

Cloud Data Services Overview

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IBM Analytics Platform



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Learning Objectives

At the conclusion of this session you will have an awareness of the wide variety of data services available on Bluemix.



Agenda

- Overview of Data & Analytics Services
- Example use case

Data & Analytics Services on Bluemix

Docs 192 Trial Days Remaining ▾ Matthias Nicola's Account | US South : mnicola@de.ibm.com : mnicola_new 

IBM Bluemix Catalog

Catalog Support Account

Storage
Network
Security

Apps
Boilerplates
Cloud Foundry Apps
Containers
OpenWhisk
Mobile

Services
[Data & Analytics](#) >
Watson
Internet of Things
APIs

 Apache Spark IBM Analytics for Apache Spark for Bluemix. 	 BigInsights for Apache Hadoop Provision managed Apache Hadoop and Spark clusters 	 BigInsights for Apache Hadoop (Subscription) Provision managed bare metal Apache Hadoop clusters for 
 Cloudant NoSQL DB Cloudant NoSQL DB is a fully managed data layer designed 	 Compose for Elasticsearch Elasticsearch combines the power of a full text search 	 Compose for etcd etcd is a key/value store developers can use to hold th  
 Compose for MongoDB MongoDB with its powerful indexing and querying, 	 Compose for MySQL MySQL is probably the most popular open source relational  	 Compose for PostgreSQL Postgres is a powerful, open source object-relational 

Data & Analytics Services on Bluemix (cont'd)

IBM Bluemix Catalog

Catalog Support Account

Storage
Network
Security

Apps
Boilerplates
Cloud Foundry Apps
Containers
OpenWhisk
Mobile

Services
Data & Analytics >
Watson
Internet of Things
APIs
Network
Storage
Security
DevOps
Application Services
Integrate

 Compose for ScyllaDB ScyllaDB is a highly performant, in-place replacement for the	 dashDB for Analytics A flexible and powerful data warehouse for enterprise-level	 dashDB for Transactions SQL Database A flexible and powerful relational database for
 Data Connect Data Connect: Self-service data preparation and integration fo	 Decision Optimization Develop optimization applications, such as planning	 Geospatial Analytics Expand the boundaries of your application. Leverage real-time
 IBM DB2 on Cloud DB2 on Cloud: Offers customers the rich features of	 IBM Graph A fully-managed graph database service based on th	 IBM Master Data Management on Cloud IBM® Master Data Management (MDM) on Cloud
 IBM Watson Machine Learning IBM Watson Machine Learning - make smarter decisions, solve	 Information Server on Cloud IBM® Information Server on Cloud allows you to rapidly	 Informix on Cloud IBM Informix on Cloud helps businesses gain a trusted vie

Positioning of Data and Analytics Services

	Data Repositories	Analytic Engines and Tools	Data Movement & Governance
Managed Services	 dashDB for Analytics  dashDB for Transactions  Cloudant NoSQL DB  BigInsights for Hadoop  Compose for MongoDB ...	 Apache Spark  Streaming Analytics  Data Science Experience  BigInsights for Hadoop  Watson Machine Learning  Cognos Analytics on Cloud  Watson Analytics ...	 Data Connect  BigInsights for Hadoop  Lift
Hosted Services (IaaS)	 DB2 on Cloud  Informix on Cloud		 MDM on Cloud  Information Server on Cloud



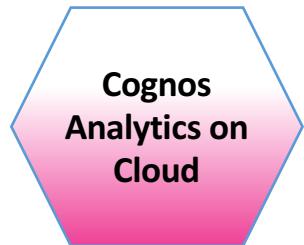
Data & Analytics Services

 dashDB for Analytics	<ul style="list-style-type: none"> • Relational database as a managed service • Optimized for complex queries, data warehousing, data marts, reporting, etc. • Often used with Cognos, SPSS, Microstrategy, ...
 dashDB for Transactions	<ul style="list-style-type: none"> • Relational database as a managed service • Configured and optimized for transactional workloads, many short read/write operations • Geared for OLTP with HA rather than analytics
 Cloudant NoSQL DB	<ul style="list-style-type: none"> • JSON document database • Particularly suitable for systems of engagement, web and mobile applications, IoT, etc. • Massively scalable with high availability
 Compose for ...	<ul style="list-style-type: none"> • Platform offering popular open source products in the cloud: MySQL, MongoDB, Postgress, Redis, ElasticSearch, ScyllaDB, RabbitMQ, ... • Managed scalability, high availability, etc.

 BigInsights for Hadoop	<ul style="list-style-type: none"> • Managed Hadoop Cluster in the cloud • With Spark, Hbase, YARN, Ambari, etc. • Can be the center piece of a data lake • Value adds: BigSQL, BigSheets, BigR, etc.
 Apache Spark	<ul style="list-style-type: none"> • Fully managed Spark cluster in the cloud • In-memory compute engine for analytics • Use cases: ETL, machine learning, predictive analytics, and much more
 Data Connect	<ul style="list-style-type: none"> • Self-Service data transformation and movement, incl. some ETL capabilities • Fully managed • Targets & sources: cloud and/or on prem
 Lift	<ul style="list-style-type: none"> • Service to migrate relational databases (or flat files) from ground to cloud • Often used with dashDB or DB2 on Cloud as the target
 Information Server on Cloud	<ul style="list-style-type: none"> • Datastage on Cloud • Information Governance Catalog • Information Server Cloud Data Quality • Hosted offering, not managed



