



DATA VIRTUALIZATION PACKED LUNCH WEBINAR SERIES

Sessions Covering Key Data Integration Challenges
Solved with Data Virtualization



Evolving from Monolithic to Distributed Architecture Patterns in the Cloud



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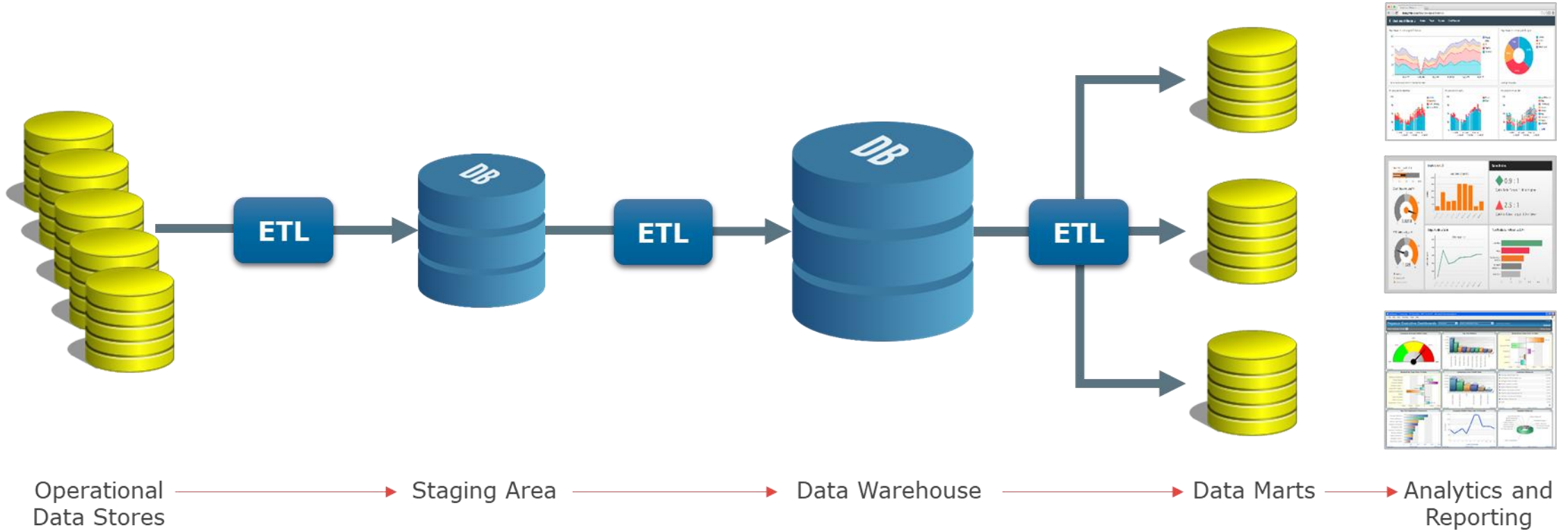


Agenda

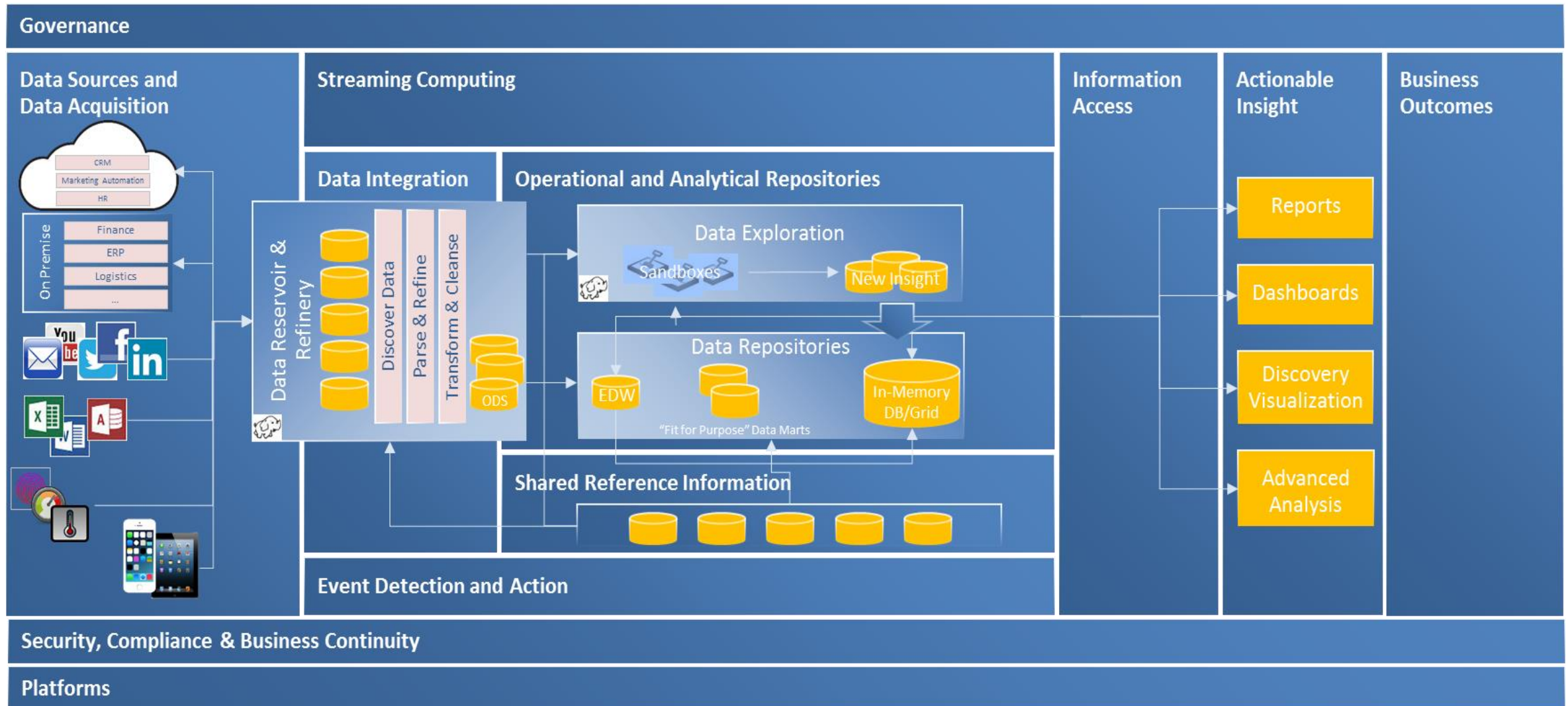
1. The Cloud Changes Everything
2. Accelerating Cloud Migration & Modernization
3. Customer Case Study
4. Demo – Denodo 7.0
5. Q&A

The Cloud Changes Everything

Data Integration – “The Way We Were...”



