ORACLE

Data Management Strategy

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Gartner®

Oracle Autonomous Database placed **first for all four Operational Use Cases and first or second for all four Analytical Use Cases** in 2020 Gartner Critical Capabilities for Cloud DBMS Reports

Source: Gartner *Critical Capabilities for Cloud DBMS for Operational Use Cases*, Merv Adrian, Donald Feinberg, Rick Greenwald, Adam Ronthal, Henry Cook and Gartner *Critical Capabilities for Cloud DBMS for Analytical Use Cases*, Henry Cook, Donald Feinberg, Merv Adrian, Rick Greenwald, Adam Ronthal, November 2020

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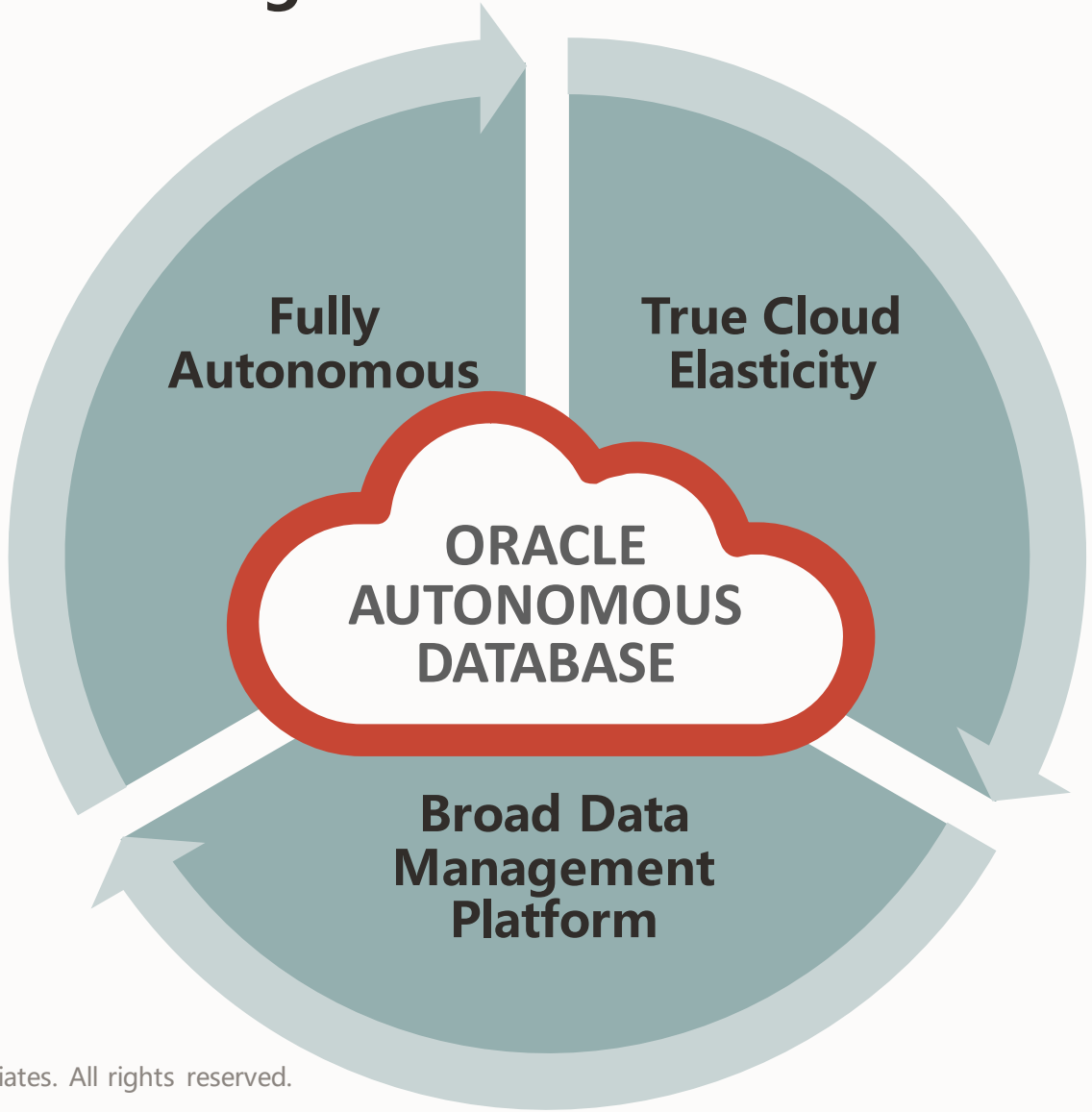
Three Key Breakthroughs for Autonomous Database



