Microsoft

Azure Cosmos DB

NoSQL Strikes Back
An introduction to the dark side of your data

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MODERN APPS FACE NEW CHALLENGES

Managing and syncing data distributed around the globe

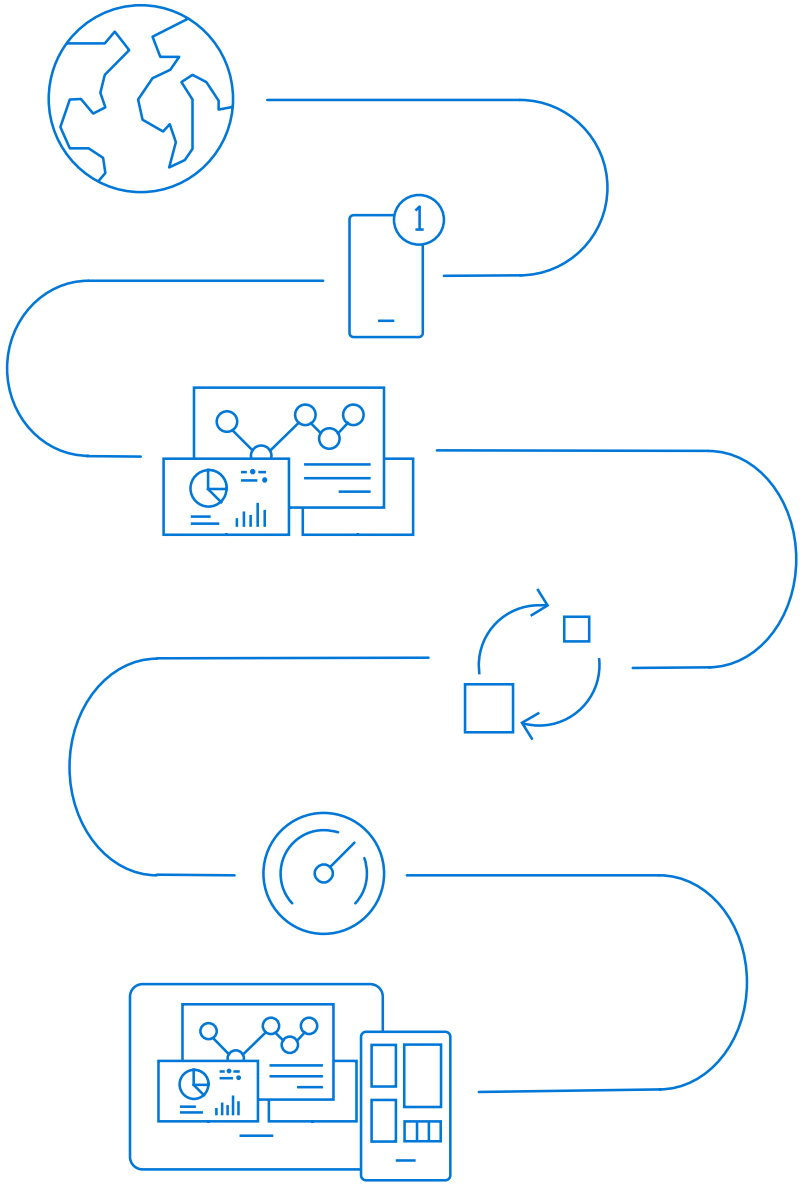
Delivering highly-responsive, real-time personalization

Processing and analyzing large, complex data

Scaling both throughput and storage based on global demand

Offering low-latency to global users

Modernizing existing apps and data



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Andre advises customers in topics all around the Microsoft Data Platform. Since version 7.0, Andre gathering experience with the SQL Server product family. Today Andre concentrates on working with data in the cloud, like Modern Data Warehouse architectures, Artificial Intelligence and new scalable database systems like Azure Cosmos DB.

