CLOUD DBA

Learn how to stay relevant in the DBaaS era

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LAD Partner Enablement
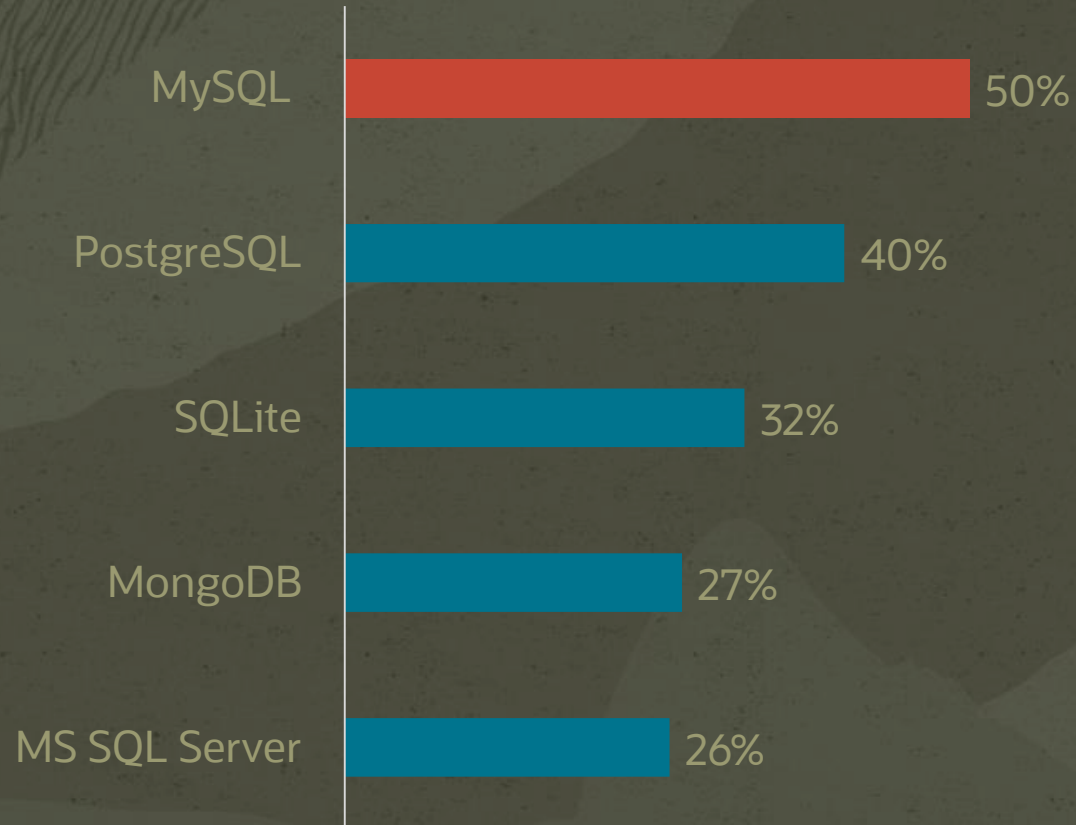
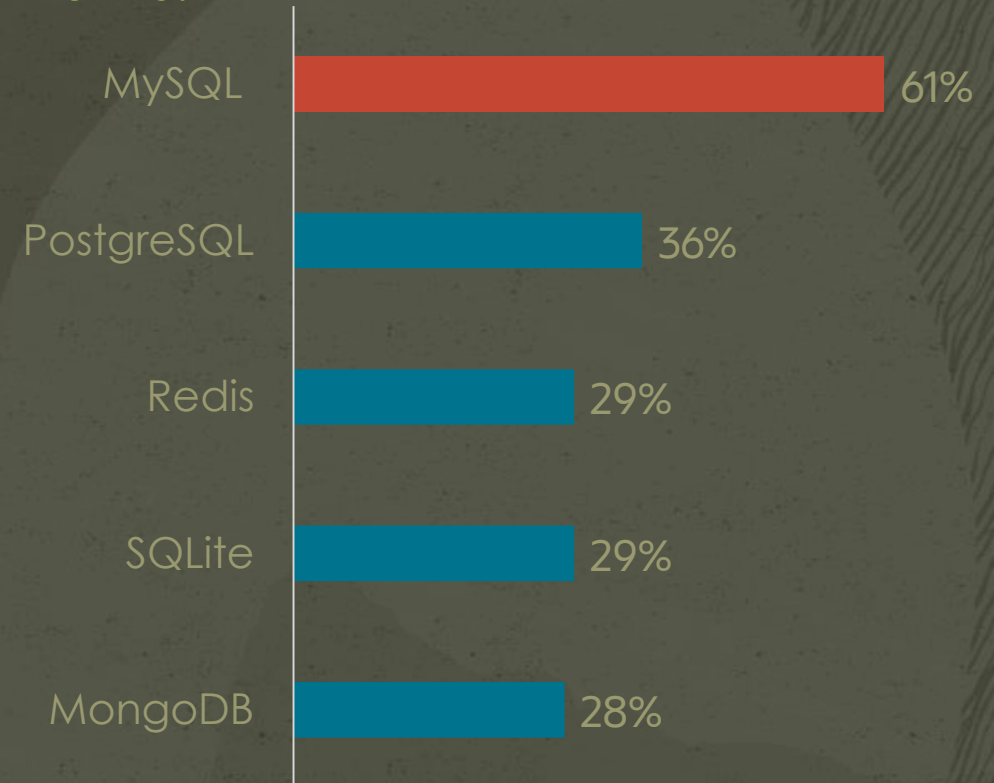# MYSQL DB-SYSTEMS