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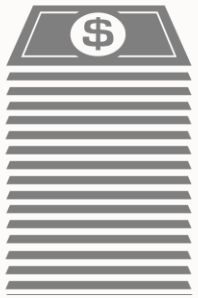
Initial Vision of Autonomous Database

GOAL - Remove need for systems/operational admin



No human labor means
lower cost

No human error means
better reliability and **better security**

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Oracle Warehouse Management: Snapshot for 2020

Running on Autonomous Database

5 Billion packages

55% faster order processing speeds

50% more warehouse users

expanded into **10 new industries**

with **100% reduction** in manual database administration

and **0 downtime**

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Oracle Cloud Infrastructure Global Footprint

29 Regions Live, 9+ Planned; 6 Azure Interconnect Regions

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Oracle Autonomous Database: Available On-Premises and In the Cloud

Deployment Options

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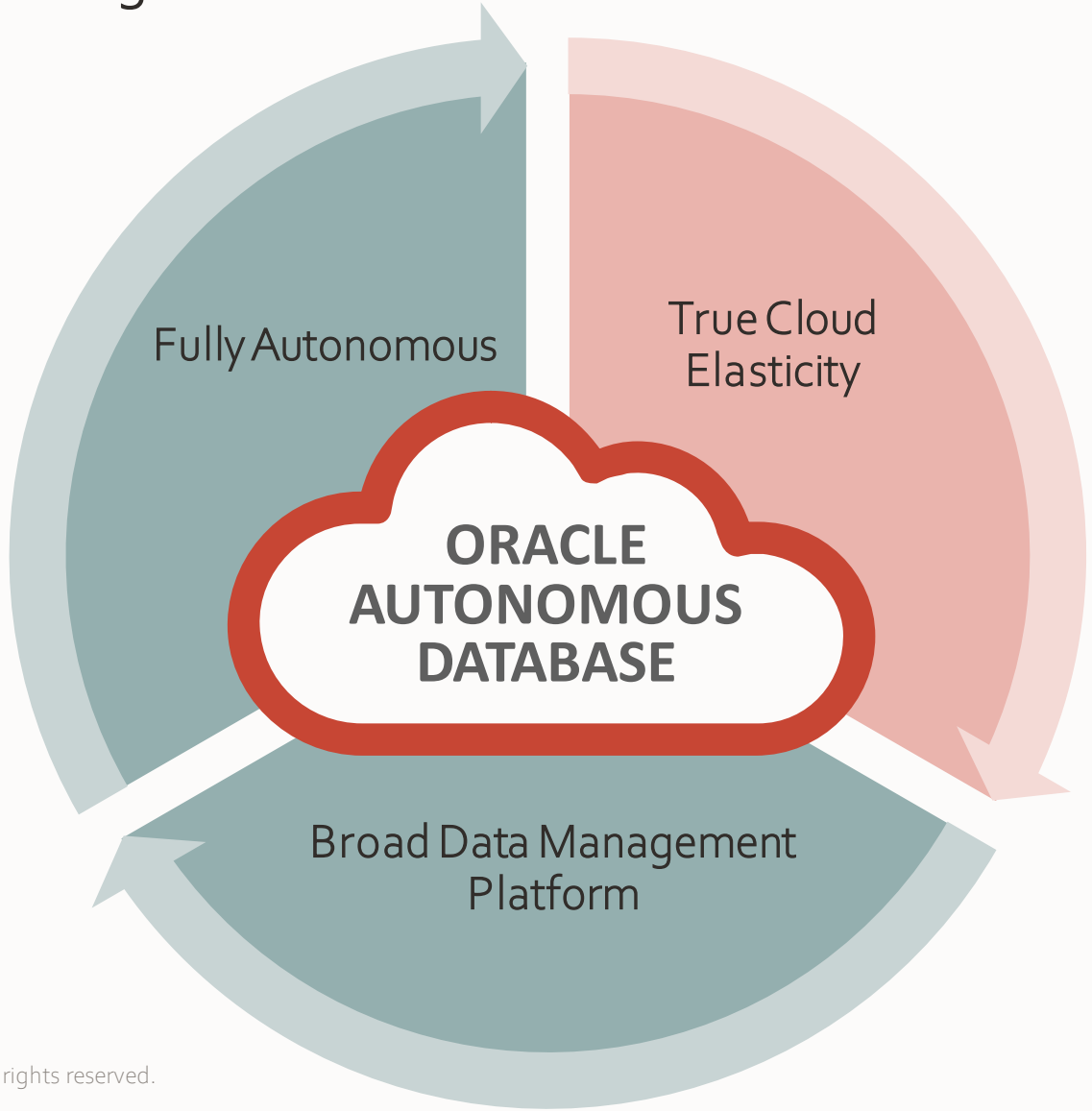
Three Key Breakthroughs for Autonomous Database