Analytics Services not (yet?) on Bluemix



IBM's flagship reporting solution, available in the cloud

<https://www.ibm.com/us-en/marketplace/business-intelligence>



Self-service business intelligence and data visualization for the business user

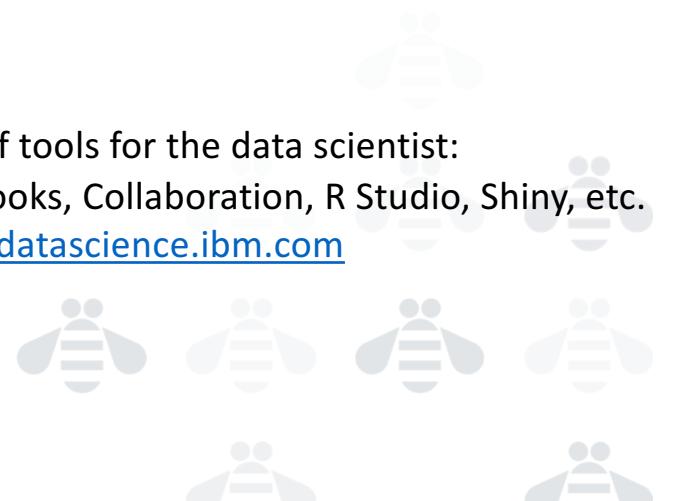
<https://watson.analytics.ibmcloud.com>



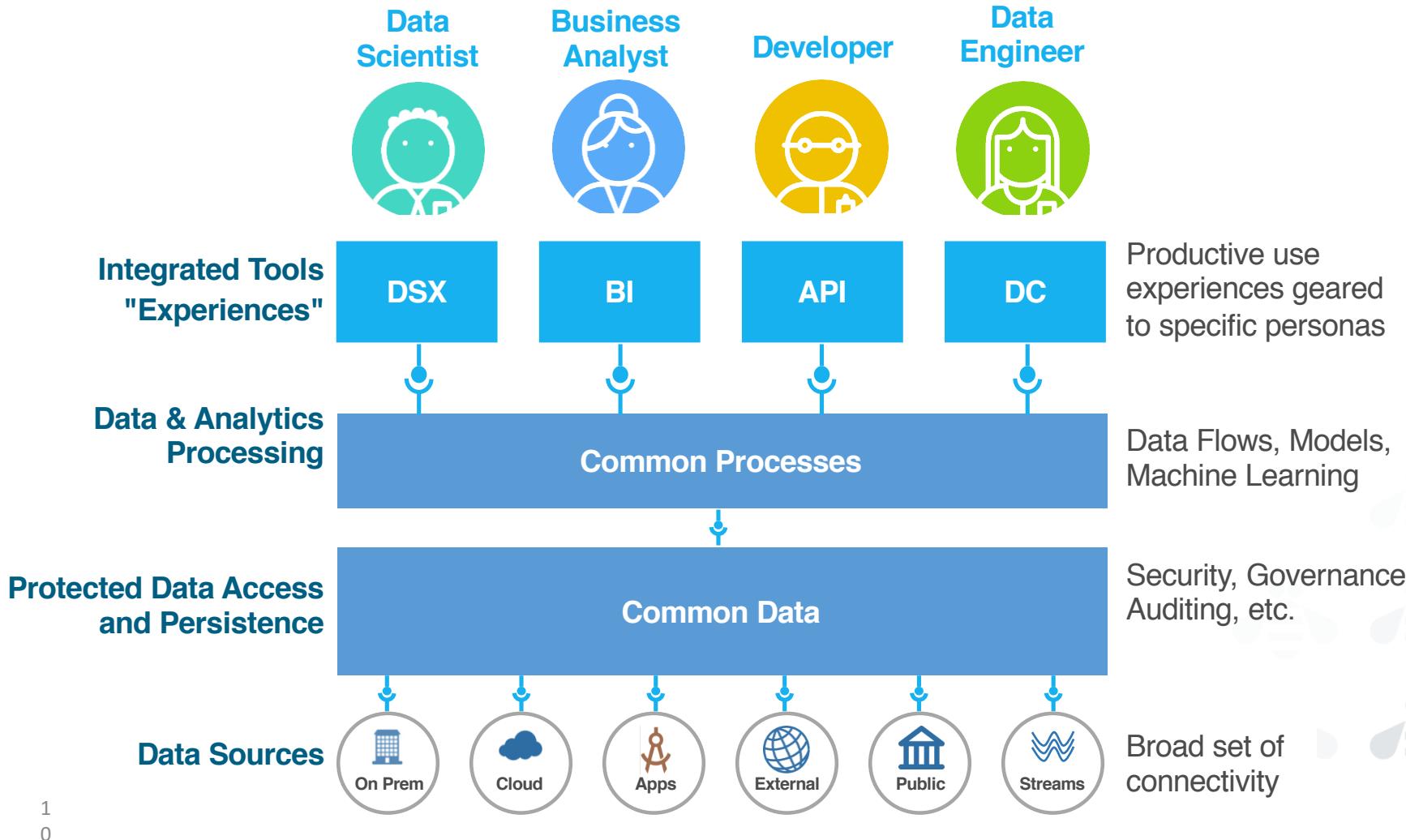
Suite of tools for the data scientist:

Notebooks, Collaboration, R Studio, Shiny, etc.