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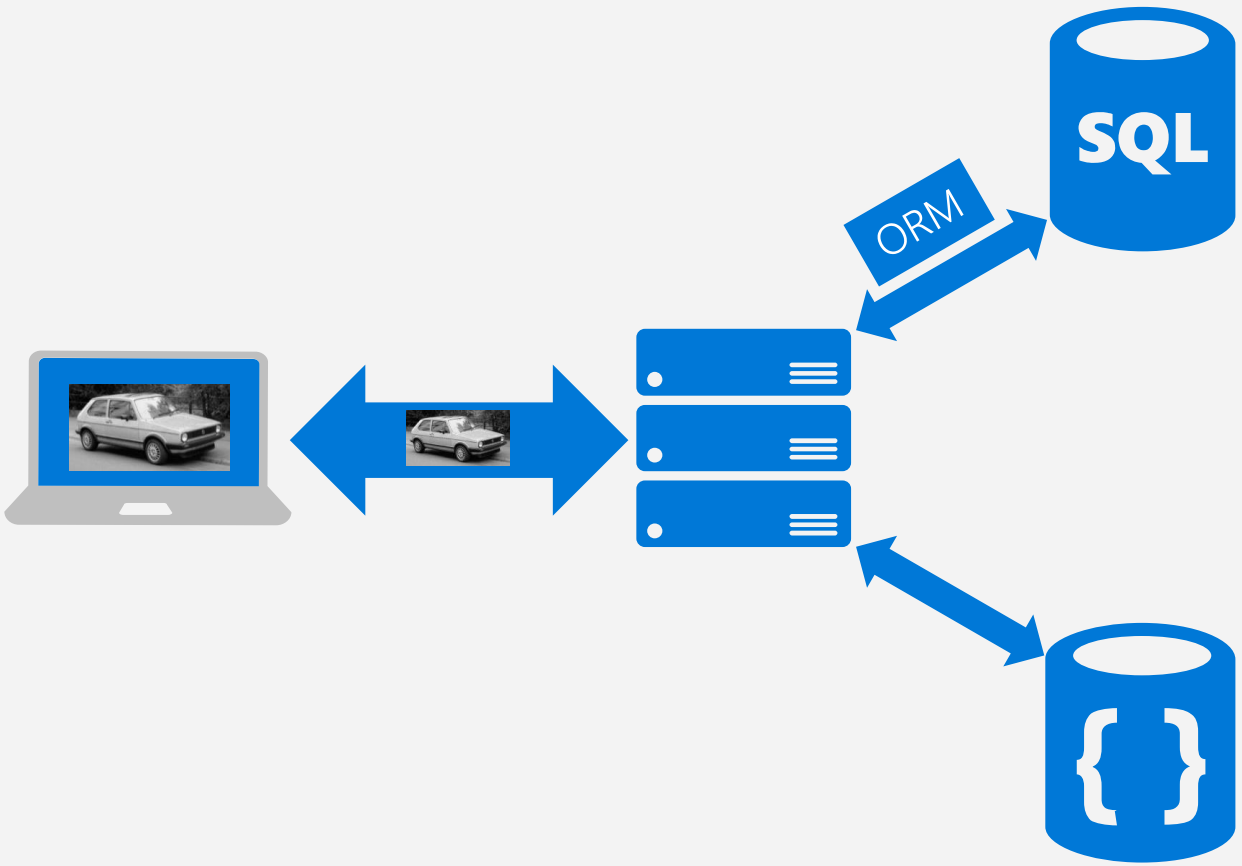
DIFFERENT WAYS OF STORING DATA WITH YOUR MODERN APP