MYSQL IS THE MOST POPULAR DATABASE FOR DEVELOPERS

Most popular databases

Database	%
MySQL	50%
PostgreSQL	40%
SQLite	32%
MongoDB	27%
MS SQL Server	26%

Stackoverflow survey 2021

Which databases have you used in the last 12 months?

Database	%
MySQL	61%
PostgreSQL	36%
Redis	29%
SQLite	29%
MongoDB	28%

Jetbrains survey 2021

INNOVATIVE ENTERPRISES ACROSS MANY INDUSTRIES RUN MYSQL

| Social	E-Commerce	Tech	Finance	Manufacturing
facebook	Booking.com	APPDYNAMICS part of Cisco	Bank of America	TESLA
twitter	NETFLIX	GitHub	J.P.Morgan	VW
Linked in	UBER	HubSpot	citi	TOYOTA
WeChat	airbnb	zendesk	Fidelity INVESTMENTS	CAT
Pinterest	淘宝网 Taobao.com	intuit mint	VISA	
	阿里巴巴 Alibaba.com	New Relic	CA	

MYSQL DATABASE SERVICE COSTS LESS

Annual cost for a 100 OCPUs, 1TB Storage configuration
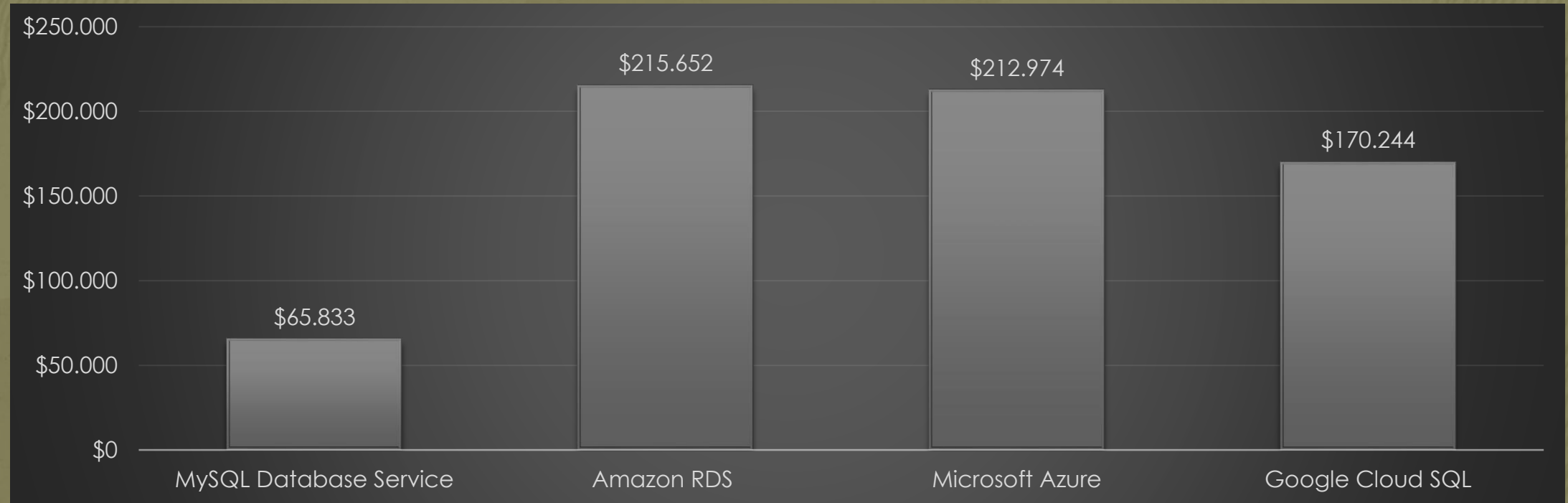
MySQL Database Service: Standard E3 AMD 16GB/Core, all regions have the same price.
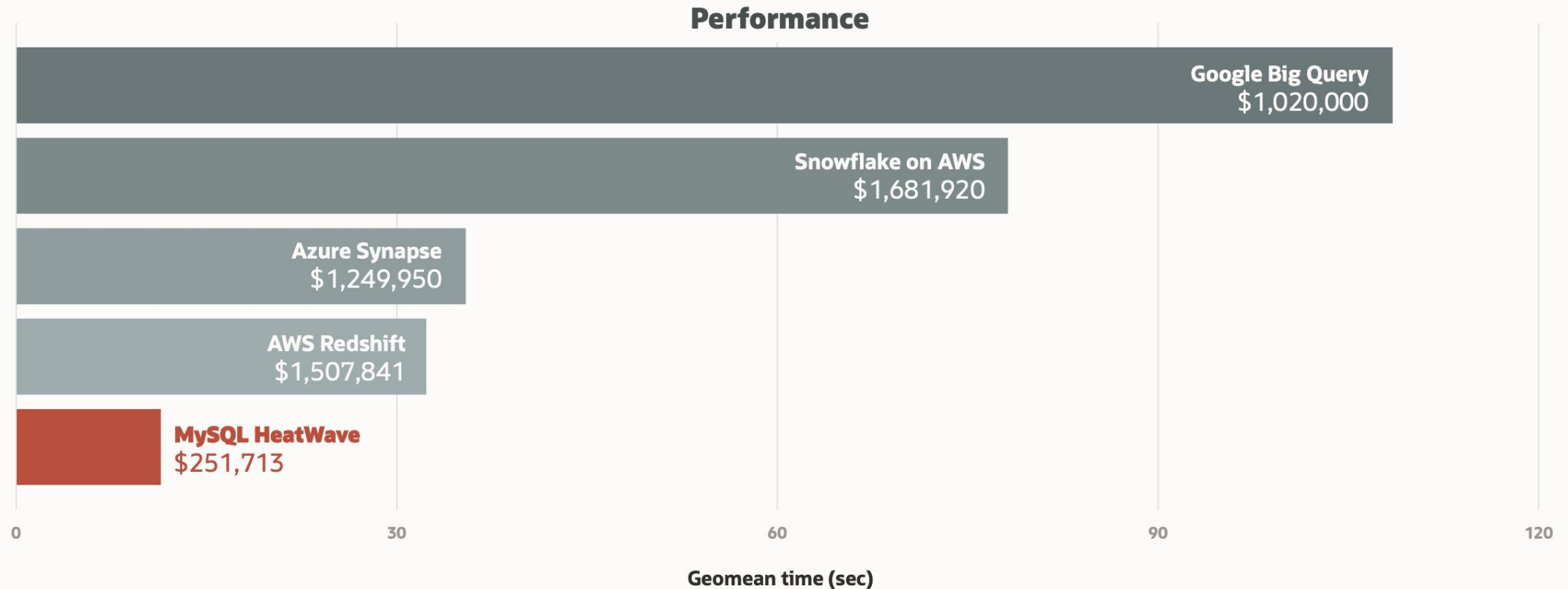Amazon RDS: Intel R5 16GB/Core, AWS US East.
Azure: Memory Optimized Intel 20GB/Core, MS Azure US-East.
Google: High Memory N1 Standard Intel 13GB/Core, GCP Northern Virginia.
Configuration: 100 OCPUs, 1 TB Storage.

