ORACLE


# Oracle Database Services 2023

## Get Started – Exam Code 1Z0-1093-23

**Marcel Lamarca**

Exadata Cloud Specialist

Oracle, Alliances and Channels LAD

April, 2024

# SQL> select * from person where name = 'Marcel Lamarca'

SCAN ME


**MARCEL LAMARCA**

Exadata Cloud Specialist

Upgrade, Utilities, Patching, Performance & Migrations

marcel-lamarca

marcel.lamarca@oracle.com


## About My Career

- 22 Years dedicated to study and support Oracle Databases.
- 12 Years working with Exadata (On-prem, C@C and Cloud Services) .
- 5 Year working for Oracle do Brasil
- 2 Year on Alliances LAD knowledge Team

## Certifications

### Oracle Cloud Specialist (OCS)

- Exadata Database Machine X9M Certified Specialist
- OCI Foundation 2020 / 2023
- Oracle Autonomous Database Administrator Professional 2019 / 2023
- Oracle Cloud Database Migration and Integration 2021
- OCI Cloud Certified Architect Associate 2022
- OCI Cloud Certified Architect Professional 2022
- OCI Multi-Cloud Architect Professional 2023
- Oracle Database Services Certified Professional 2023

### Oracle Certified Professional (OCP)

- Oracle Database certified professional 10g, 11g, 12c and 19c.
- Mysql 8.0 Database Administrator Certified Professional

### Oracle Certified Specialist (OCE)

- Grid/RAC Database Administrator 11g
- Oracle Golden Gate 12c Certified Implementation Specialist

# Oracle Exam 1Z0-1093-23

- **1Z0-1093-23: Oracle Base Database Services 2023 Professional**

SCAN ME


- Number of Questions **55**
- Format **Multiple Choice**
- Duration **90 minutes**
- Passing Score **68%**

# Oracle Base Database Services 2023 Exam Topics

## Exadata Database Service

- Explain the Exadata Database Service
- Provision Exadata
- Manage Exadata Infrastructure and VM Clusters
- Manage the Exadata Database Lifecycle
- Utilize Exadata Cloud Management tools

## Oracle Cloud Platform for Database in the Cloud

- Describe Oracle Cloud Platform for Database in the Cloud
- Describe Oracle Cloud Infrastructure Strategy (OCI)

## DB Systems VM

- Discuss Database Cloud Services (Overview)
- Provision Database Cloud Service on a Virtual Machine DB System
- Manage Database Cloud Service on a Virtual Machine DB System
- Manage the Database Lifecycle for dvcs Virtual Machine DB System
- Utilize Database Cloud Service Management Interfaces

## NoSQL Database Cloud Service

- Explain connecting to the NoSQL Database Cloud service
- Explain table security management
- Explain table rate limiting
- Describe NoSQL data models
- Explain provisioned throughput for NoSQL Cloud Service
- Describe NoSQL language SDKs

## MySQL Database Service and HeatWave Overview

- Describe the MySQL Database Service
- Manage MySQL Database
- Provision and connect to MySQL Database
- Monitor MySQL Database
- Set up Backup for MySQL Database Service
- DesC performance considerations for the MySQLService
- Create, manage, and use HeatWave

## Oracle Cloud Infrastructure Database Management Service

- Describe the Oracle Cloud Infrastructure Database Management Service
- Install and configure Management Agent
- Register External Databases & enable and use Database Management
- View Fleet Summary and Management features
- Use Database Groups and Jobs