Data Integration – A Modern Data Ecosystem

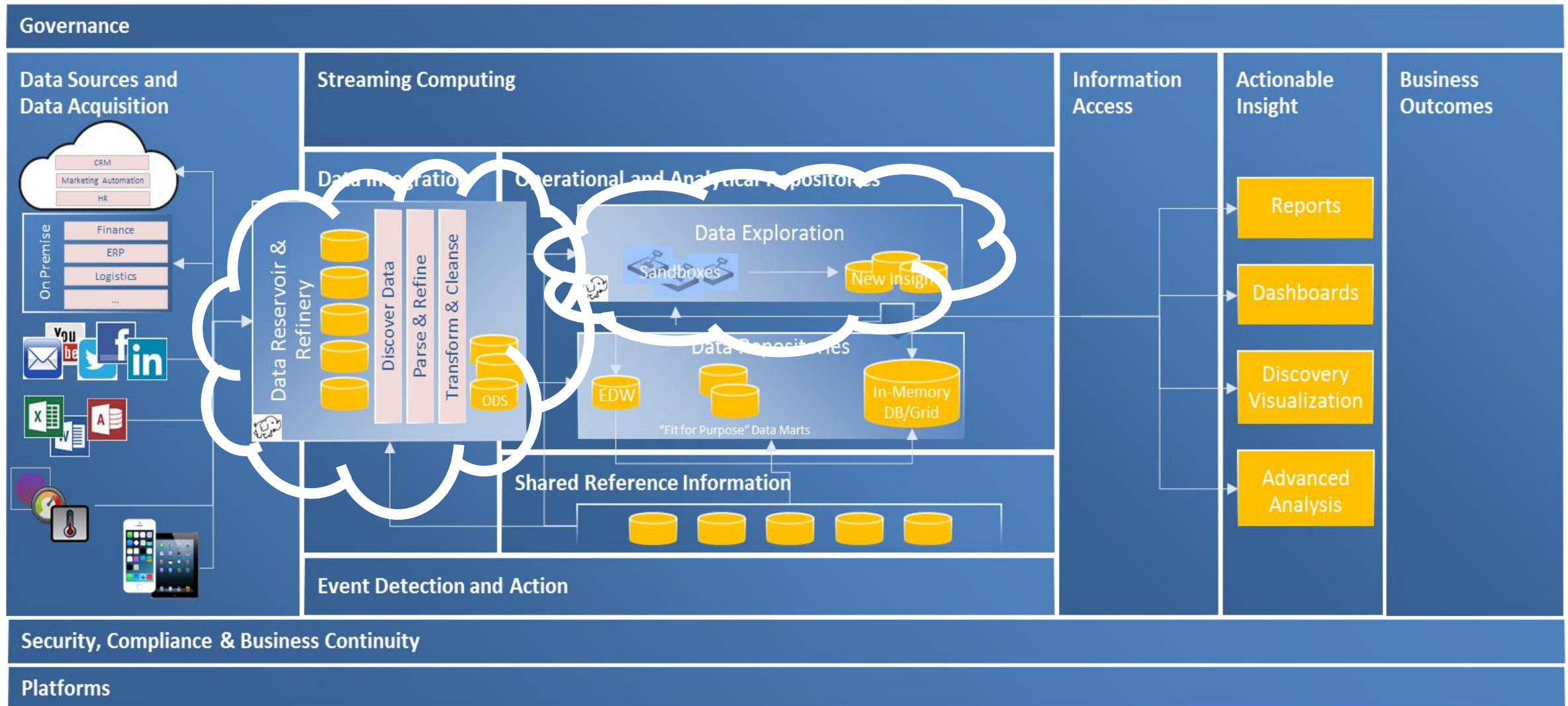




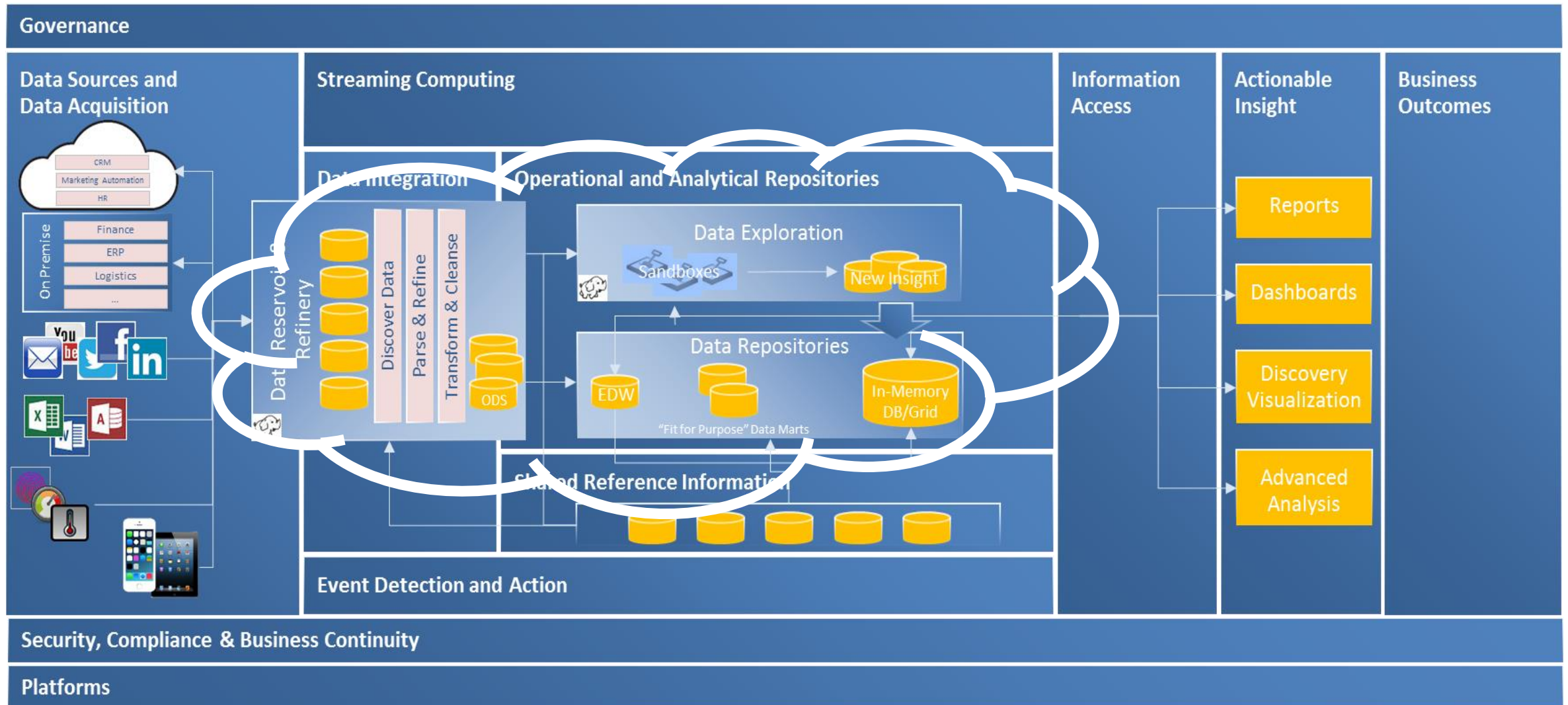
.....the collection of data as well as the need to connect to data are rapidly becoming the new normal, and that the days of a single data store with all the data of interest — the enterprise data warehouse — are long gone.”