Data normalization

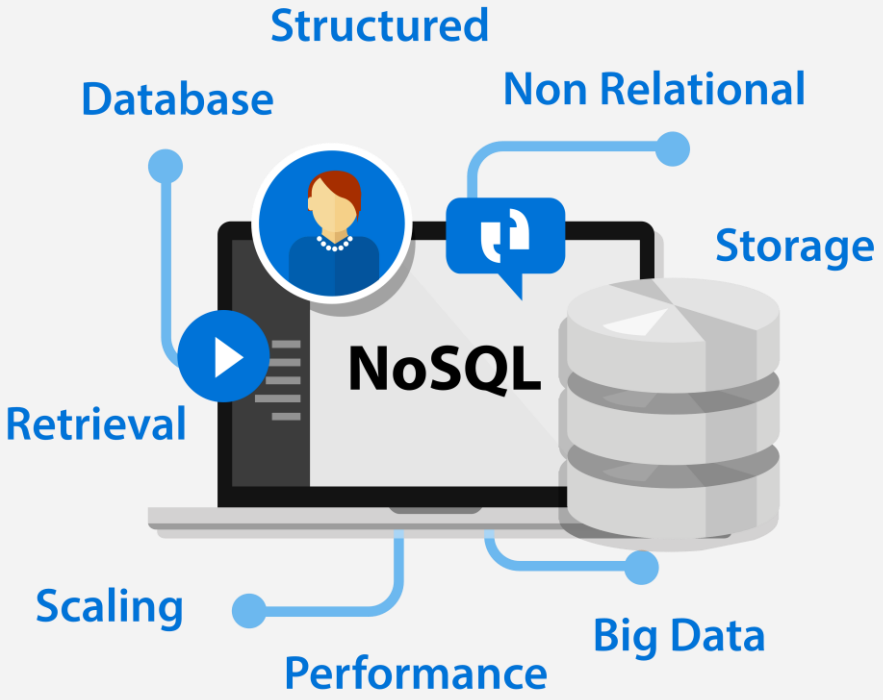
Come as you are

WHAT IS NOSQL

NOSQL, BUILT FOR SIMPLE AND FAST APPLICATION DEVELOPMENT

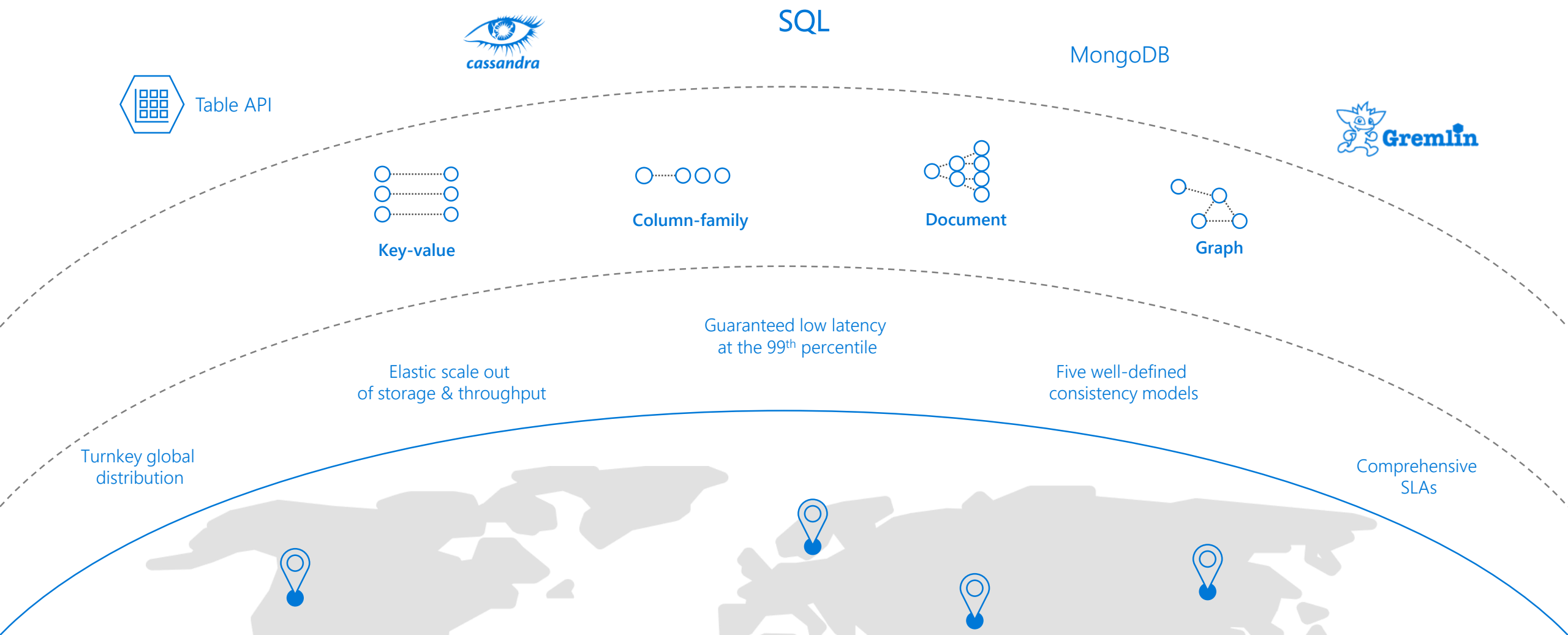
NoSQL, referring most times to “Non-SQL”, “Not Only SQL” or also “non-relational” is a kind of database where the data is modeled differently to relational systems.

- Different kinds available
  - Document
  - Key/Value
  - Columnar
  - Graph
  - etc.
- Non-Relational
- Schema agnostic
- Built for scale and performance
- Different consistency model



AZURE COSMOS DB

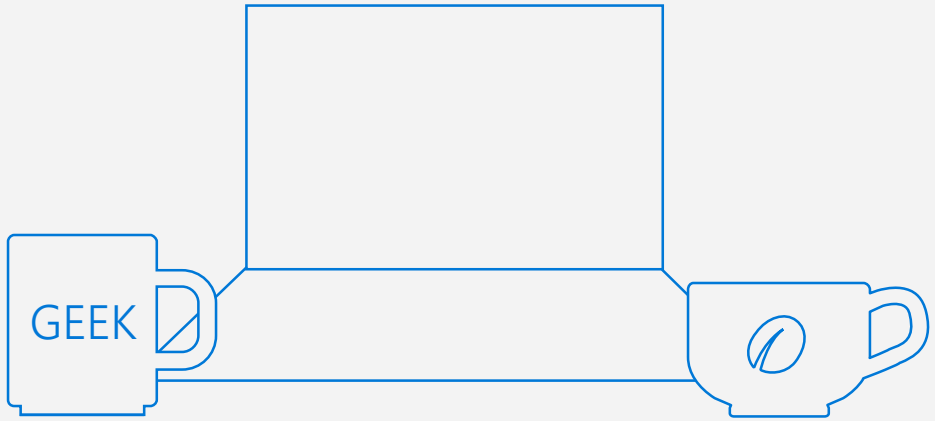
A globally distributed, massively scalable, multi-model database service