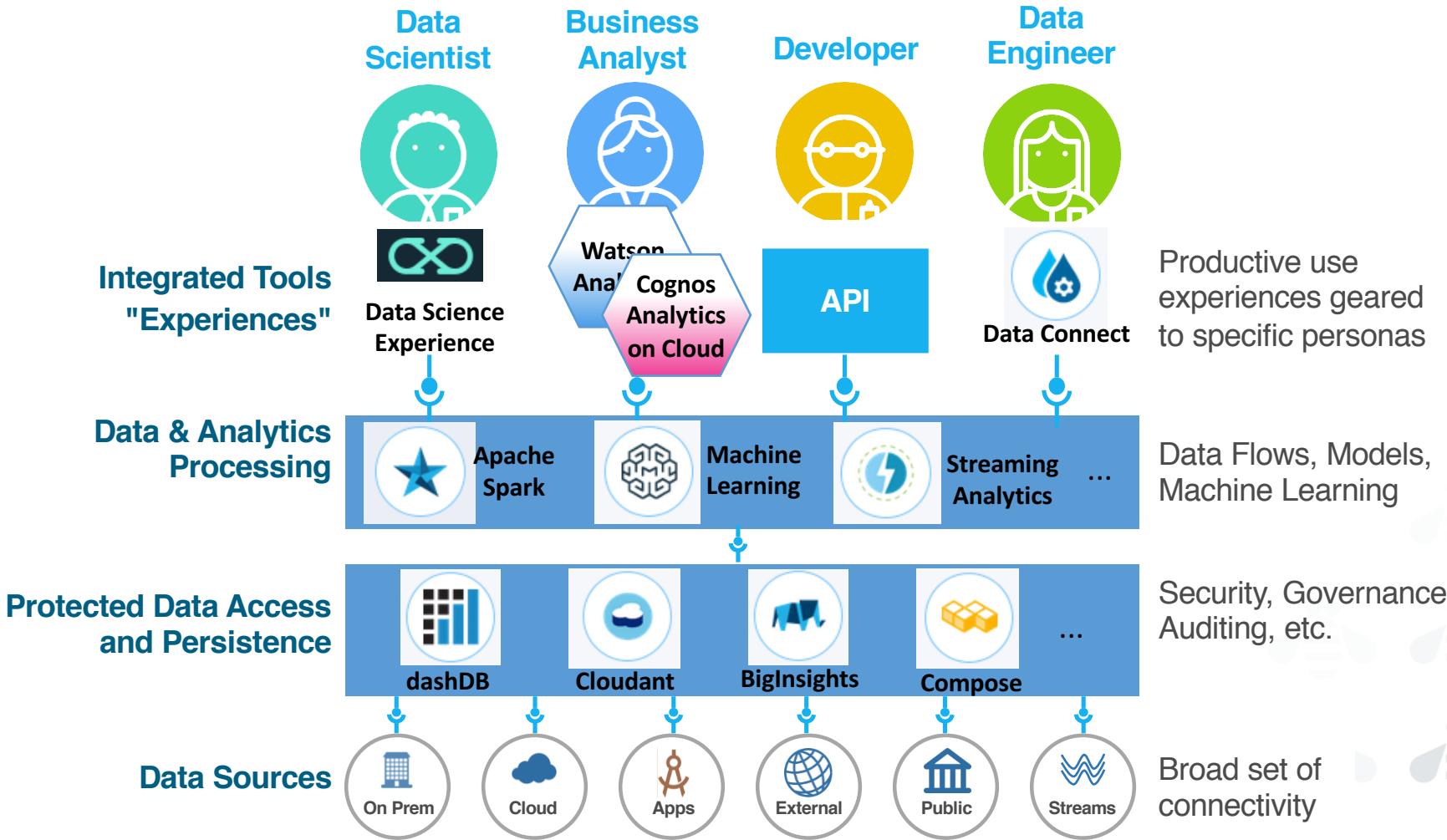
<http://datascience.ibm.com>



Positioning of Services in the Watson Data Platform



Positioning of Services in the Watson Data Platform



Agenda

- Overview of Data & Analytics Services
- Example use case

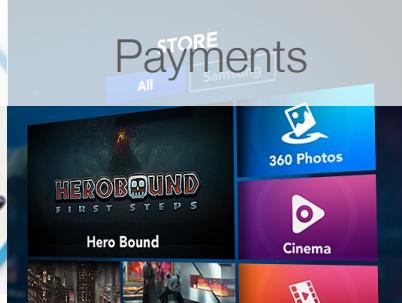
Scenarios for Building a Data Layer

Operational



Mobile

Transactional



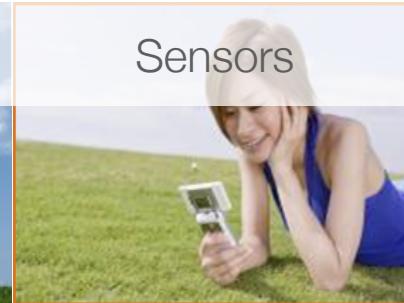
Payments

Analytics



Customer Insight

In memory Caching and streaming



Sensors

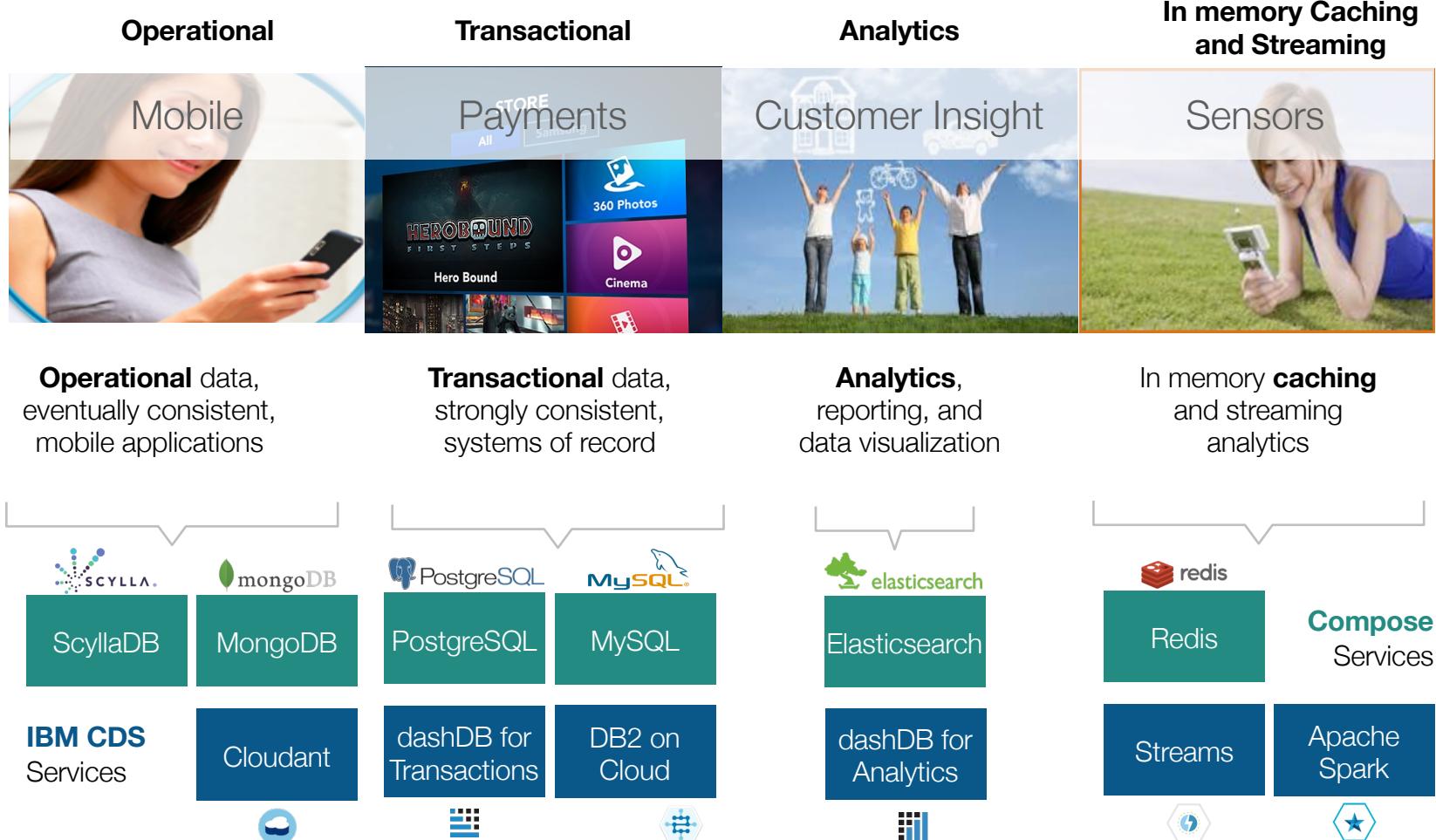
Operational data,
eventually consistent,
mobile applications