# Agenda

1

**Exadata Cloud**

Exadata@Customer
Exadata Cloud Service

2

**OCI DBCS service**

DBCS Virtual single
DBCS Virtual RAC

3

**Mysql service**

OCI Mysql Services

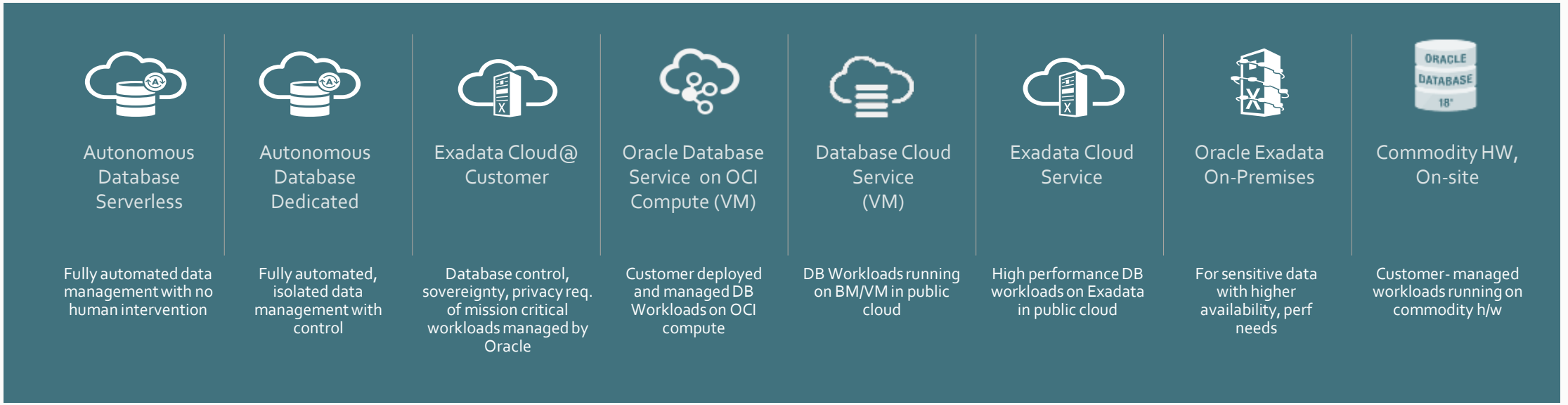
4

**NoSQL Service**

OCI NoSQL Services

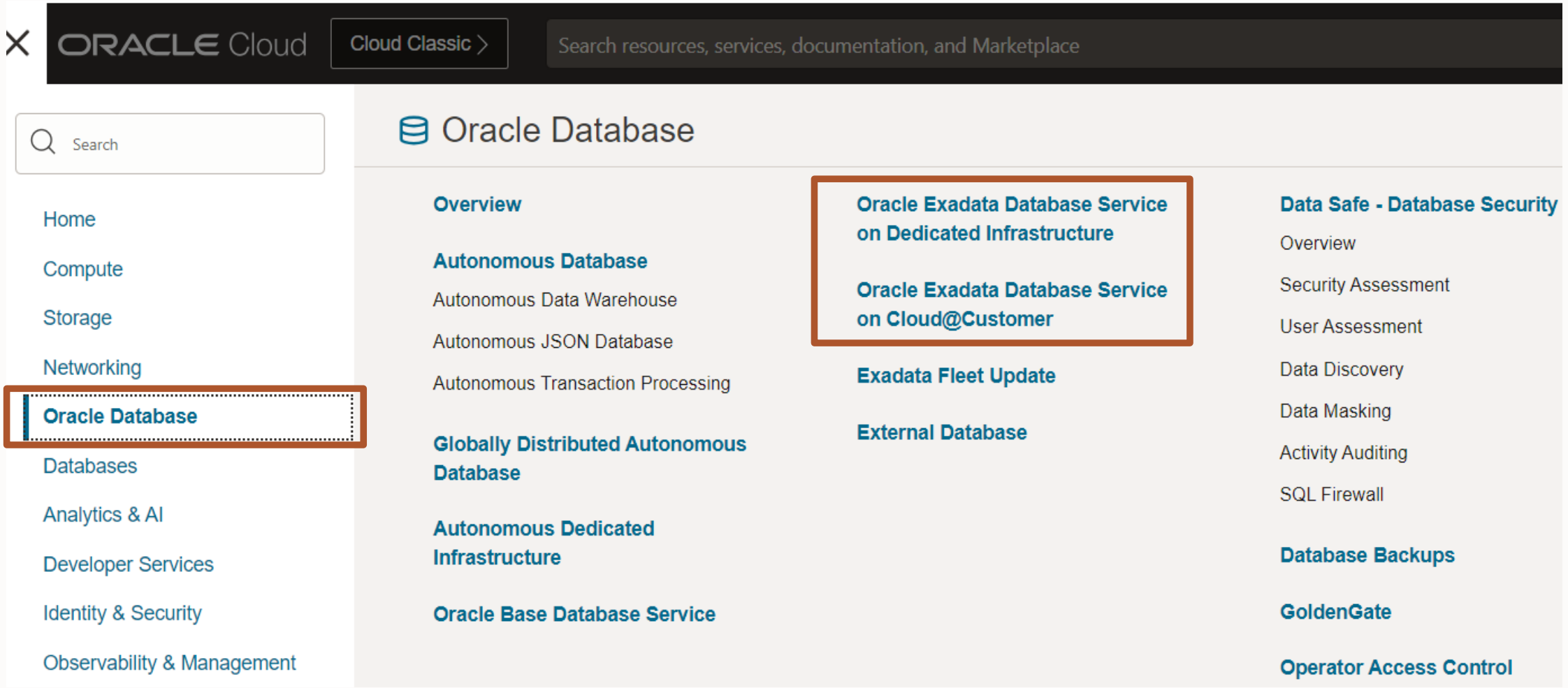
# Choice of control and hybrid strategies