Performance and price comparison

30TB TPCH, HeatWave is **faster and cheaper** than all the competitive database services

Performance

Google Big Query	$1,020,000
Snowflake on AWS	$1,681,920
Azure Synapse	$1,249,950
AWS Redshift	$1,507,841
MySQL HeatWave	$251,713

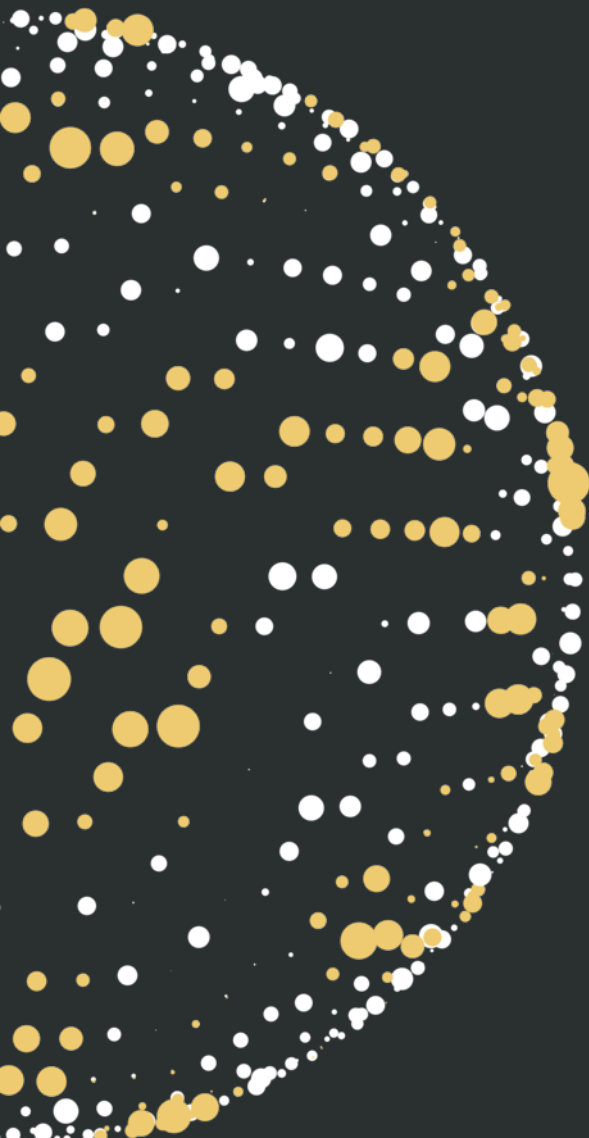0   30   60   90   120

Geomean time (sec)