Transactional data,
strongly consistent,
systems of record

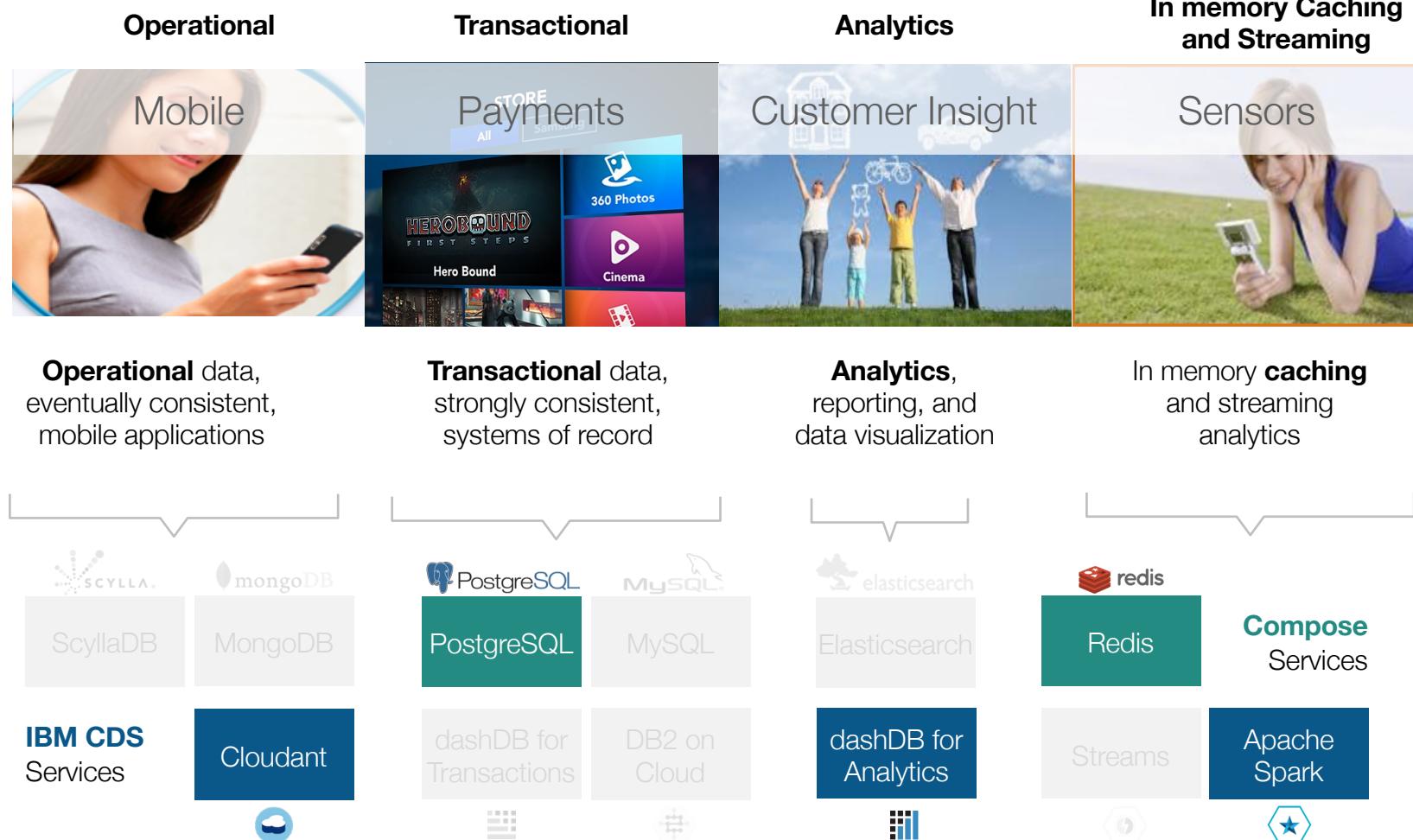
Analytics,
reporting, and
data visualization