Gartner: Predicts 2018: Data Management Strategies Continue to Shift Toward Distributed

Data Integration – A Modern Data Ecosystem



Data Integration – A Modern Data Ecosystem

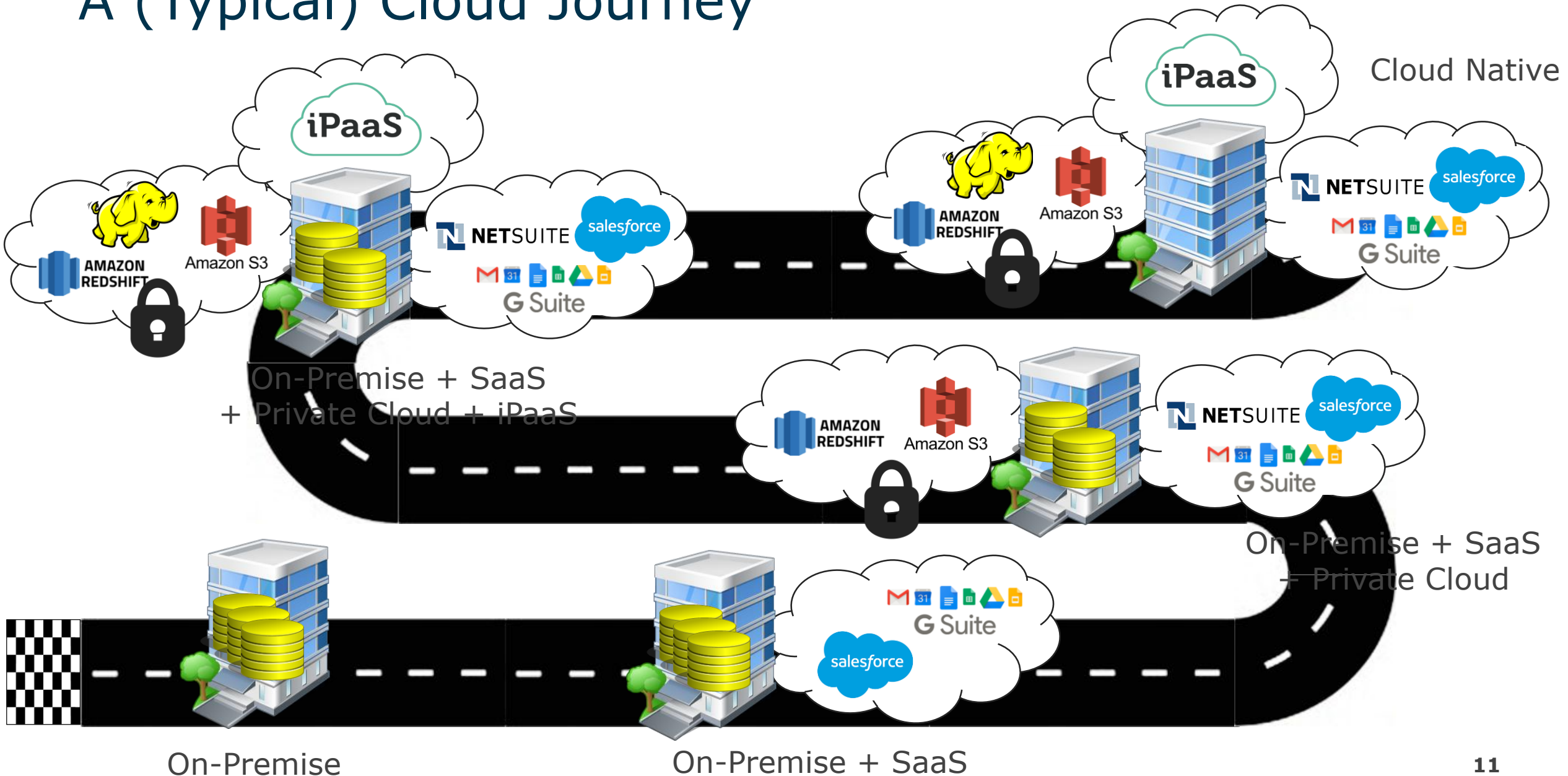




85 percent of enterprises have a multi-cloud strategy, up from 82 percent in 2016"

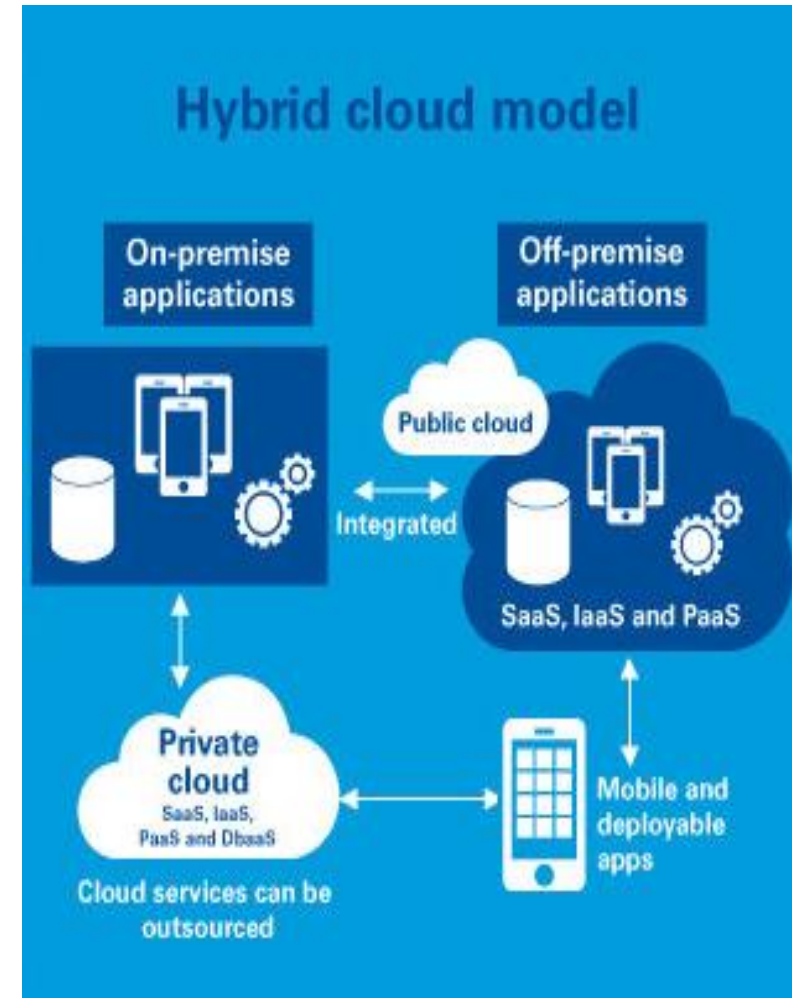
Rightscale, 2017 State of the Cloud Report

A (Typical) Cloud Journey



Distributed Cloud Data Architectures

- Pure Cloud (“Cloud Native”)
 - Single Cloud provider
 - Private or public Cloud
- Hybrid
 - Cloud and on-premise
 - Pure Cloud...but multiple Cloud providers
- Data in multiple data stores, multiple locations
- Applications (SaaS) storing data in Cloud