3rd party numbers derived from Gigaom report of Oct 2020
Using PAYG pricing for Snowflake. Other prices are based on 1 year pricing
*Benchmark queries are derived from TPC-H benchmark, but results are not comparable to published TPC-H benchmark results since they do not comply with TPC-H specification.
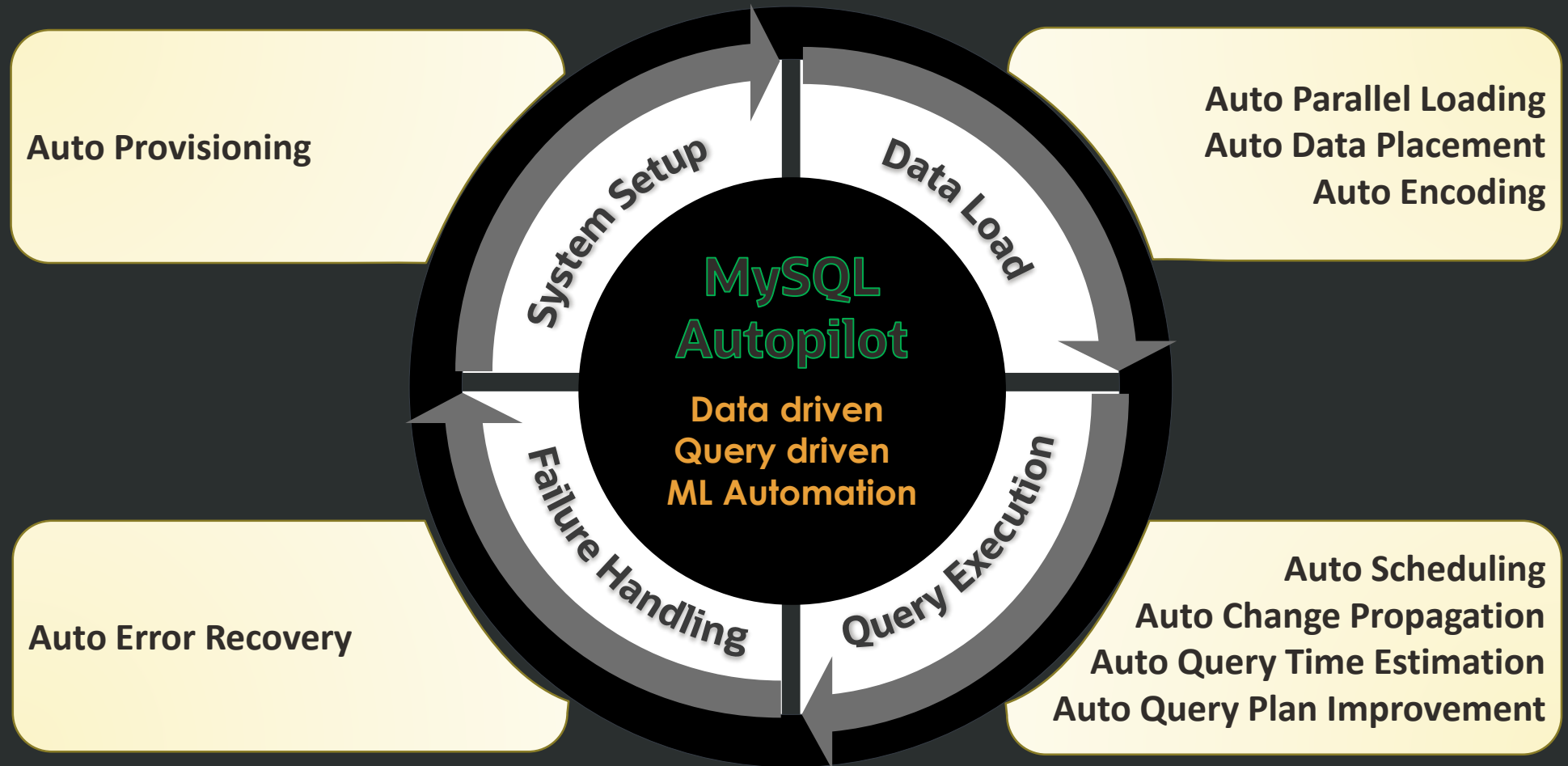
BENCHMARKS & TCO SAVINGS

+1000X FASTER THAN RDS

+1000X FASTER THAN AURORA

6.5X FASTER THAN REDSHIFT AQUA

7X FASTER THAN SNOWFLAKE

MySQL Autopilot Features
Machine learning based automation

Auto Provisioning

Auto Parallel Loading
Auto Data Placement
Auto Encoding

System Setup

Data Load

MySQL Autopilot

Data driven
Query driven
ML Automation

Failure Handling

Query Execution

Auto Error Recovery

Auto Scheduling
Auto Change Propagation
Auto Query Time Estimation
Auto Query Plan Improvement

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MYSQL DATABASE SERVICE: HIGH AVAILABILITY

FAULT-TOLERANT SYSTEM WITH AUTOMATIC FAILOVER AND ZERO DATA LOSS

- SINGLE CLICK HIGH AVAILABILITY
- AUTOMATIC FAILOVER
- INCREASED UPTIME
- ZERO DATA LOSS

- Recover Time Objective (RTO): Minutes
- Recovery Point Objective (RPO): Zero

Create MySQL DB System

Standalone	High Availability
Single-instance MySQL DB System	Run 3-node MySQL DB System providing automatic failover and zero data loss
	✓