HANDLE ANY DATA WITH NO SCHEMA OR INDEXING REQUIRED

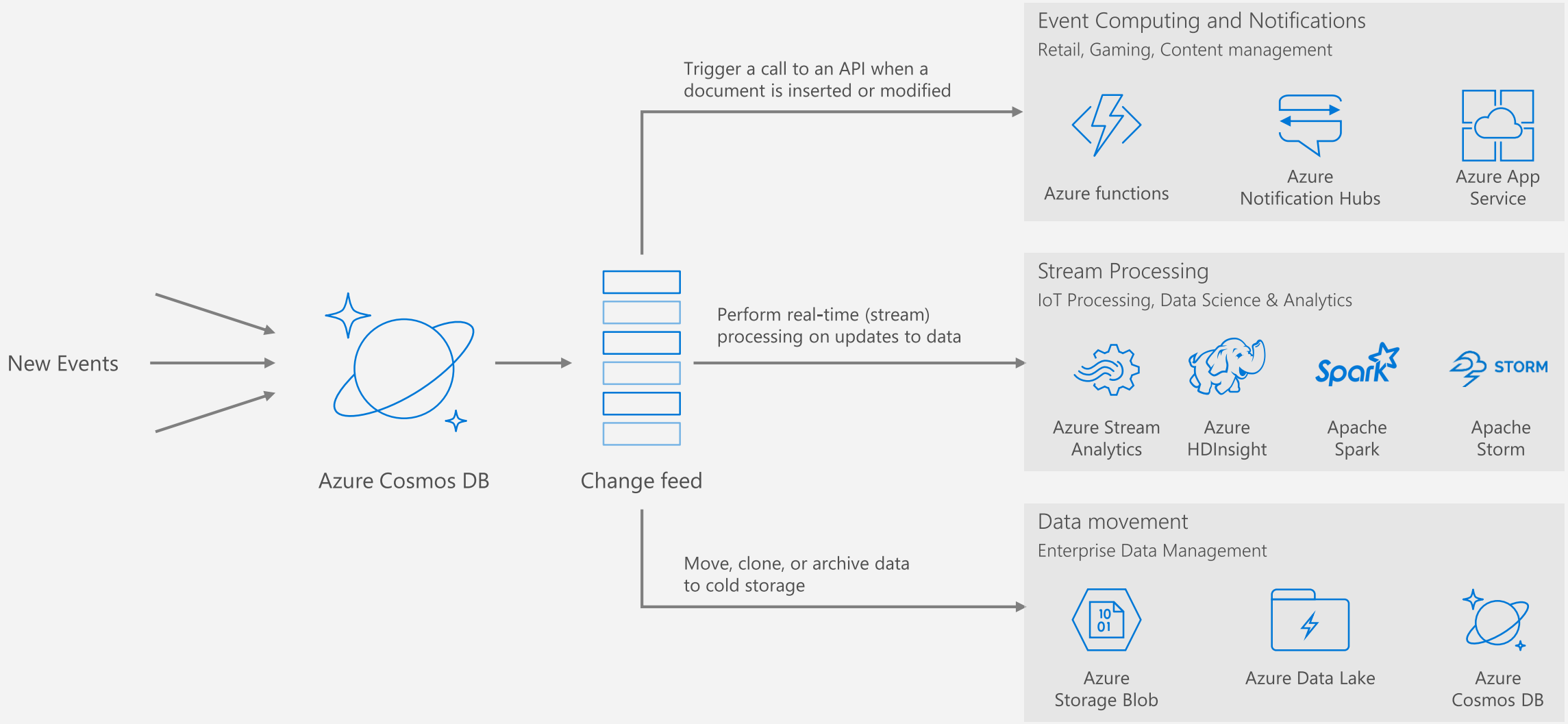
Azure Cosmos DB's schema-less service automatically indexes all your data, regardless of the data model, to delivery blazing fast queries.

- Automatic index management
- Synchronous auto-indexing
- No schemas or secondary indices needed
- Works across every data model

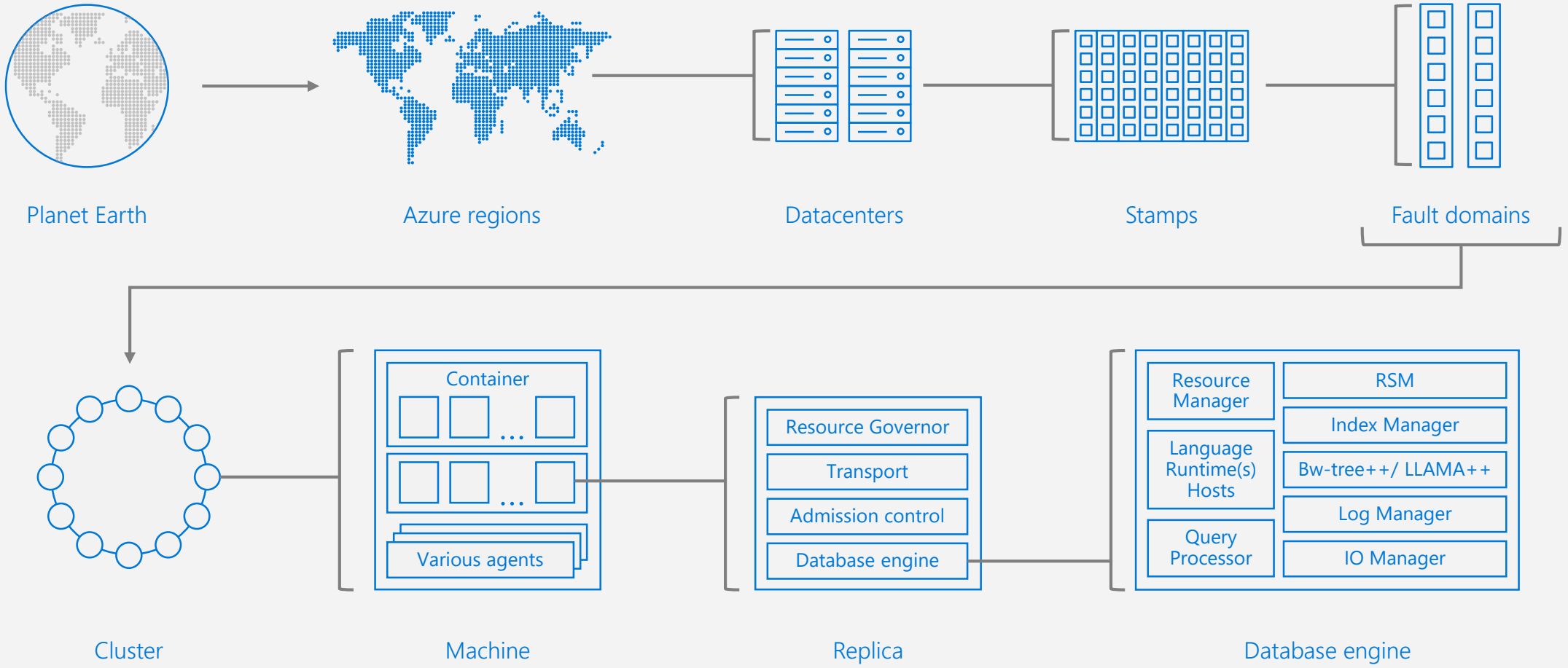


Item	Color	Microwave safe	Liquid capacity	CPU	Memory	Storage
Geek mug	Graphite	Yes	16ox	???	???	???
Coffee Bean mug	Tan	No	12oz	???	???	???
Surface book	Gray	???	???	3.4 GHz Intel Skylake Core i7-6600U	16GB	1 TB SSD