## Use a single database for all deployments

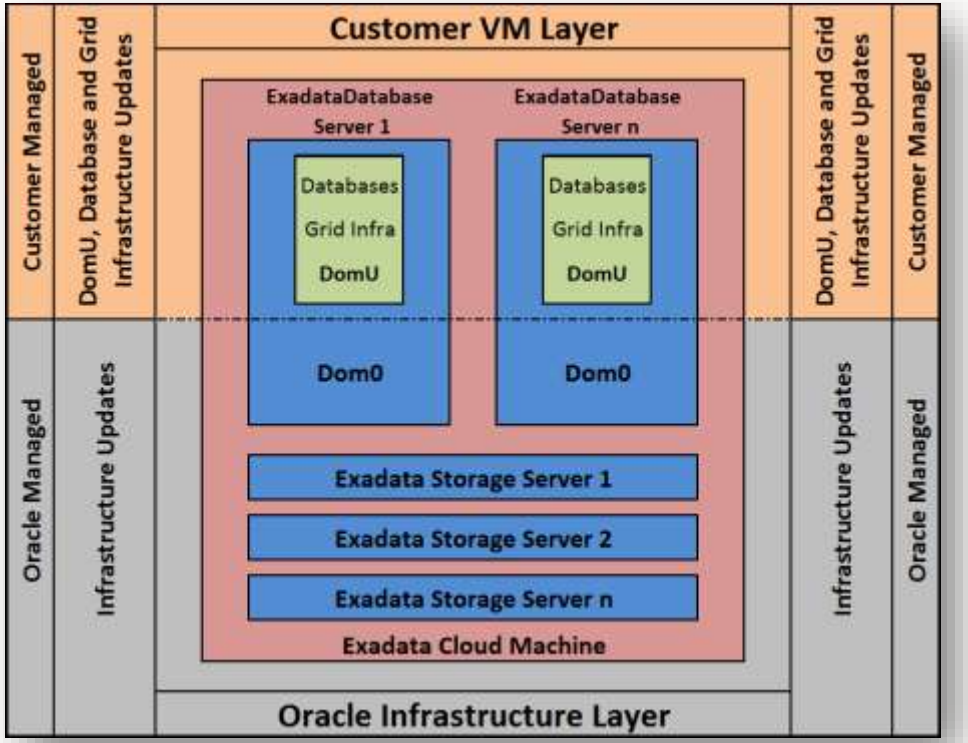


# Oracle Exadata Cloud

# Exadata Cloud  on OCI Console



# Exadata Cloud | Domo vs DomU Roles and Responsabilities




## About *Domo* Oracle Responsibilities

- Oracle Cloud Ops manage Exadata infrastructure (hardware, system software) & hypervisor (domo);
- Oracle Support is responsible for update any version;
- The customer is responsible for scheduling Domo maintenance and must provide at least 4 dates per year;

## About *DomU* Customer Responsabilities

- Adjust license (BYOL or License included)
- Scale UP/Down resources
- For Exadatada Cloud at Customer Gen2 DomU uses KVM
- Customer have root access to domU;
- The customer is responsible for any update or configuration change on DomU;