TEST DRIVE MYSQL DATABASE SERVICE FOR FREE TODAY

- Get **$300** in **credits** and try

- **MySQL Database Service**

- free for **30 days.**

- https://www.oracle.com/mysql/free/

NOSQL

Oracle NoSQL Database Cloud Service

What is it? How does it help businesses?
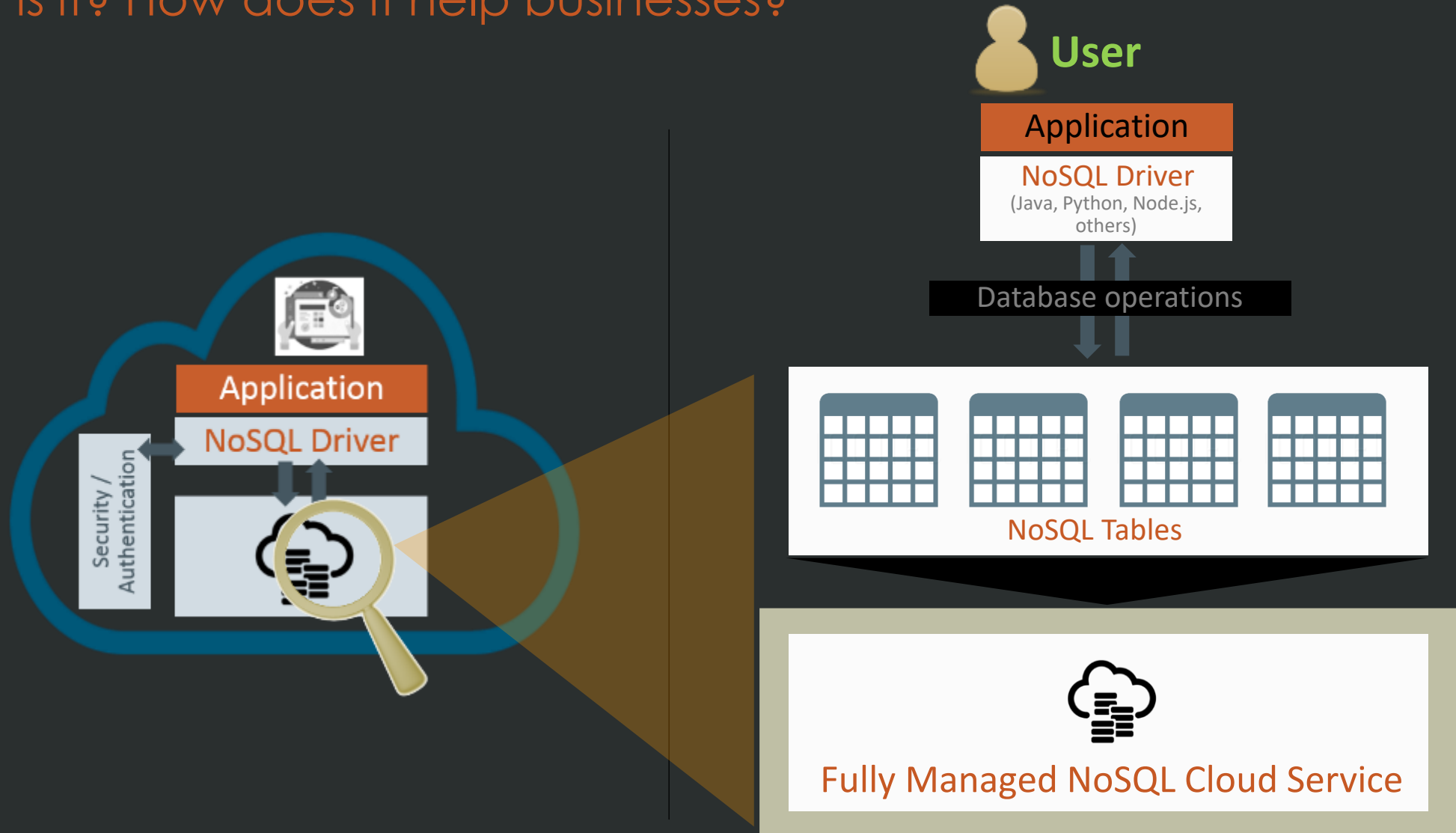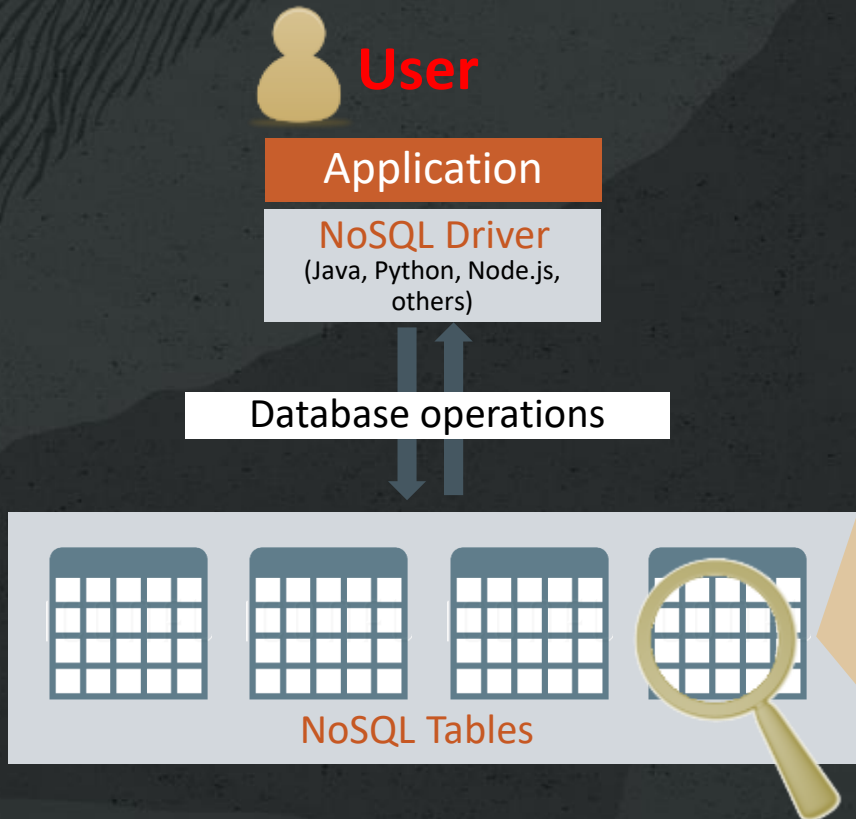
User