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Fully Elastic: Pay for What you Use

Size to the exact number of OCPU's and TB's required

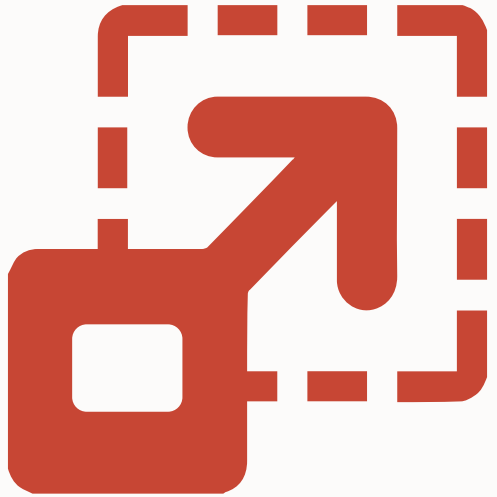
- Not constrained by fixed building blocks or 't-shirt' sizes
- Simple incremental growth

Automatically scale for changing workloads

- Auto-scaling instantaneously adjusts CPU and IO resources based on workload requirements

Shut off compute for idle systems

- Restart instantly



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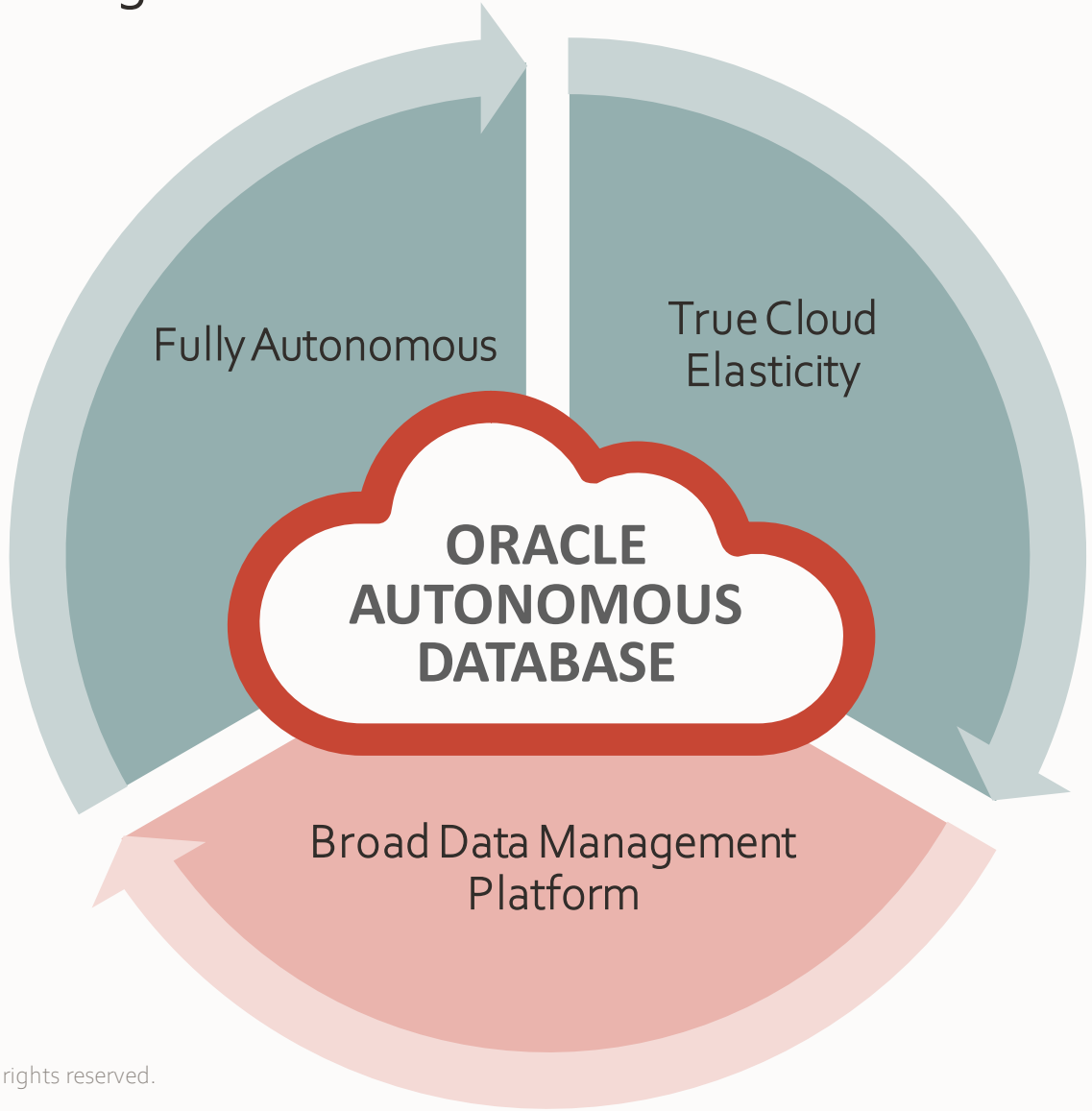