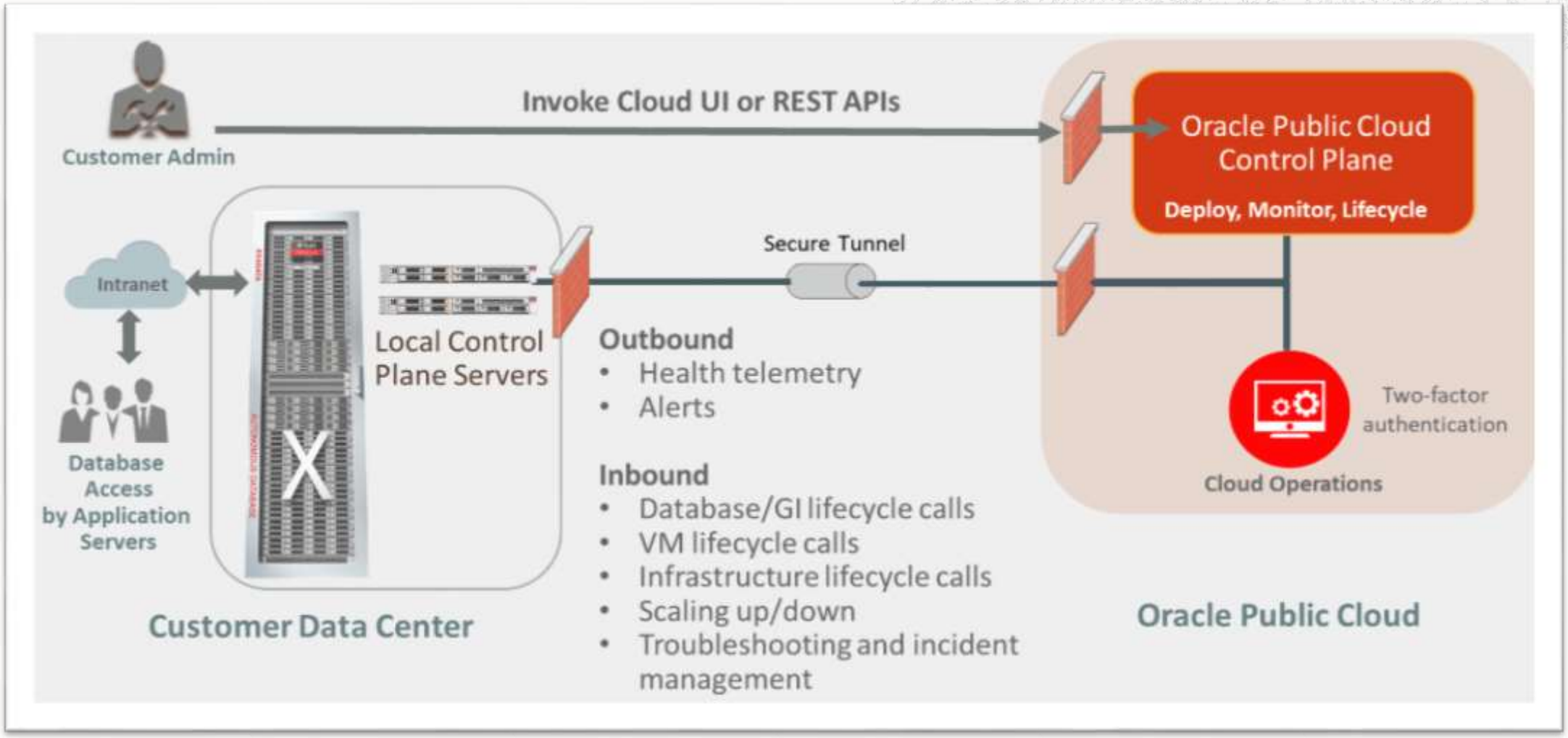
# Database Cloud Service | Exadata

Understanding Oracle Exadata Cloud Service and Cloud at Customer

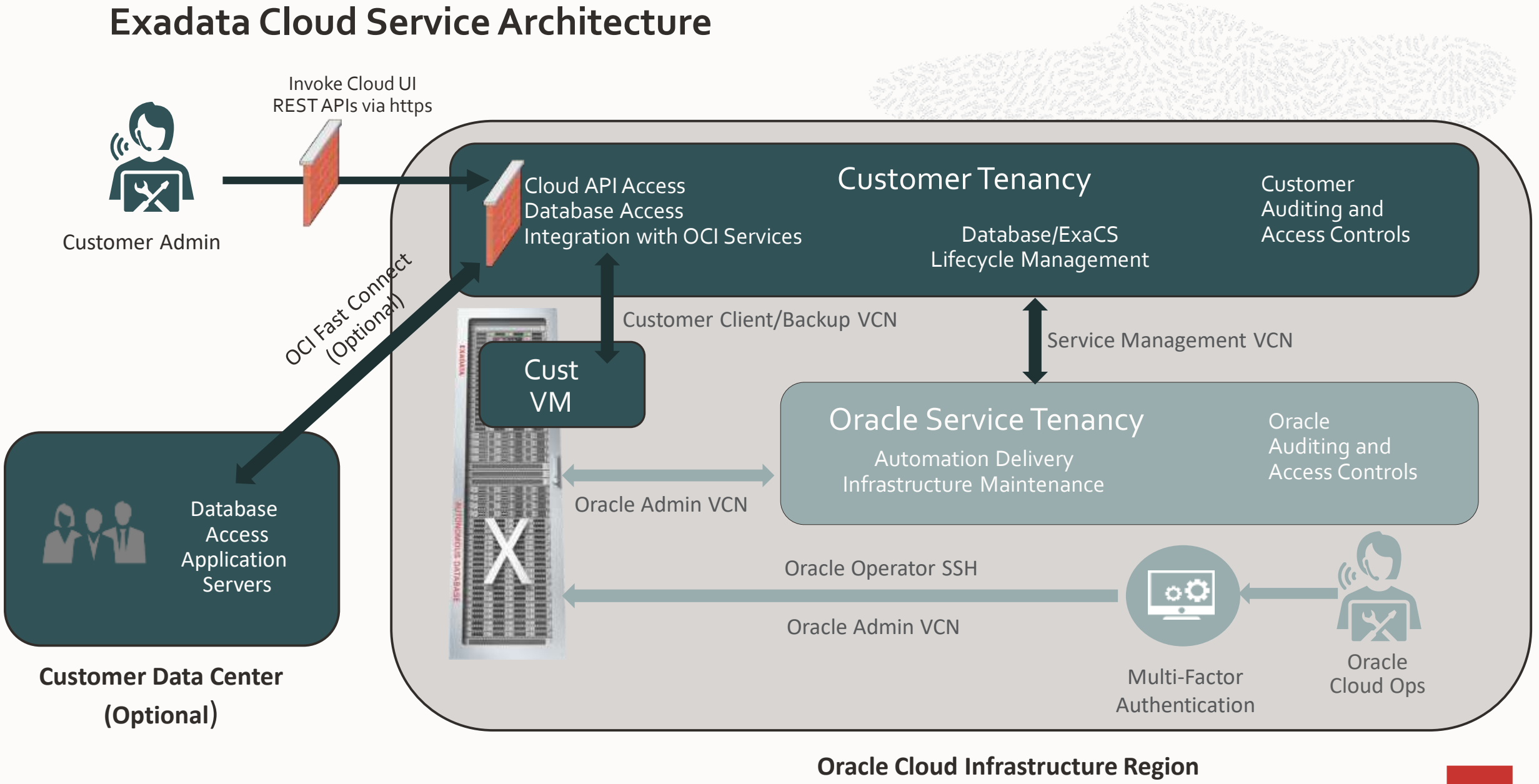

## World's Best database machine, provisioning with GI

- As many databases as you want
- No Single Instance allowed. Just RAC!
- Start With 2 cores and Scale Up/Down OCPU's based on your requirement
- Data Guard with and across Ads
- Only Oracle Database Enterprise Editions allowed
- Works with Autonomous Database on Dedicated Infrastructure