Application

NoSQL Driver
(Java, Python, Node.js, others)

Database operations

NoSQL Tables

Fully Managed NoSQL Cloud Service

Application

NoSQL Driver

Security / Authentication
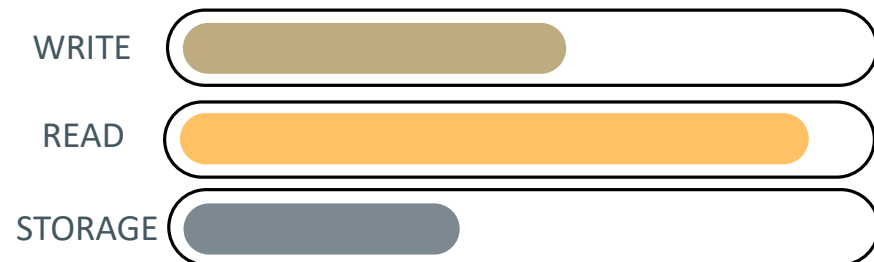
ORACLE NOSQL DATABASE CLOUD SERVICE
Overview

Fully Managed
Database operation, maintenance, tuning are managed by Oracle

Elastic
Dynamically change throughput and storage capacities based on workloads

High Performance
Predictable low latency for all types of workloads

Data Model Flexibility
Document, columnar, key/value models supported with a single application interface

Security
Enterprise grade security with roles, privileges, encryption

Low Operating Cost
Pay only for the throughput and storage capacities provisioned

Developer Friendly
Easy-to-use APIs and integrated with different developer tools

Always Available
Built-in high availability to ensure business continuity

Hybrid Cloud
Interoperate with Oracle NoSQL on-premise solution using a single application interface

Oracle NoSQL Database Cloud Service

Fully managed

- Oracle Fully Manages
  - Servers, storage, networking, security
  - Installation of software and updates, run security inspections
  - Monitors the health of the service
  - Replication across multiple Availability Domain for HA