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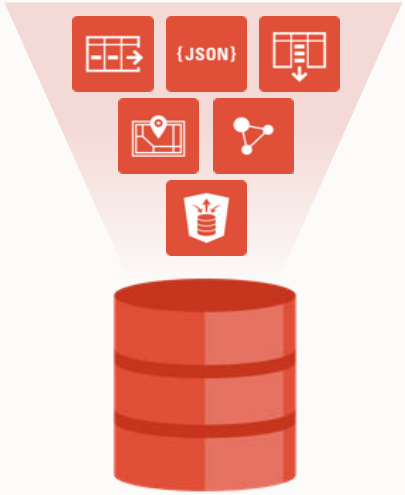
Contrasting Database Architecture Strategies

Amazon and Niche DB Vendors

Run **Single-Purpose Proprietary** database for each data type and workload

Oracle Strategy

Run **Converged, Open, Oracle** database for multiple data types and workloads



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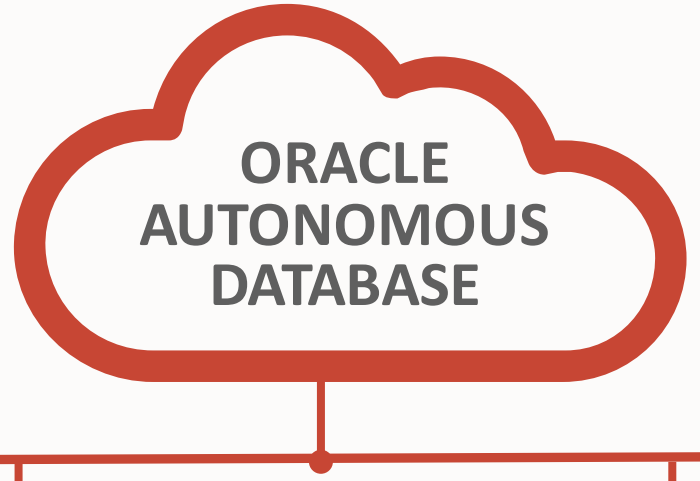
Autonomous Database | Optimized by Workload



Autonomous Data Warehouse	Autonomous Transaction Processing	Autonomous JSON Database	APEX Application Development Service
Data Warehouse, Data Mart, Data Lake	Transactions, Batch, Reporting	Fast, Easy, Low-Cost JSON Data	Fast, Easy, Low-Cost Low-Code AppDev
		New	New