Challenges in Cloud Data Integration

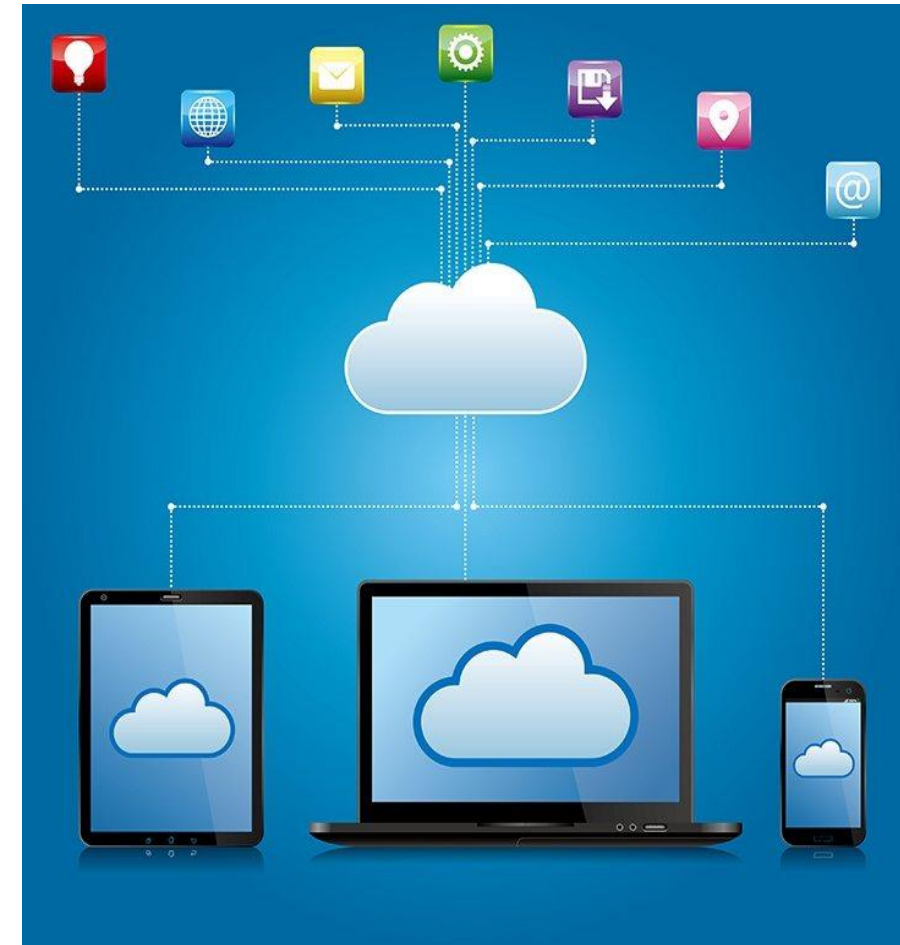
- Data is in many locations, data repositories, formats, etc.
 - Cloud, on-premise, SaaS, ...
- How do they know what data is available?
- How to users find and access the data?
- Simple tasks become more challenging as the data gets more dispersed



Accelerating Cloud Migration & Modernization

Application Modernization with the Cloud

- Moving from legacy – typically monolithic – applications and application suites deployed on-premise to specialized SaaS applications in the Cloud
 - e.g. from Oracle E-Business Suite, PeopleSoft, Siebel, etc.
 - e.g. to Salesforce, NetSuite, Workday, Taleo, etc.
- Cost savings can be substantial



Application Modernization (Cont'd)

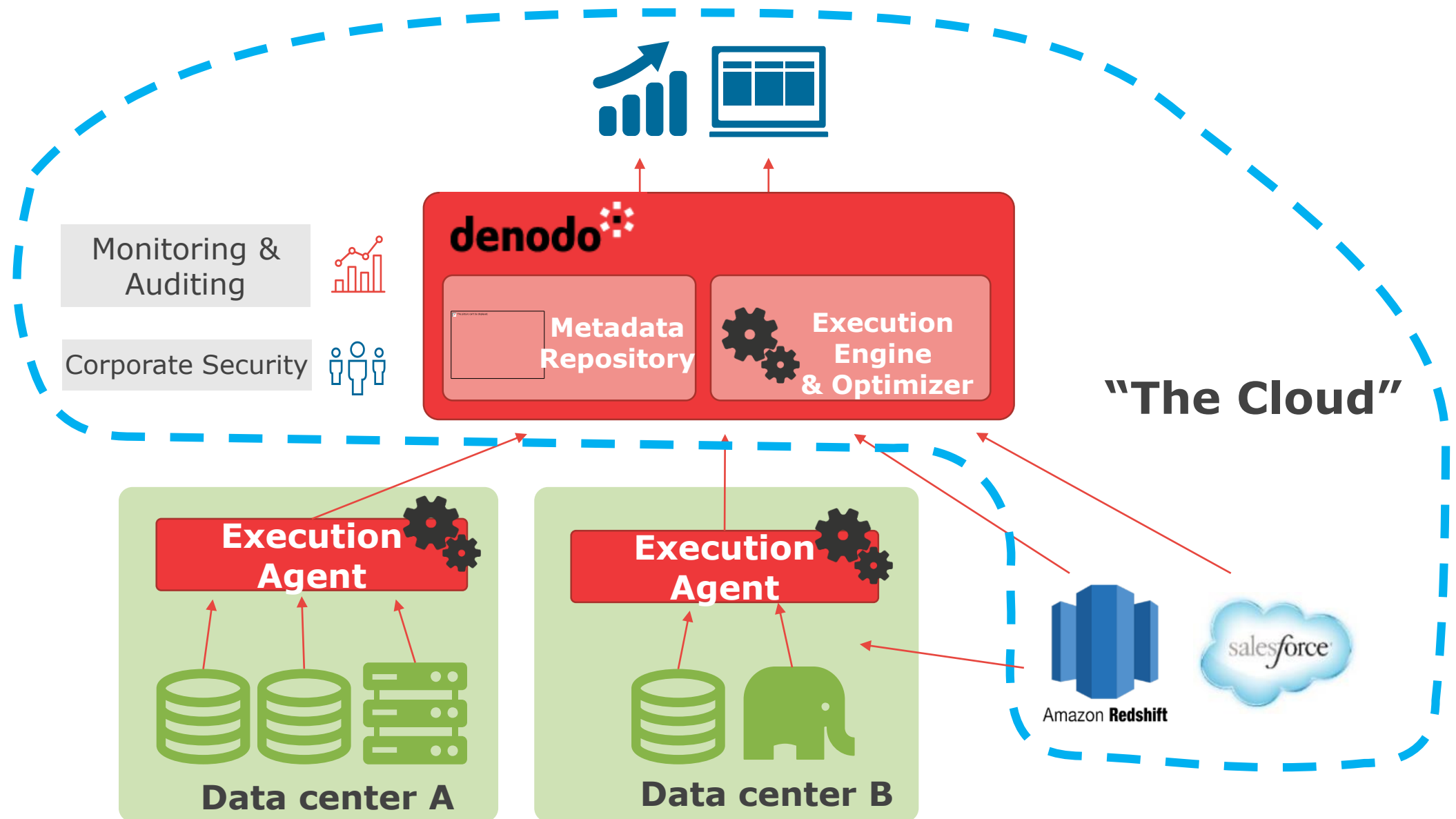
Data challenges for application modernization:

- How do you access the data in the SaaS applications?
- How do you get a holistic view of data in specialized applications?
- How do you get data into the SaaS apps?
- Are you going to give users access to each and every SaaS application?