In memory **caching**
and streaming
analytics

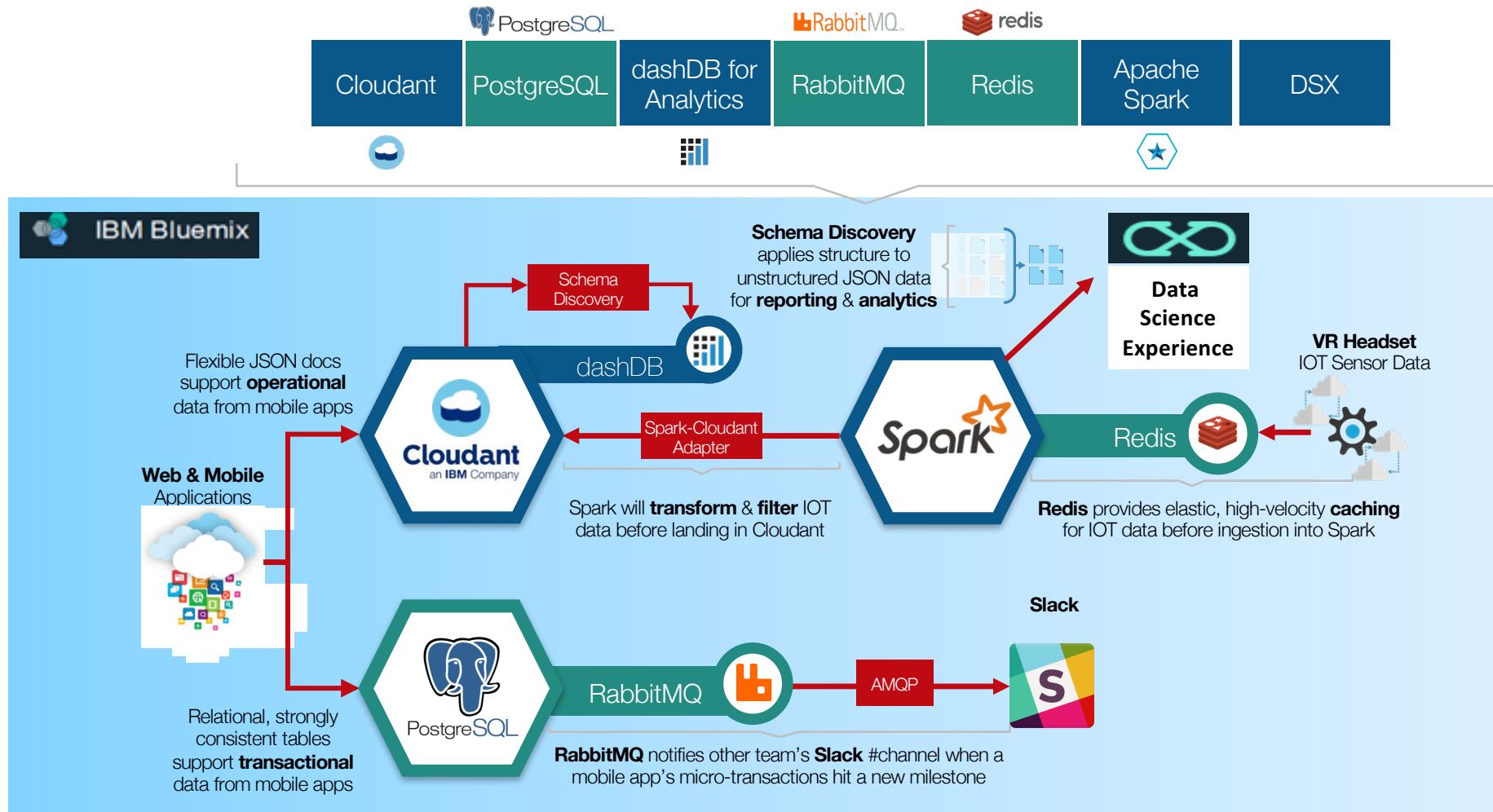
Services Supporting the Scenarios