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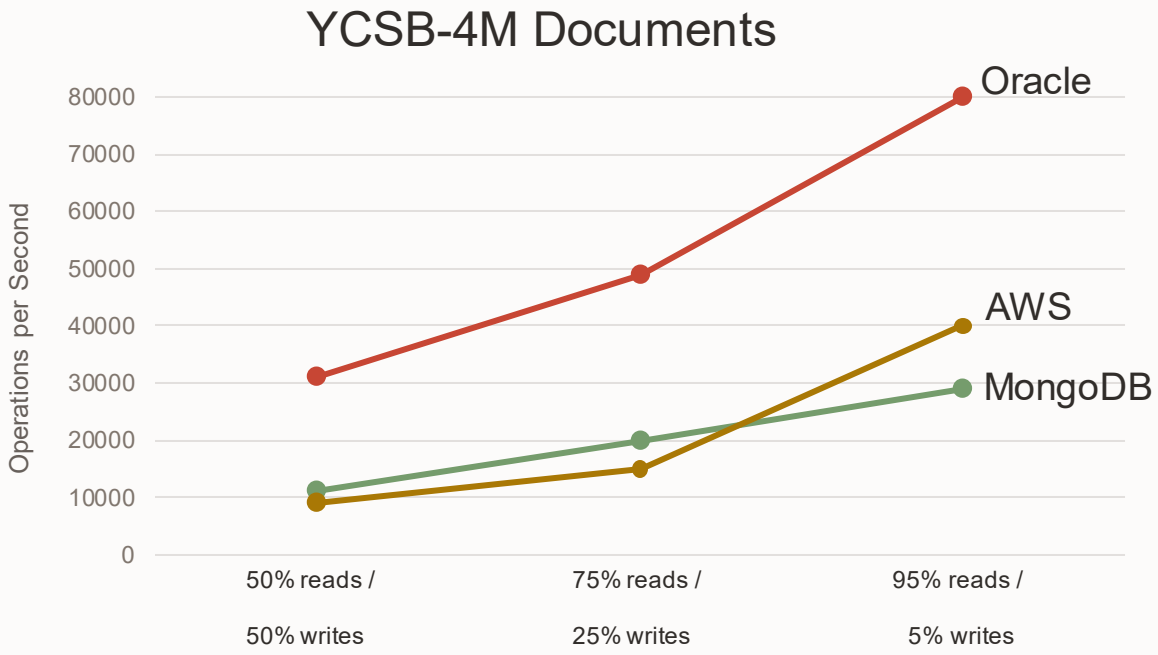
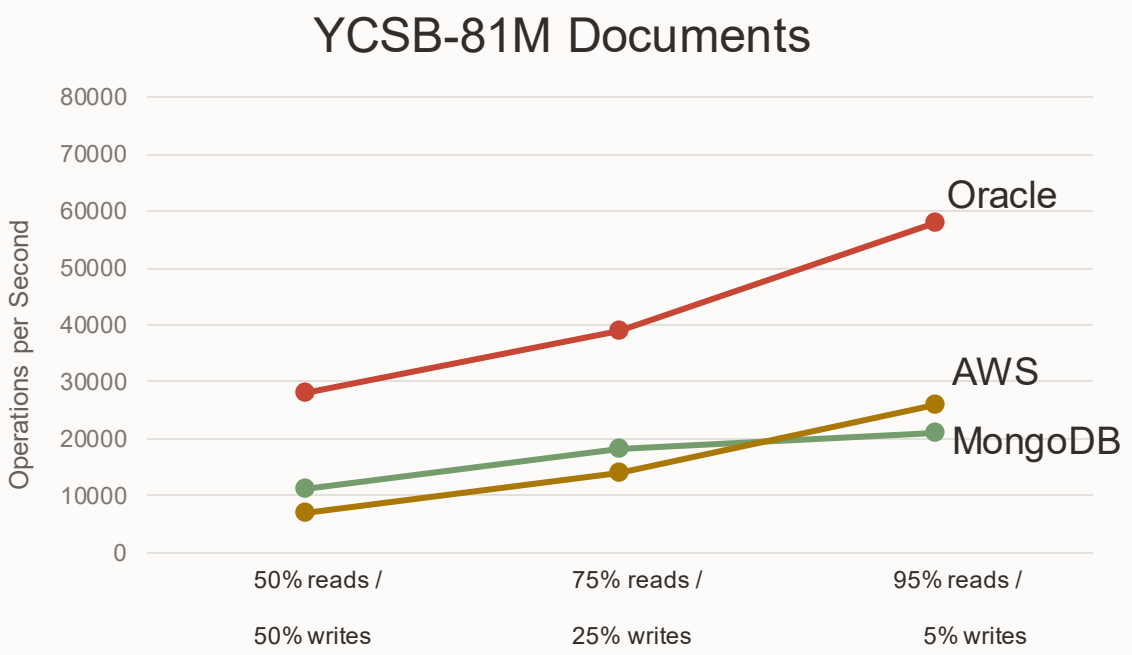
Comparing | JSON Performance in Oracle Database

