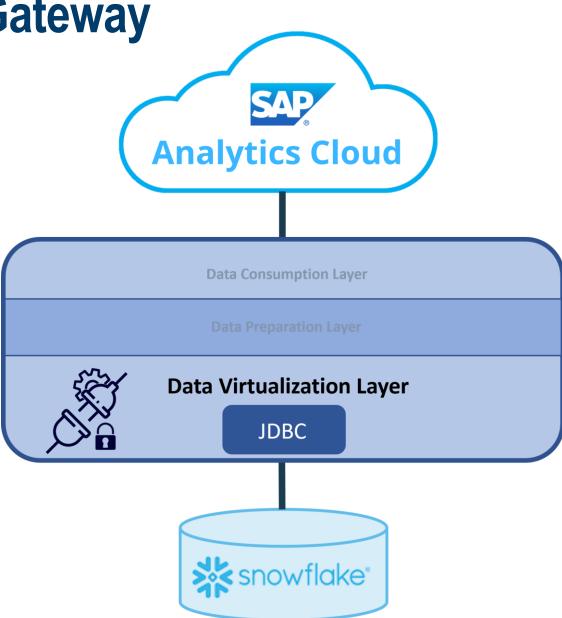
Geospatial Data Support

- 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 Virtualization Layer

To see the live demo, watch the webinar on demand



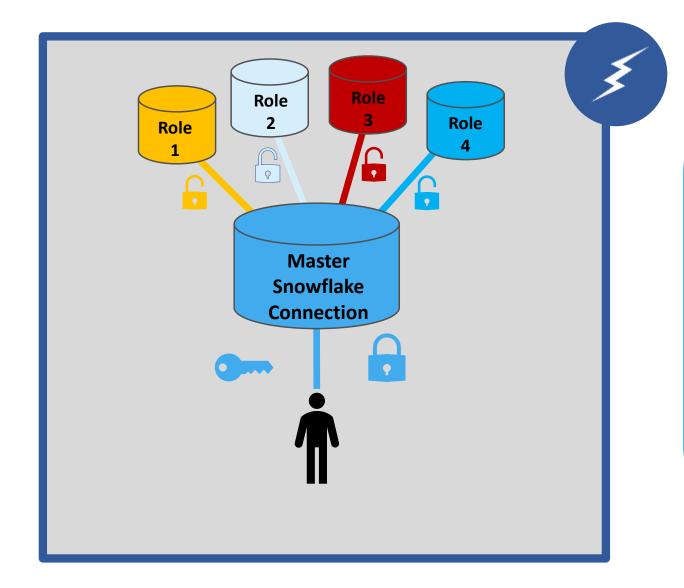






Leverage Snowflake Security

- Integrated to enforce database security with SAP Analytics Cloud security
- Leverage Snowflake security structures
- Unified security authentication
- Simplified user experience





Shared Connectivity with Snowflake Roles

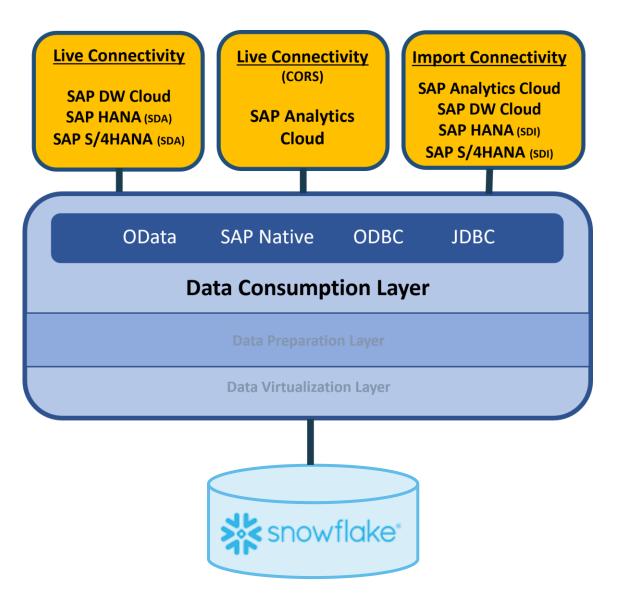
- Single point of SSO for multiple Snowflake connections for SAP Analytics Cloud
- Master connection can have multiple child connections associated with it
- Each connection can have different Snowflake Roles assigned to it
- Removes need for multiple SAC connections



Connection & Security Overview

To see the live demo, watch the webinar on demand

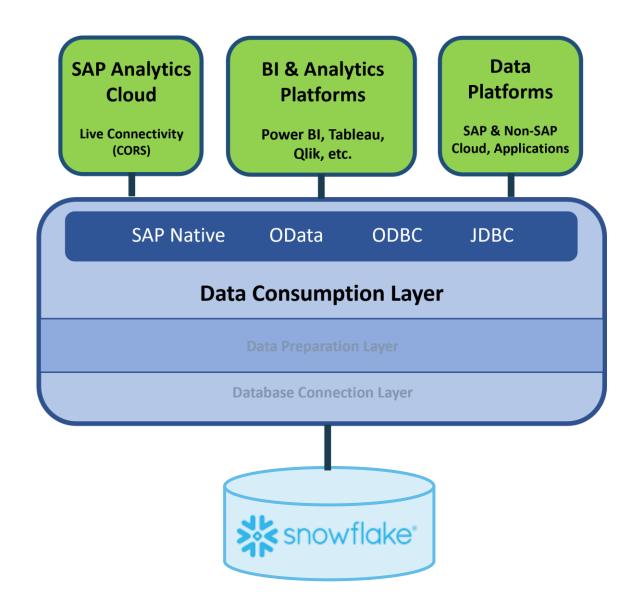
APOS Live Data Gateway – SAP Landscape





APOS Live Data Gateway – Other Consumers





APOS Live Data Gateway – Session Summary

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- APOS Live Data Gateway
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APOS Publisher for Cloud

Bursting and Distribution of SAC content



APOS Insight for Cloud

Enhanced Monitoring, Auditing and Validation of SAP Analytics Cloud



Upcoming Event

Unleash the Power of APOS Publisher for Cloud: Enhanced SAP Analytics Cloud Report Broadcasting

Webinar – May 18th - 11am EDT

Join us for this live session looking at how the APOS Publisher for Cloud solution delivers on enterprise-level report broadcasting and distribution requirements. Whether you have BEx Broadcaster or BusinessObjects Publications process replacement needs, or you have brand new SAC report distribution requirements, this session will give you a clear view into APOS Publisher for Cloud's capabilities and how it can work for you.

You will learn:

- How to leverage automated, data-driven SAC report broadcasting with:
 - Data-driven dynamic broadcasting rules
 - Report broadcast destinations
 - Multiple format options
 - Consolidation of multiple reports
 - Security/filtering/variables



Register at www.apos.com

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Thank You!

Get in Touch

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