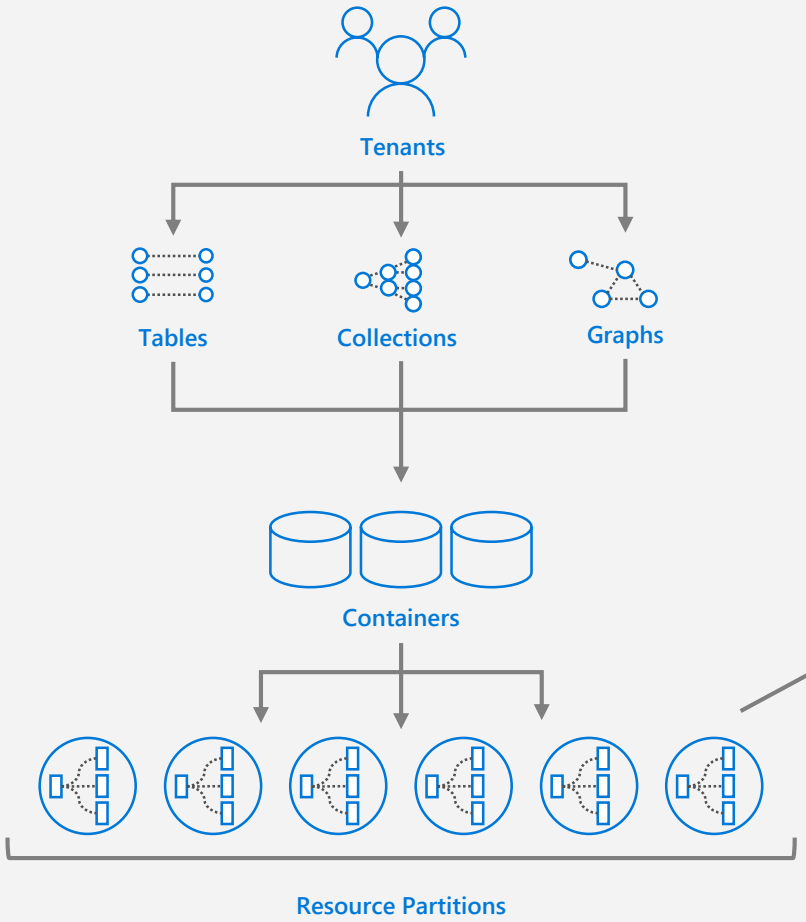
CHANGE FEED SCENARIOS



SYSTEM TOPOLOGY (BEHIND THE SCENES)

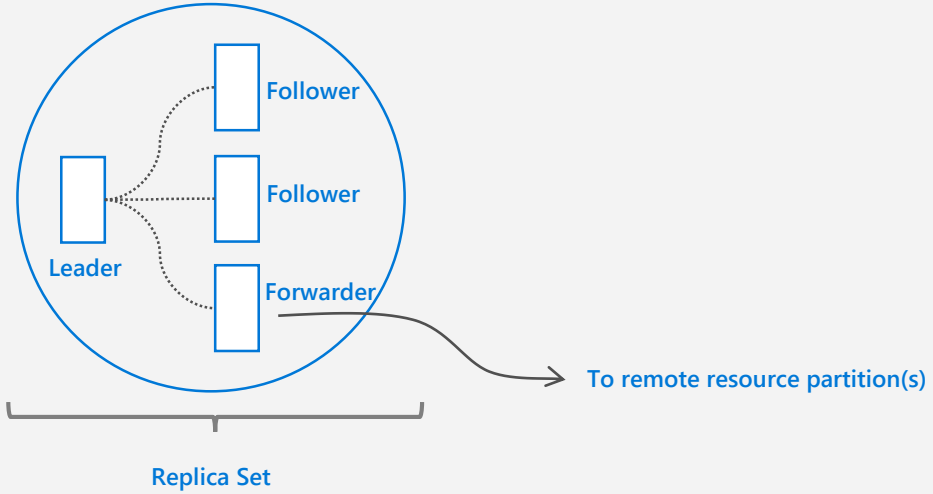


RESOURCE HIERARCHY



CONTAINERS

Logical resources “surfaced” to APIs as tables, collections or graphs, which are made up of one or more physical partitions or servers.