Faster than MongoDB and AWS DocumentDB on YCSB Benchmark





Autonomous JSON Database with 8 OCPUs compared to: MongoDB Atlas on M60, AWS DocumentDB on R4.4xlarge
Source of MongoDB and AWS DocumentDB results:
https://www.mongodb.com/atlas-vs-amazon-documentdb/performance as of 8/12/2020
More details at https://www.oracle.com/autonomous-database/autonomous-json-database/

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Extend Autonomous Database to help more people get insights into their data

Autonomous Database automates almost all database administration ✓

Autonomous Database does not automate tasks for Data Engineers, Data Analysts, or Data Scientists

Goal:

- Help Data Analysts and Data Scientists to use Autonomous Database to more easily gain insights into their data

Solution:

- Extend Autonomous Database for:
  - Data ingestion and transformations
  - Business modelling and analysis
  - Machine learning and automatic insights

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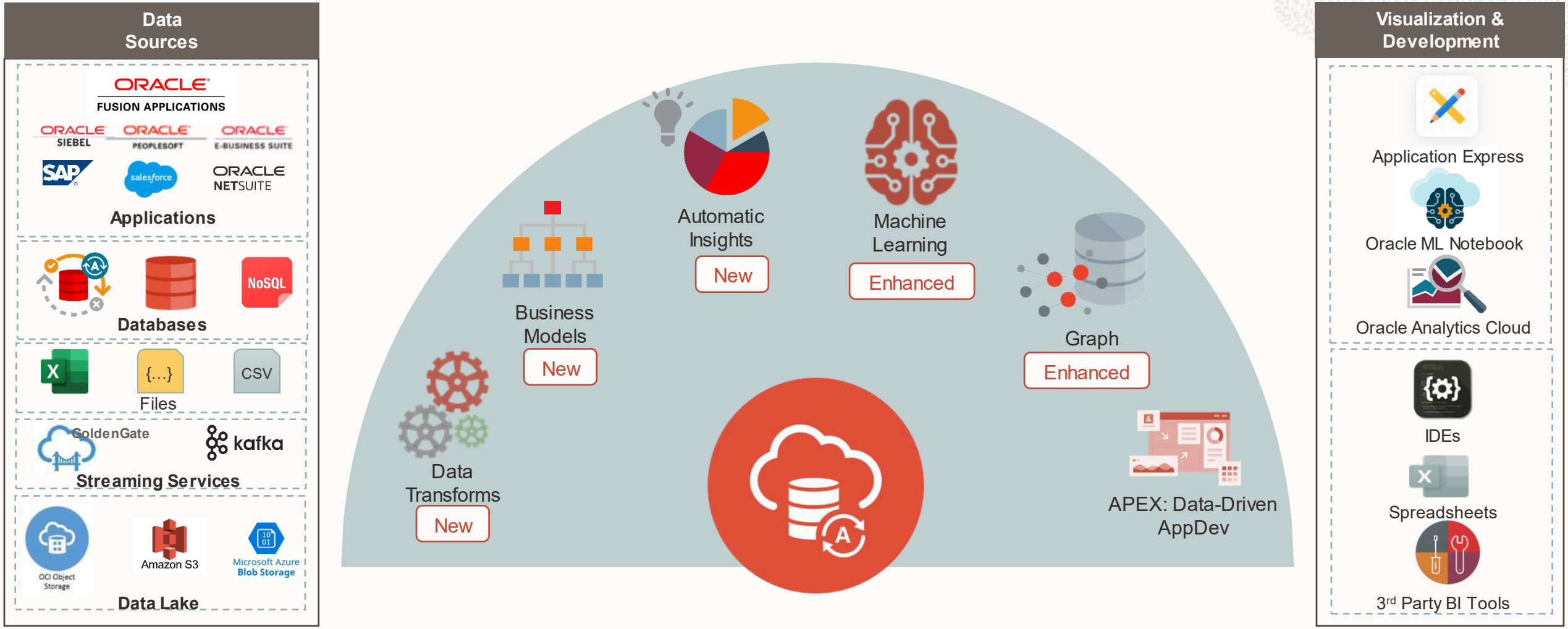
New Autonomous Database Architecture



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