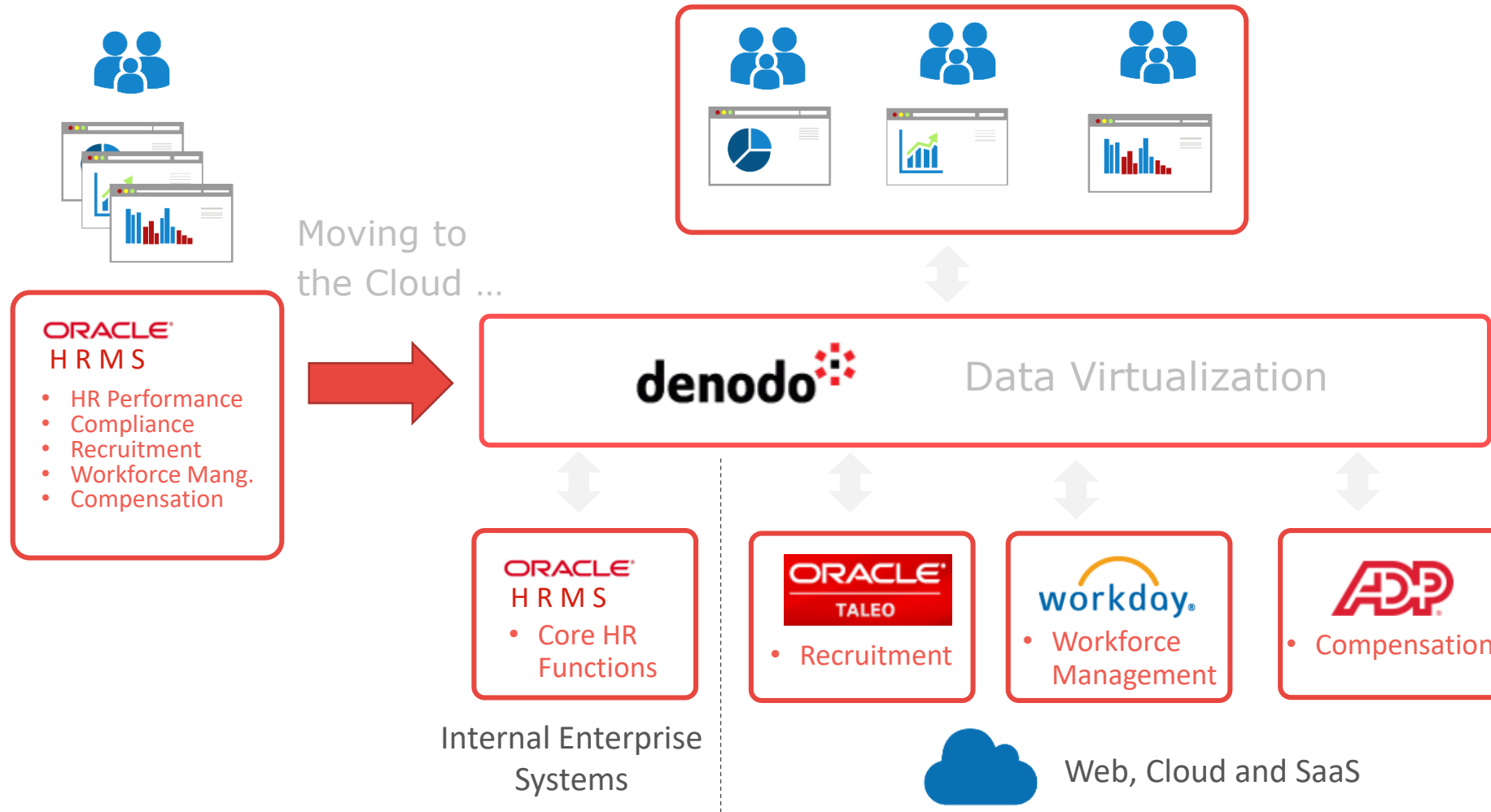
This is where Cloud Data Virtualization can play a significant role



Denodo's Cloud Data Virtualization Architecture



Application Modernization – Bio-Tech Company



Data Migration to Cloud

Moving data sources from on premise to Cloud
– or even from Cloud to Cloud

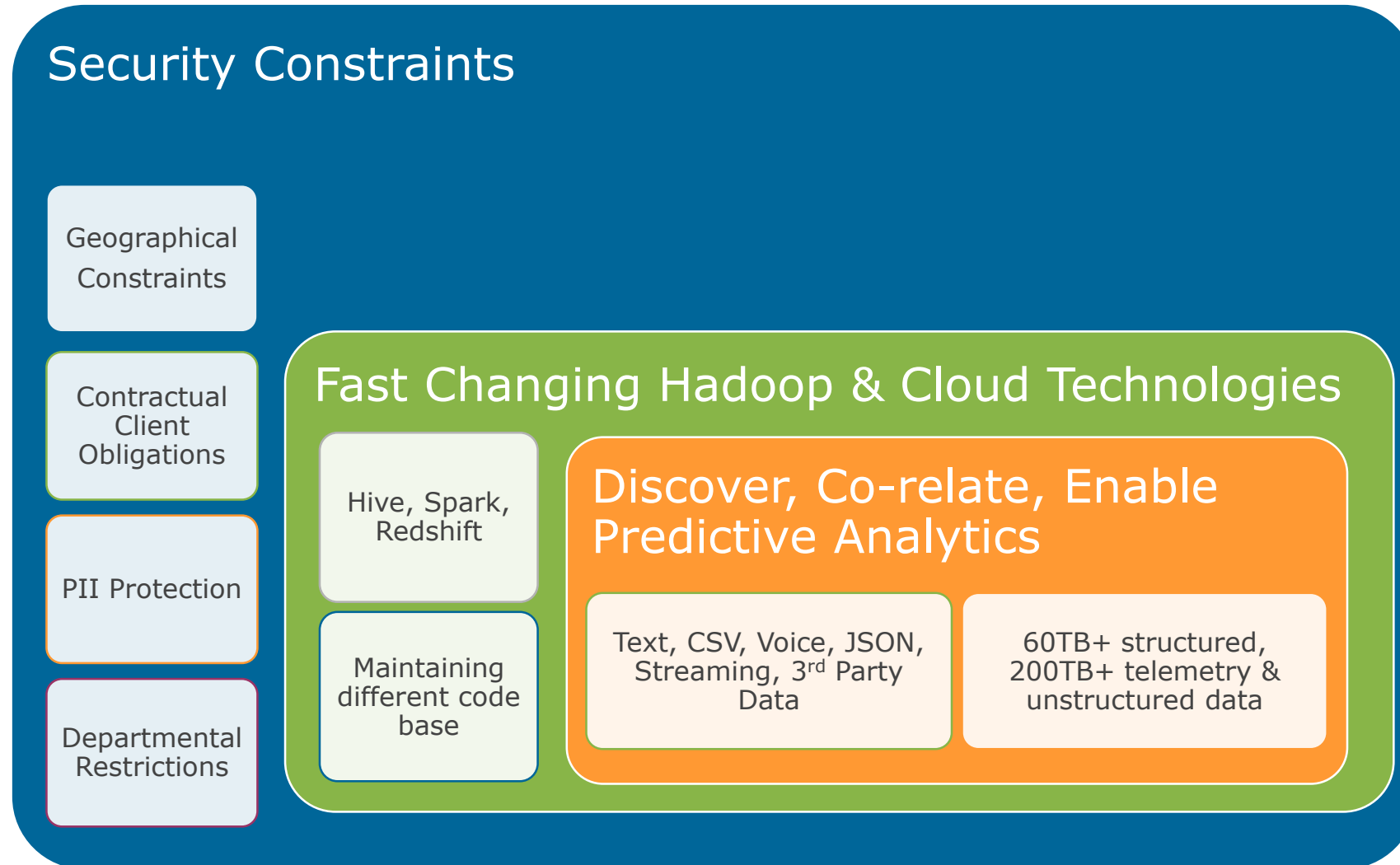
- Using Data Virtualization as an abstraction layer to isolate the business from the effects of the change
- Using Data Virtualization as a hybrid data access layer to access data, whether on-premise or in the Cloud