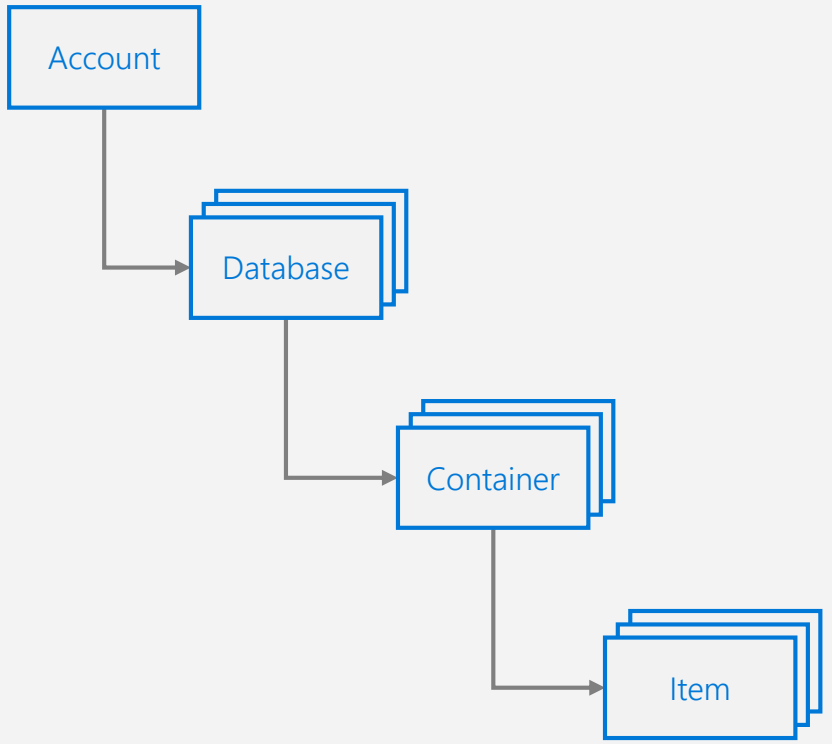
RESOURCE PARTITIONS

- Consistent, highly available, and resource-governed coordination primitives
- Consist of replica sets, with each replica hosting an instance of the database engine

RESOURCE MODEL

Leveraging Azure Cosmos DB to automatically scale your data across the globe

This module will reference partitioning in the context of all Azure Cosmos DB modules and APIs.



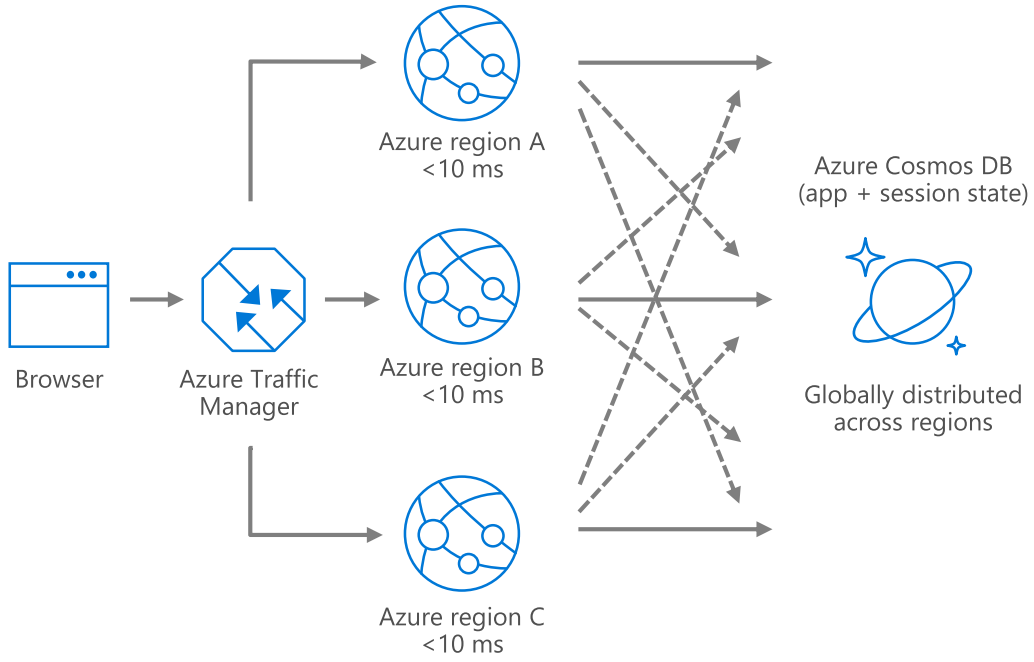
AZURE COSMOS DB

A FULLY-MANAGED GLOBALLY DISTRIBUTED DATABASE SERVICE BUILT TO GUARANTEE EXTREMELY LOW LATENCY AND MASSIVE SCALE FOR MODERN APPS

DATA DISTRIBUTED AND AVAILABLE GLOBALLY

Put your data where your users are to give real-time access and uninterrupted service to customers anywhere in the world.

- Turnkey global data replication across all Azure regions
- Guaranteed low-latency experience for global users
- Resiliency for high availability and disaster recovery