- Developer / User Manages
  - Application development
  - Data model design – decides on how to model the data best for the application
  - Sets roles and privileges – determines who can do what with the service

Fully
Managed

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Oracle NoSQL Database Cloud Service
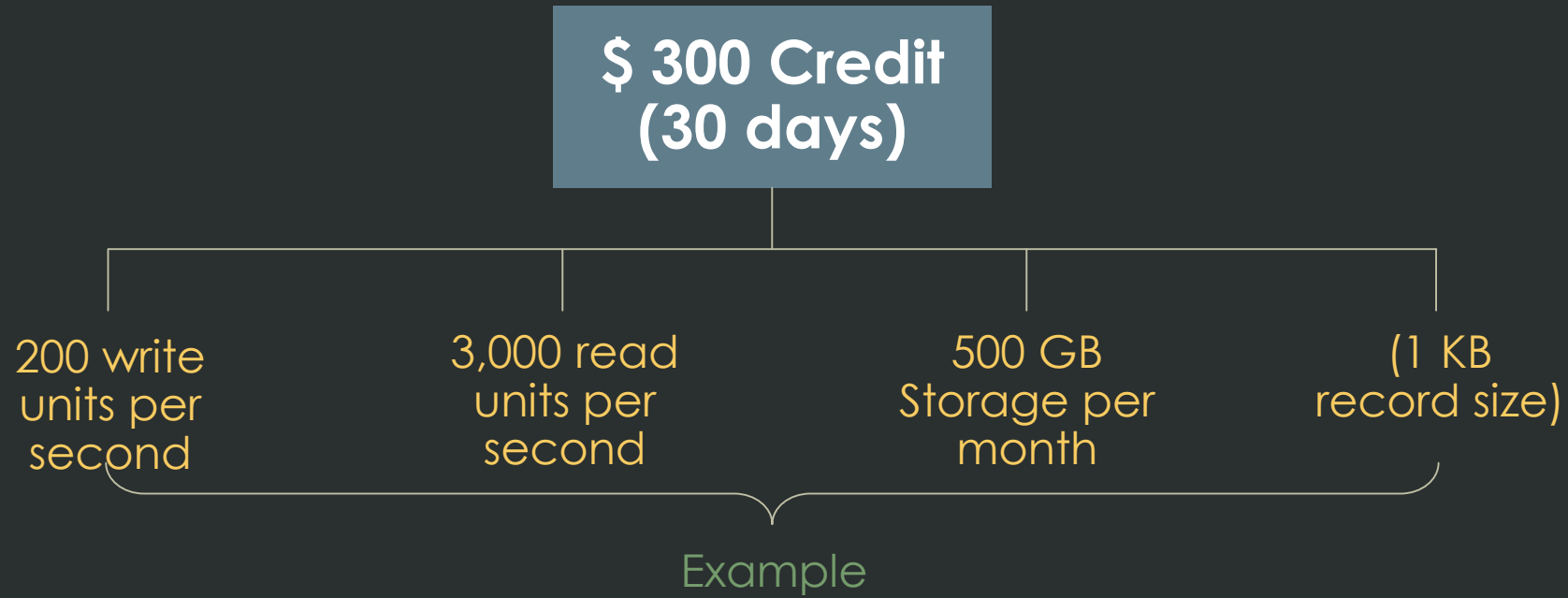## Security

Encryption

- Data encryption at rest
  - Data, indexes, backups encrypted with Advanced Encryption Standard (AES 256)

- Data encryption in motion
  - HTTPS protects data transfer between applications and NoSQL database cloud service

- Data encryption enabled by default

Authentication & Access Control

- User authorization
  - Manage groups, users, credentials

- Table resource access control
  - Manage tables, rows, indexes access and API operation policies

- Compartment management
  - Organize table resources within different compartments

Free Trial

$ 300 Credit
(30 days)

200 write units per second

3,000 read units per second

500 GB Storage per month

(1 KB record size)

Example

- 520 million writes per month
- 7.8 billion reads per month

ARCHITECTURE CENTER

WWW.ORACLE.COM/CLOUD/ARCHITECTURE-CENTER/

Thank you

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LAD Partner Enablement

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