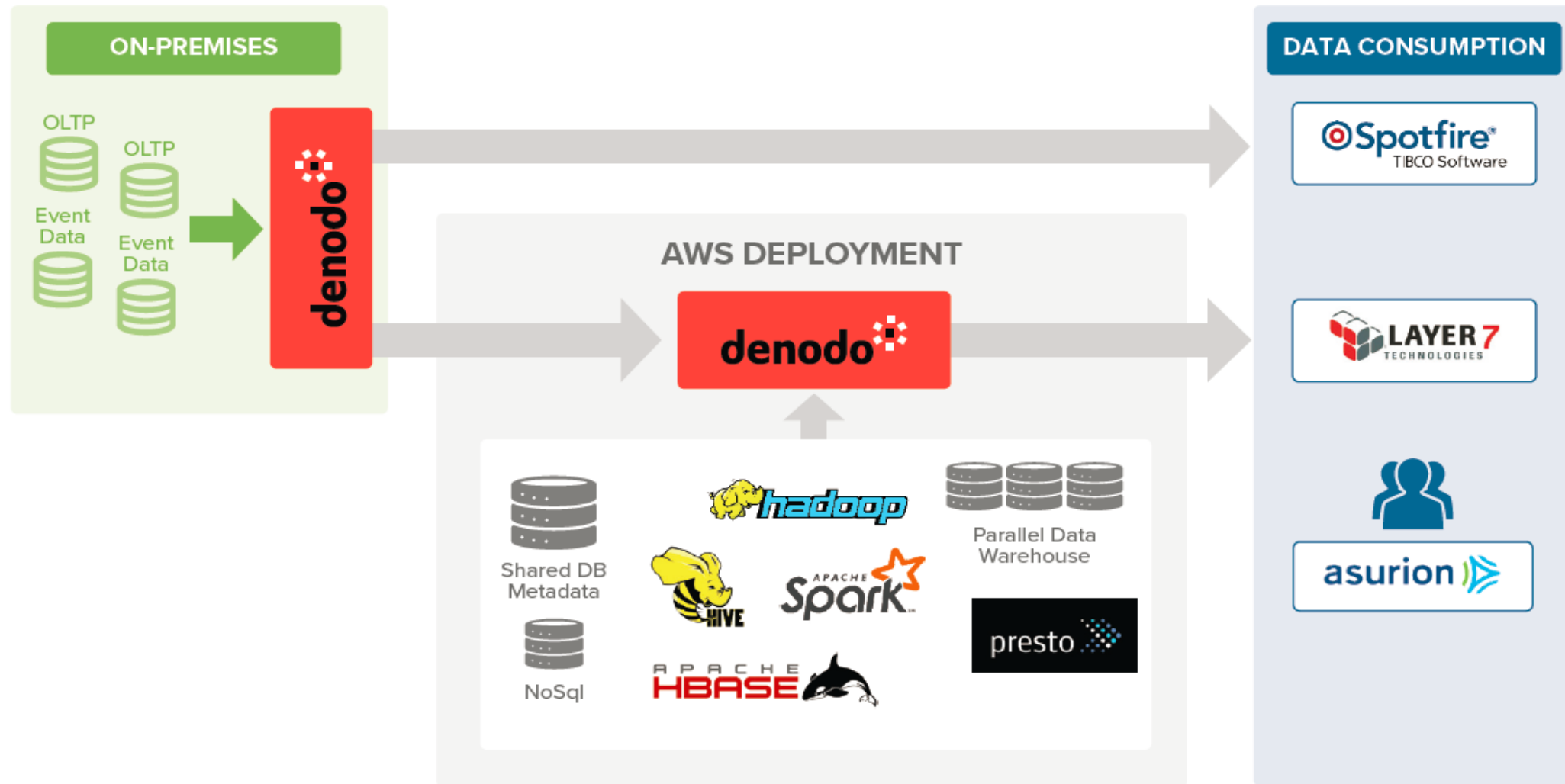
Data Migration to Cloud - Asurion

- Growing internationally, moving into different privacy and data protection jurisdictions
- New products – need for different data types and sources
 - Mixing structured, multi-structured, streaming, text, video, voice, geo-location, etc.
- Moving to Cloud for increased speed and agility
 - Easier to spin up new virtual servers for new data sets
- Competing pressures for securing data and providing access to data sets