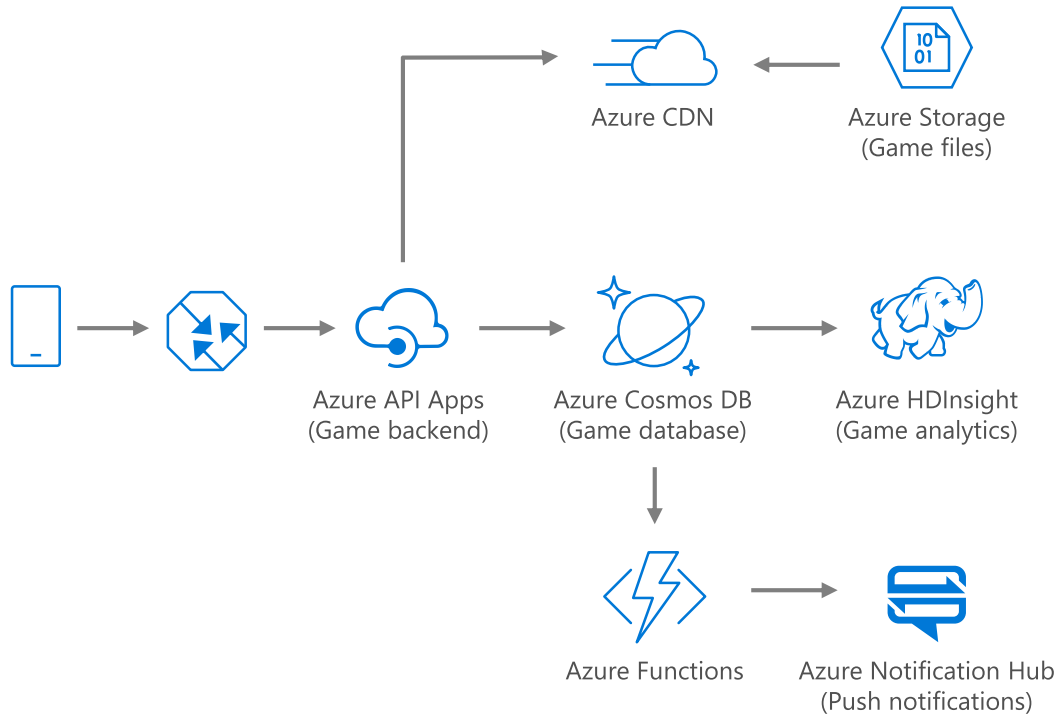
NEXT GAMES

Domino's

IDEAL FOR GAMING AND ECOMMERCE

Maintain service quality during high-traffic periods requiring massive scale and performance.

- Instant, elastic scaling handles traffic bursts
- Uninterrupted global user experience
- Low-latency data access and processing for large and changing user bases
- High availability across multiple data centers

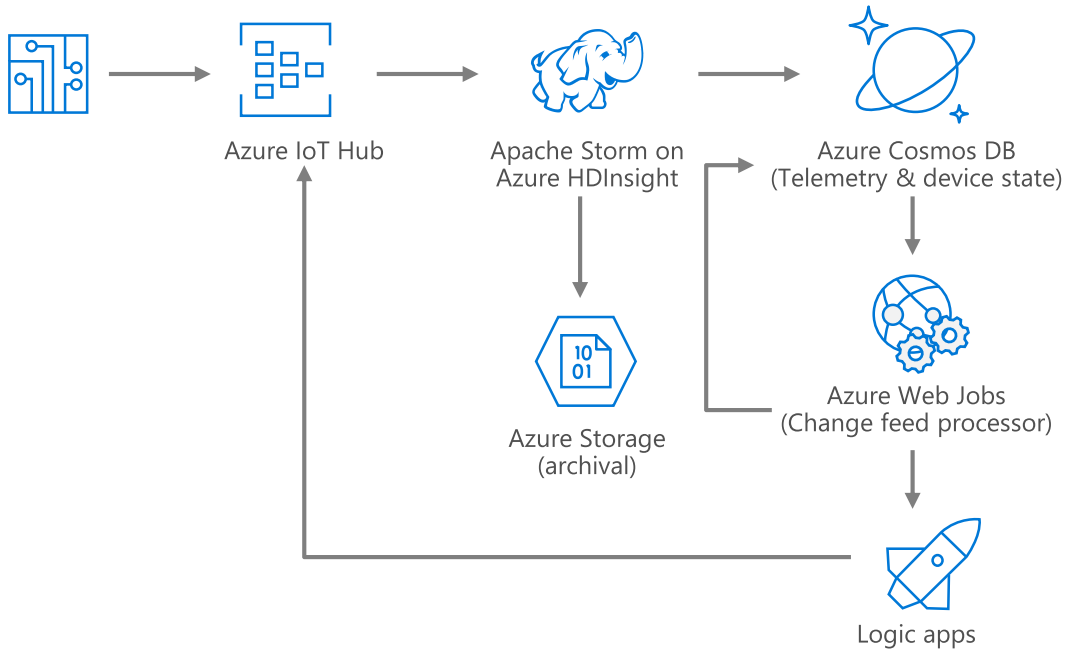


NEXT GAMES
Domino's
jet
XBOX LIVE

MASSIVE SCALE TELEMETRY STORES FOR IOT

Diverse and unpredictable IoT sensor workloads require a responsive data platform

- Seamless handling of any data output or volume
- Data made available immediately, and indexed automatically
- High writes per second, with stable ingestion and query performance