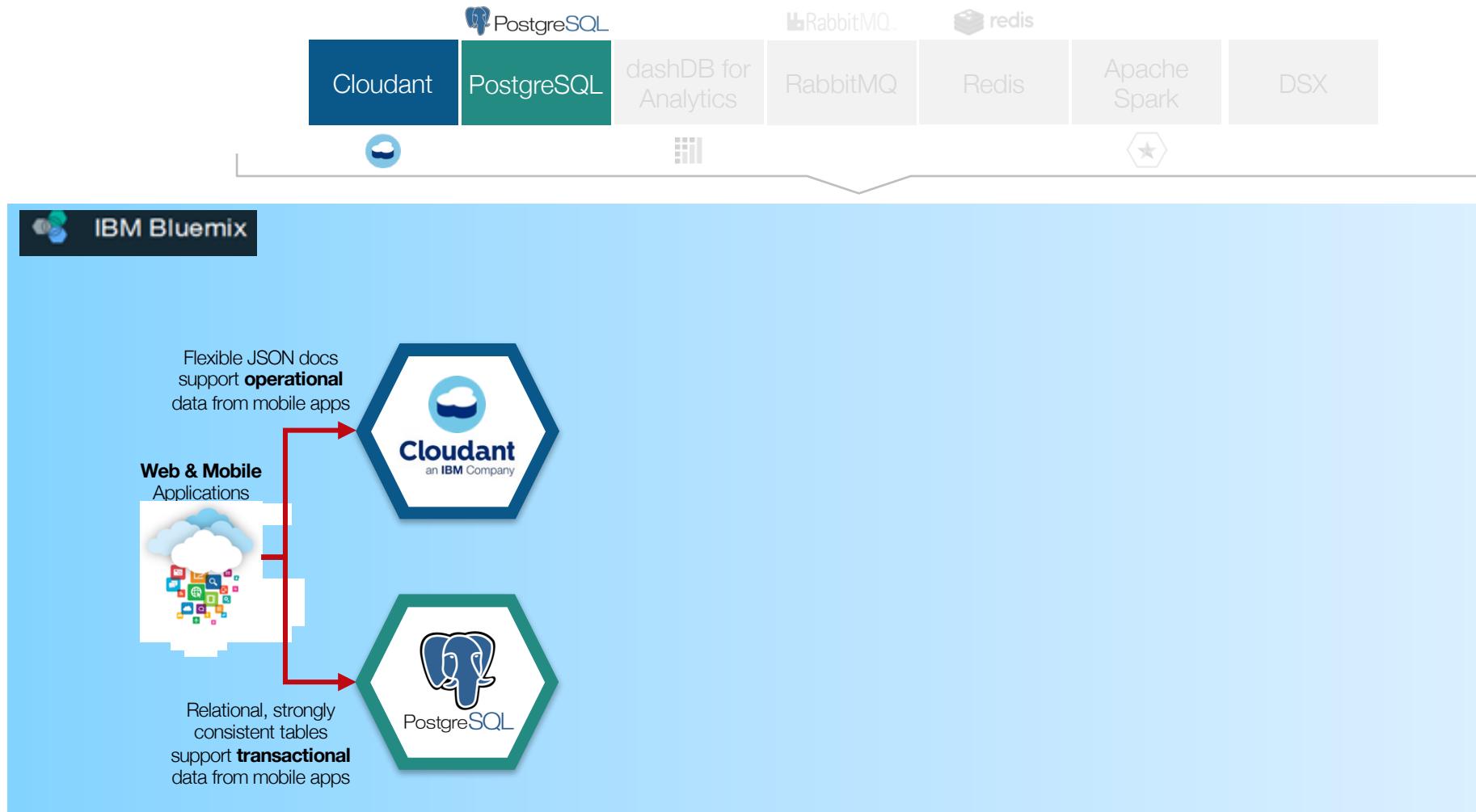
Selecting a service



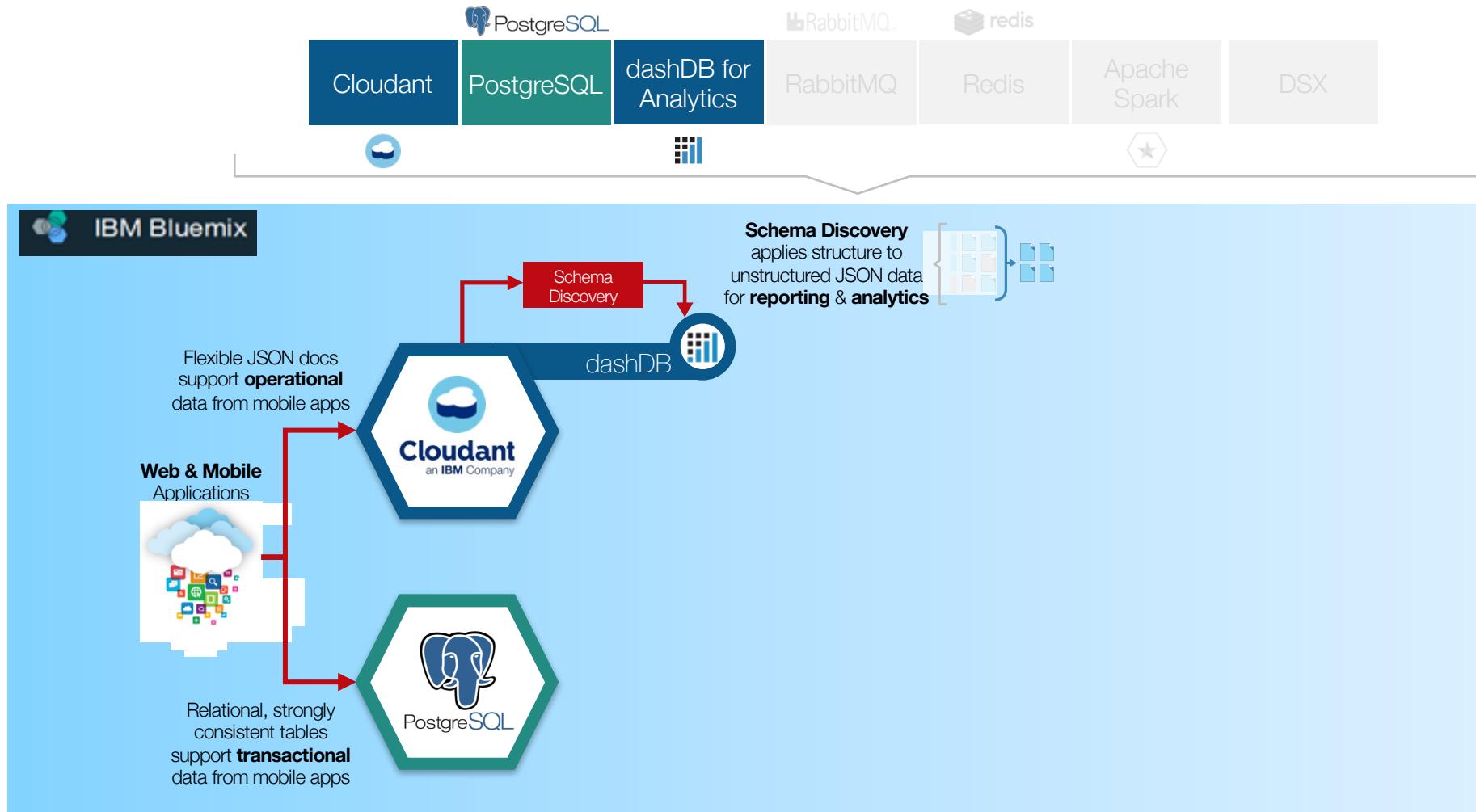
Building a Data Layer – Gaining Insights From Data