Data Migration to Cloud - Asurion



Data Migration to Cloud - Asurion



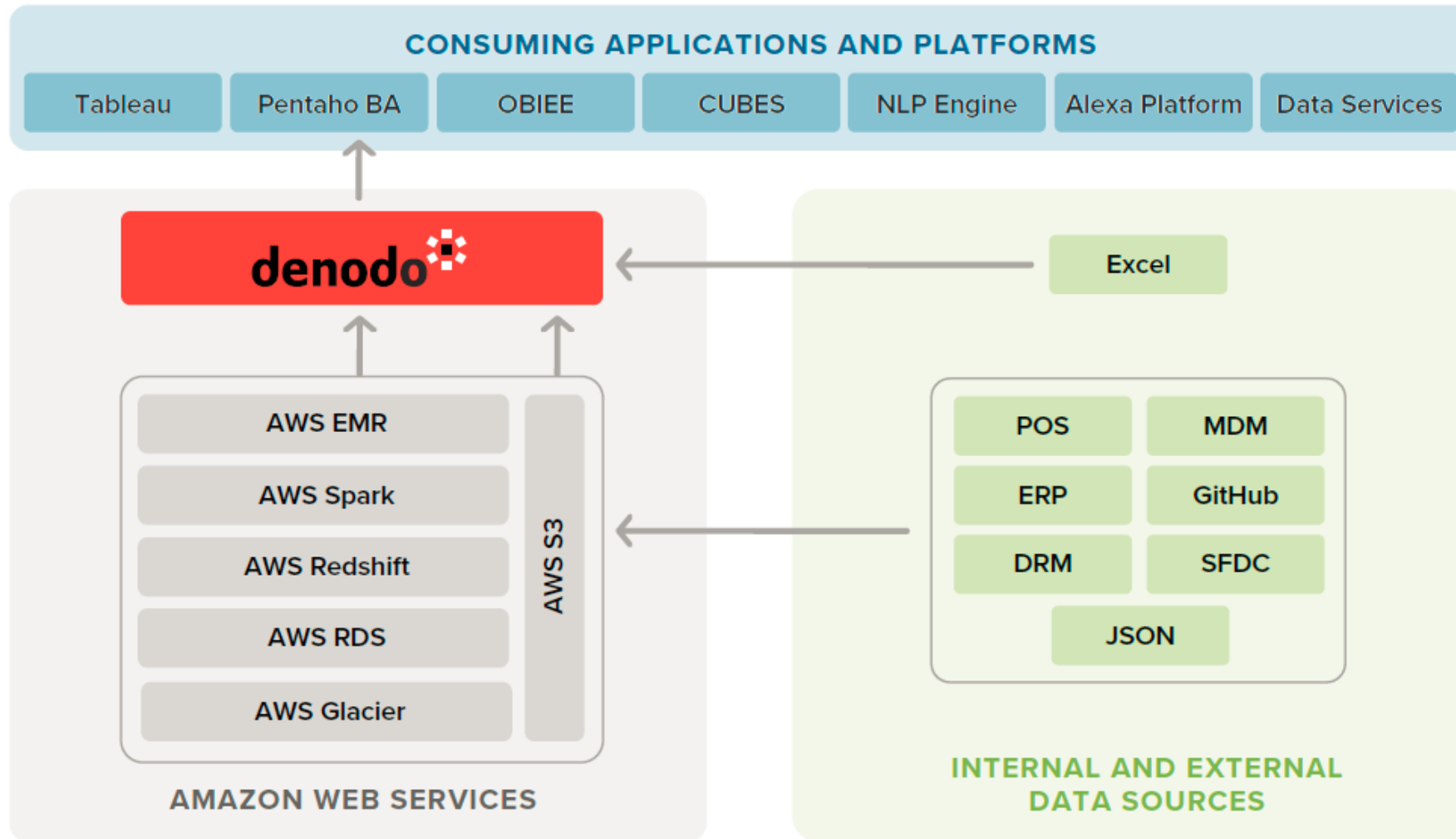
Customer Case Study



Cloud Data Integration - Logitech

- Logitech struggling with scalability of Exadata data warehouse
 - Too expensive to scale up with more data and higher workloads
- Needed to move to Cloud for increased speed and agility
 - Easier to dynamically scale for changing workloads
- Wanted analytical engines running on AWS for speed and agility
 - Redshift, AWS EMR, Spark, etc.
- But some data staying on-premises
- Needed platform to bridge Cloud and on-premise and to enable the migration with minimal impact on business

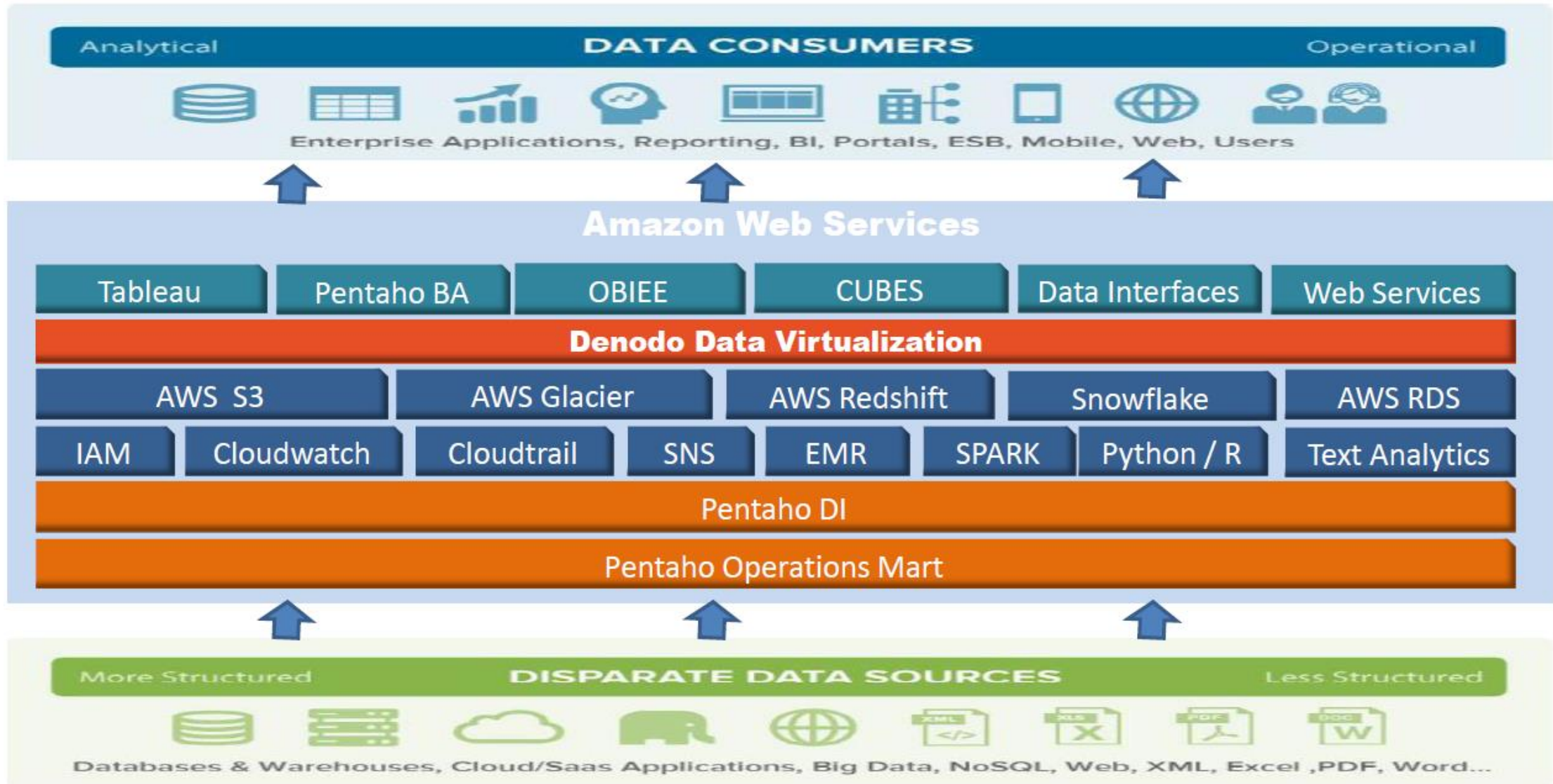
Cloud Data Integration - Logitech



"We deployed the Denodo Platform to aid us in moving our data analytics platforms to the cloud, and Denodo data virtualization played a critical role in that journey. The Denodo platform, already excellent, is constantly evolving, and getting better every day."

Avinash Deshpande
Principal, Big Data and Analytics
Logitech

Logitech Solution Architecture



Logitech - Benefits

- Embraced cloud as a model for achieving **innovation** through increased efficiency, reliability and agility, **enabling** broader audience to consume IT services via self-service
- Reusability and template development, rapid innovation within **governance/security** structure, balanced costs, risks and service levels
- More business insights by leveraging all data, empower people with **instant access** to all the data they want, the way they want it.
- Respond faster time to solution than traditional data integration – **Speed to Market**
- Array of connection options from **structured** to **unstructured** data
- Business Layer, enabling data consistency through **single object, multiple consumers**

Data Fest Presentation by Tekin Menten, Enterprise Data Architect & Data Evangelist, Logitech