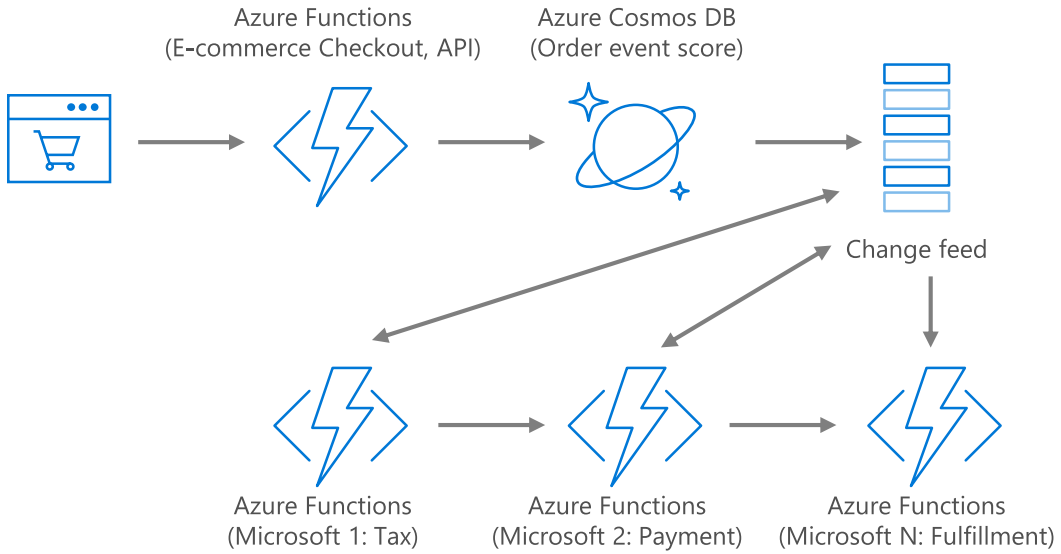


TOYOTA Honeywell LG CNS Johnson Controls

SIMPLIFIED DEVELOPMENT WITH SERVERLESS ARCHITECTURE

Experience decreased time-to-market, enhanced scalability, and freedom from framework management with event-driven micro-services.

- Seamless handling of any data output or volume
- Data made available immediately, and indexed automatically
- High writes per second, with stable ingestion and query performance
- Real-time, resilient change feeds logged forever and always accessible
- Native integration with Azure Functions

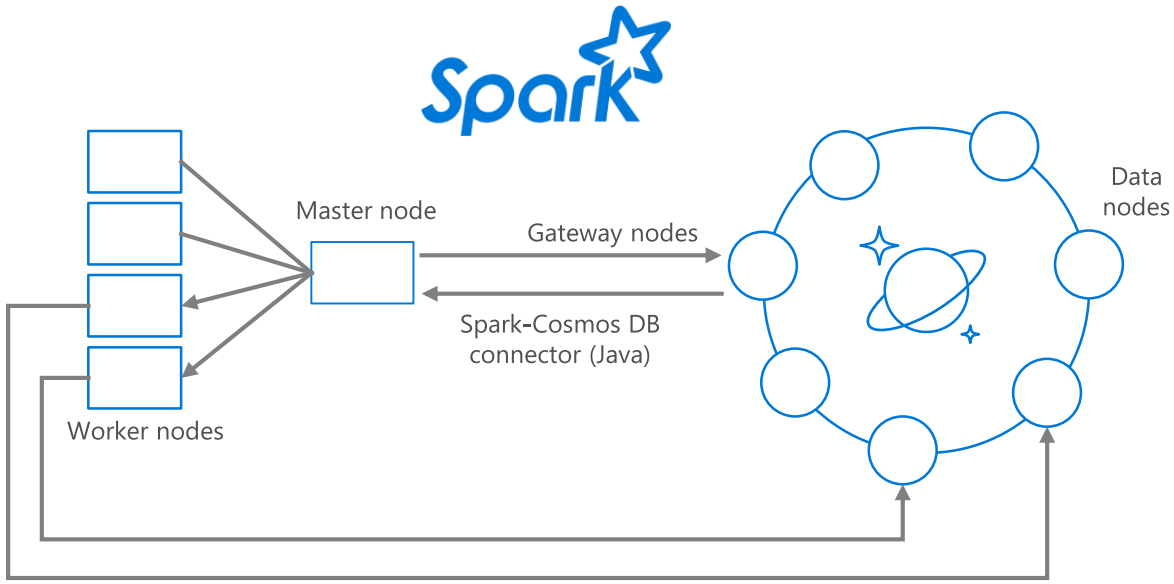


asos jet

RUN SPARK OVER OPERATIONAL DATA

Accelerate analysis of fast-changing, high-volume, global data.

- Real-time big data processing across any data model
- Machine learning at scale over globally-distributed data
- Speeds analytical queries with automatic indexing and push-down predicate filtering
- Native integration with Spark Connector

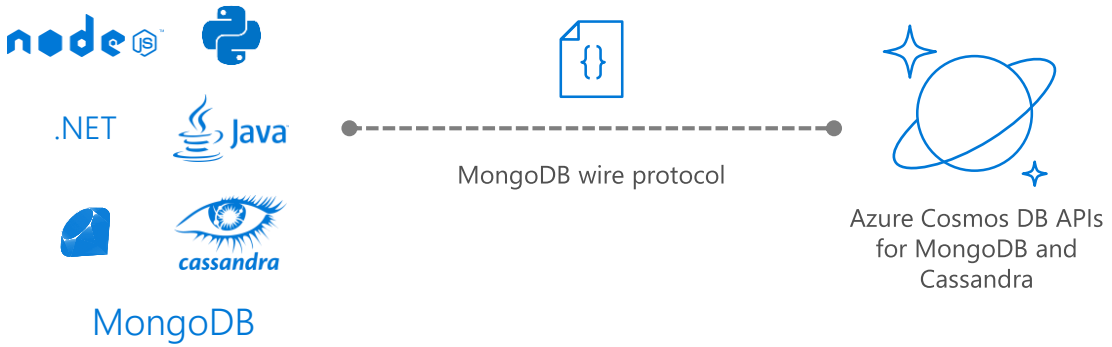


Affinio

LIFT AND SHIFT NOSQL APPS

Make data modernization easy with seamless lift and shift migration of NoSQL workloads to the cloud.

- Leverage existing tools, drivers, and libraries, and continue using existing apps' current SDKs
- Turnkey geo-replication
- No infrastructure or VM management required



DEMO

Lets have a look at it