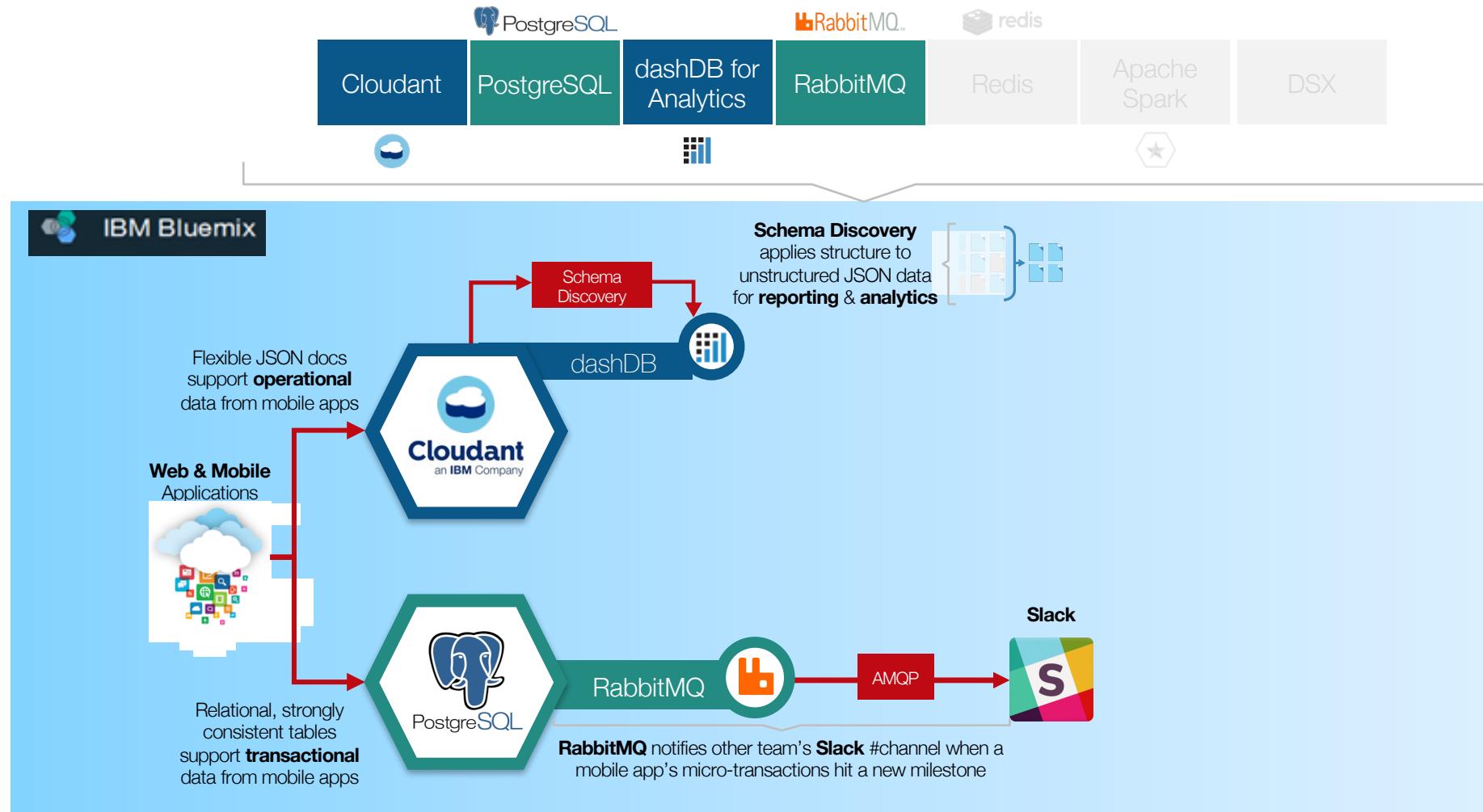
Building a Data Layer – Operational and Transactional