Product Demonstration

Evolving From Monolithic to Distributed Architecture Patterns in the Cloud



Ruben Fernandez
Sales Engineer, Denodo



Scenario: Cloud EDW + SaaS CRM + Cloud Hadoop

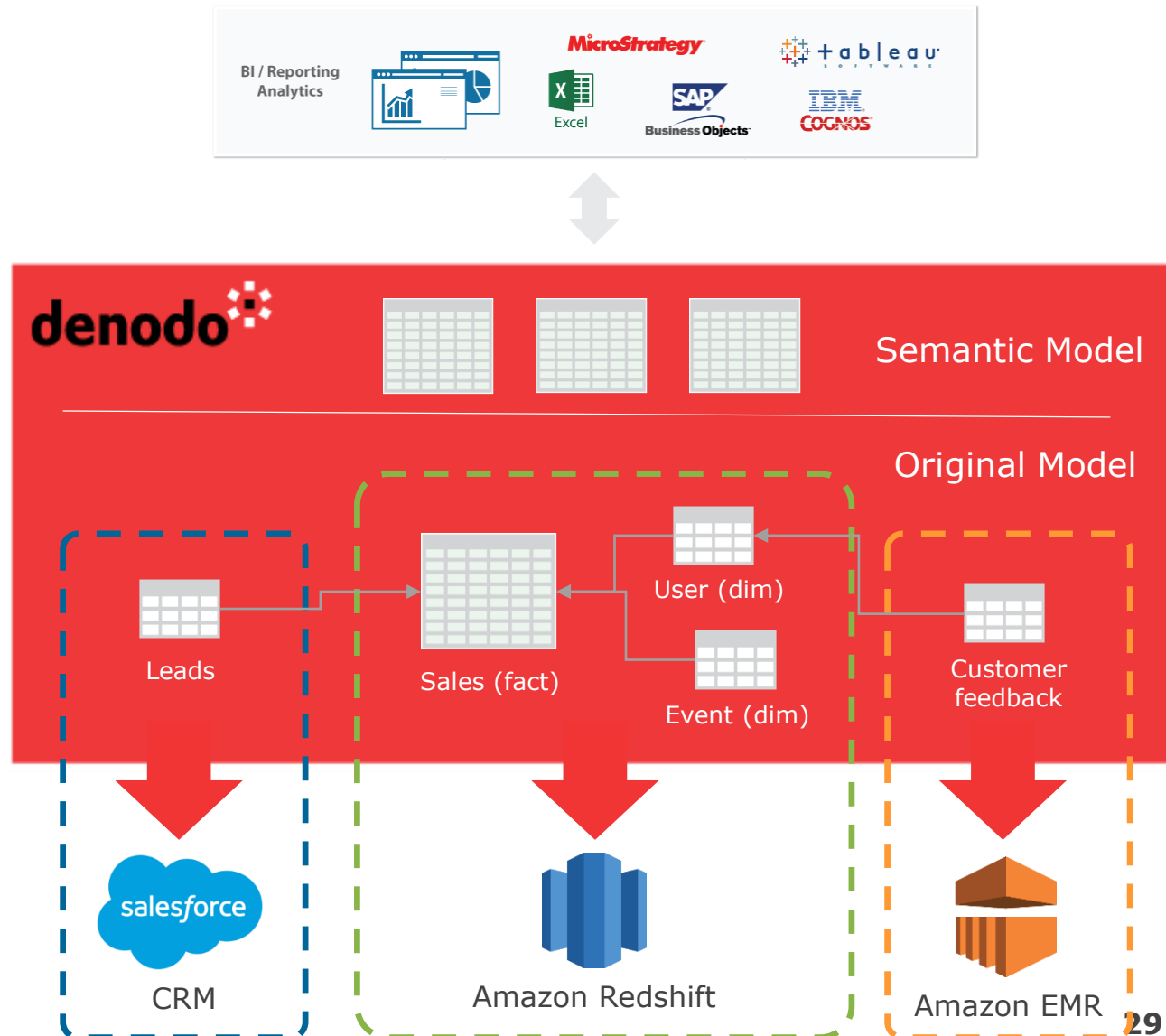
Combine Cloud EDW with other Cloud sources (Cloud SaaS, Hadoop, etc.) for agile reporting and analytics

Benefits

- Fresh data coming straight from Cloud systems
- Avoid local replication of cloud systems

Example

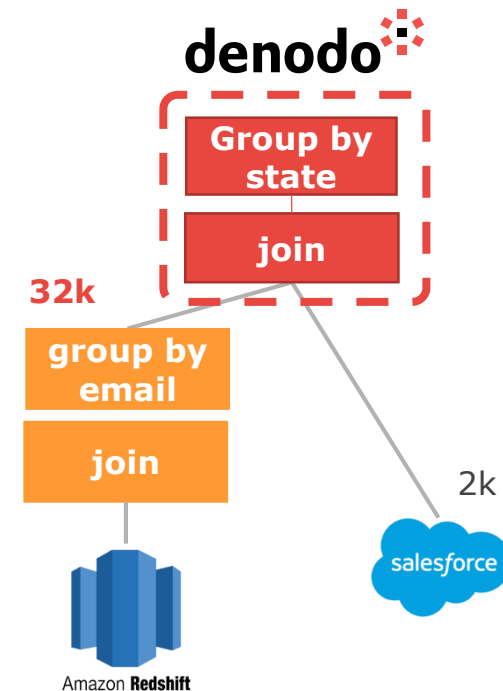
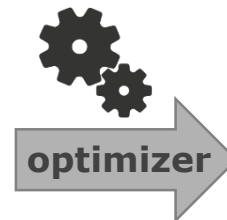
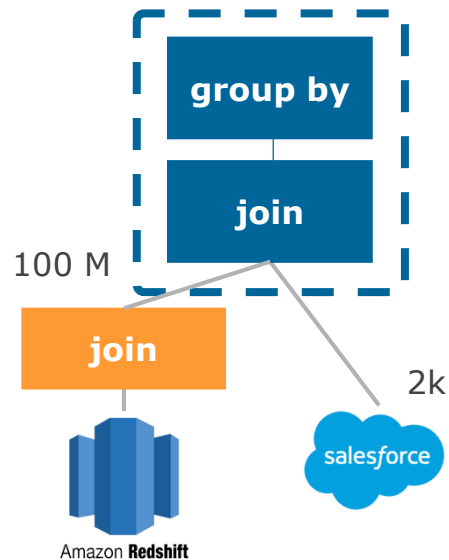
Report: **Sales** volume per **lead source** in last 30 days (EDW + CRM)



Performance & Optimizations

```
SELECT u.state AS state,  
       SUM(s.pricepaid) AS sales_total  
FROM  
  sales s JOIN users u ON s.buyerid = u.userid  
  JOIN salesforce_lead l ON u.email = l.email  
WHERE l.leadsource= 'Web'  
GROUP BY u.state;
```

System	Execution Time	Data Transferred
Denodo	3 sec.	34k
Non-optimized	8 min	100 M



Demo

Summary

- Moving to Cloud can be disruptive
 - Data Virtualization can help minimize the impact on business by isolating the changes
- Without proper hybrid integration layer, Cloud apps and databases can become yet more silos
 - Cloud Data Virtualization can open up these silos and allow users to access all data, anywhere
- If you're struggling with integration of Cloud data, you might lose the Cloud benefits of lower TCO and agility
 - Cloud Data Virtualization can improve agility, lower TCO and help ensure the benefits of Cloud Modernization

Summary

- Benefits of using Denodo Platform include:
 - Isolate business from changes in underlying infrastructure
 - e.g. moving from Teradata to Snowflake
 - Provides hybrid data access layer
 - Access all data from anywhere - Cloud-to-Ground, Cloud-to-Cloud
 - Common and consistent governance and security across all data
 - Enable speed and agility in new environment
 - Avoid expensive Cloud 'data egress' charges
 - Move processing to the data and not the data to the processor



Q&A



Next steps



Access Denodo Platform on AWS:

www.denodo.com/en/denodo-platform/denodo-platform-for-aws



Access Denodo Platform for Azure:

<https://www.denodo.com/en/denodo-platform/denodo-platform-for-azure>



Thank you!