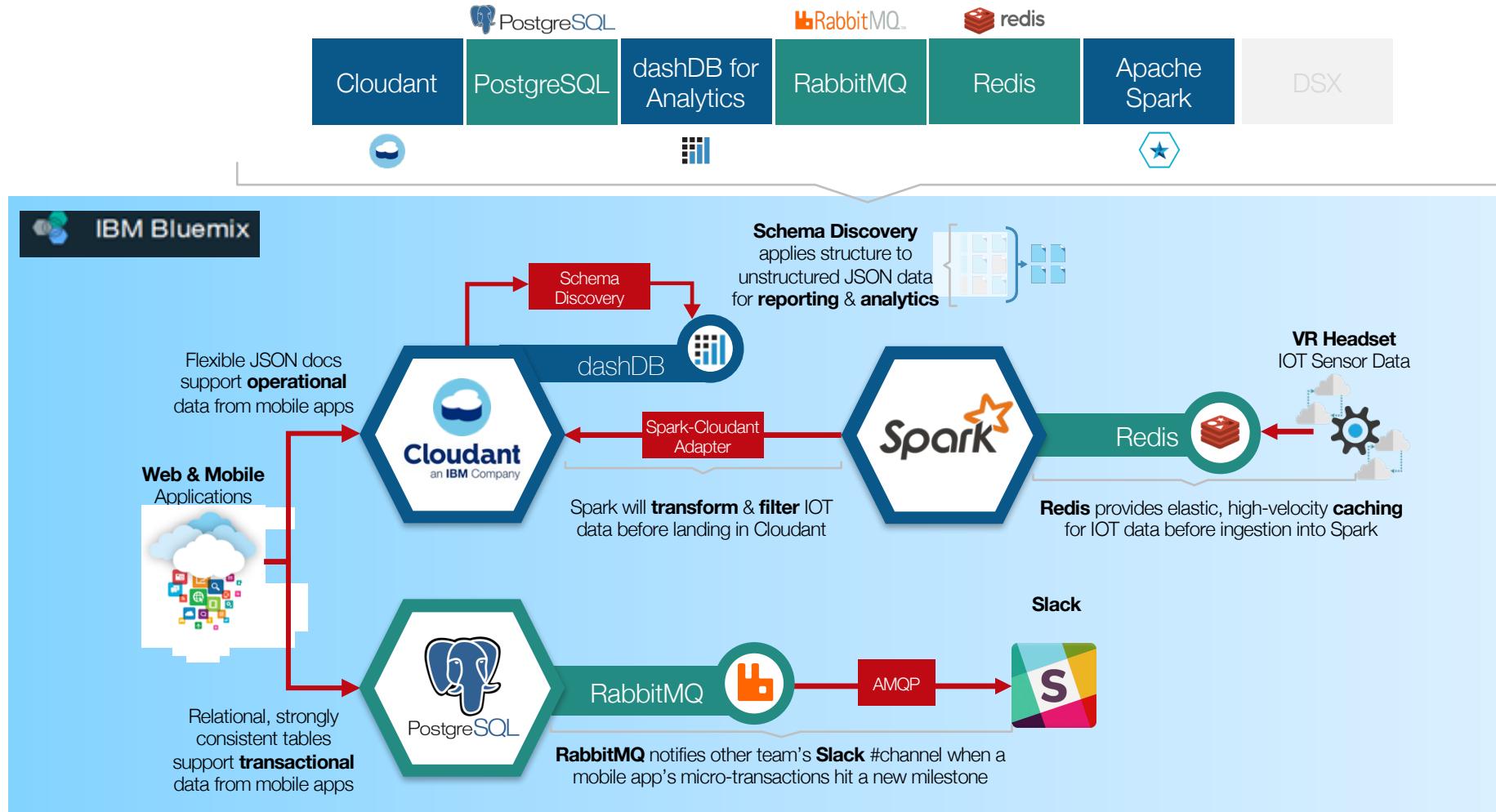
Building a Data Layer - Analytics



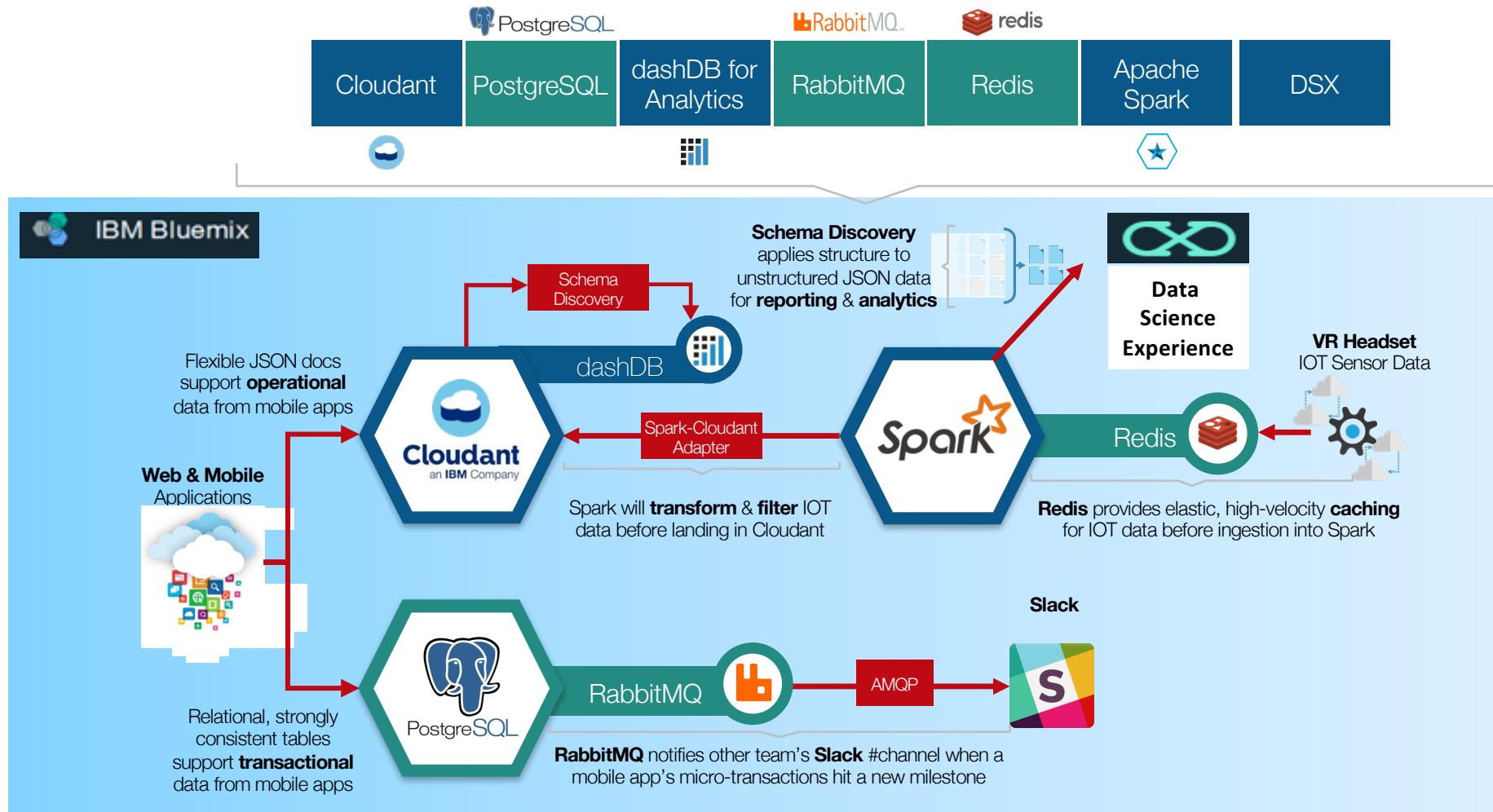
Building a Data Layer - Integration



Building a Data Layer – In Memory Caching and Streaming



Building a Data Layer – Gaining Insights From Data



Summary

- Rich set of services for range of different needs for
 - Persistence
 - Management and Governance
 - Analytics
- Analytics can be infused into business processes for intelligent applications or used for general exploration and discovery insights
- Proving a flexible innovation platform for data

The image features a central, large white text 'Thank You' composed of two overlapping words. The 'T' and 'A' of 'Thank' and the 'Y' and 'O' of 'You' overlap. Surrounding this central text is a dense cloud of smaller, semi-transparent text in various languages, all expressing gratitude or thanks. The background is black, and the overall effect is a modern, global representation of appreciation.