- Requires a minimum 4 years usage commitment for the infrastructure

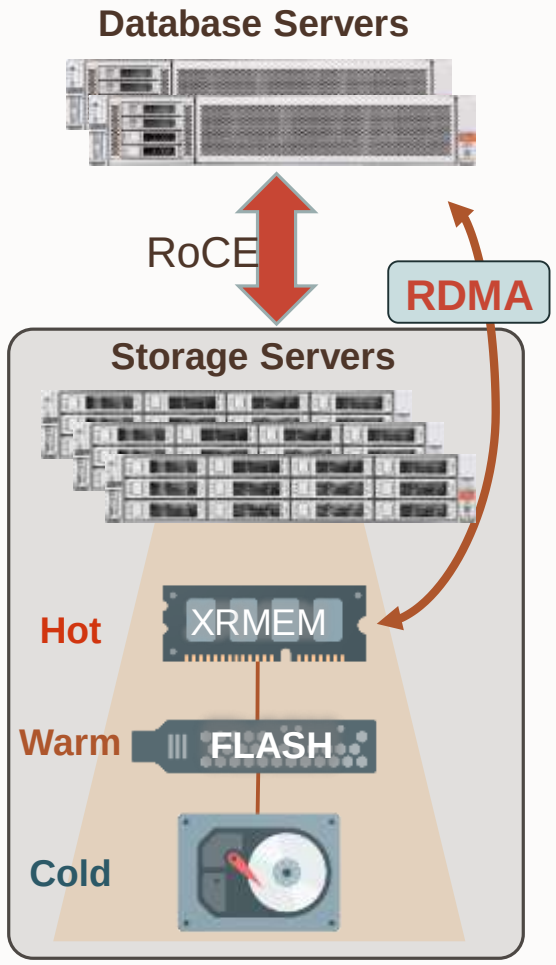
# Exadata Cloud at Customer | Control Plane Workflow



# Exadata Cloud Service Architecture



# Exadata architecture – scale out with intelligent storage




## Scale-out system architecture and software

- Independent, online scaling of database and storage servers
- Scales from 2 to 210  Exadata X10M database servers
- Scales from 3 to 264 Exadata X10M storage servers
- Redundancy with fast failover provides high availability

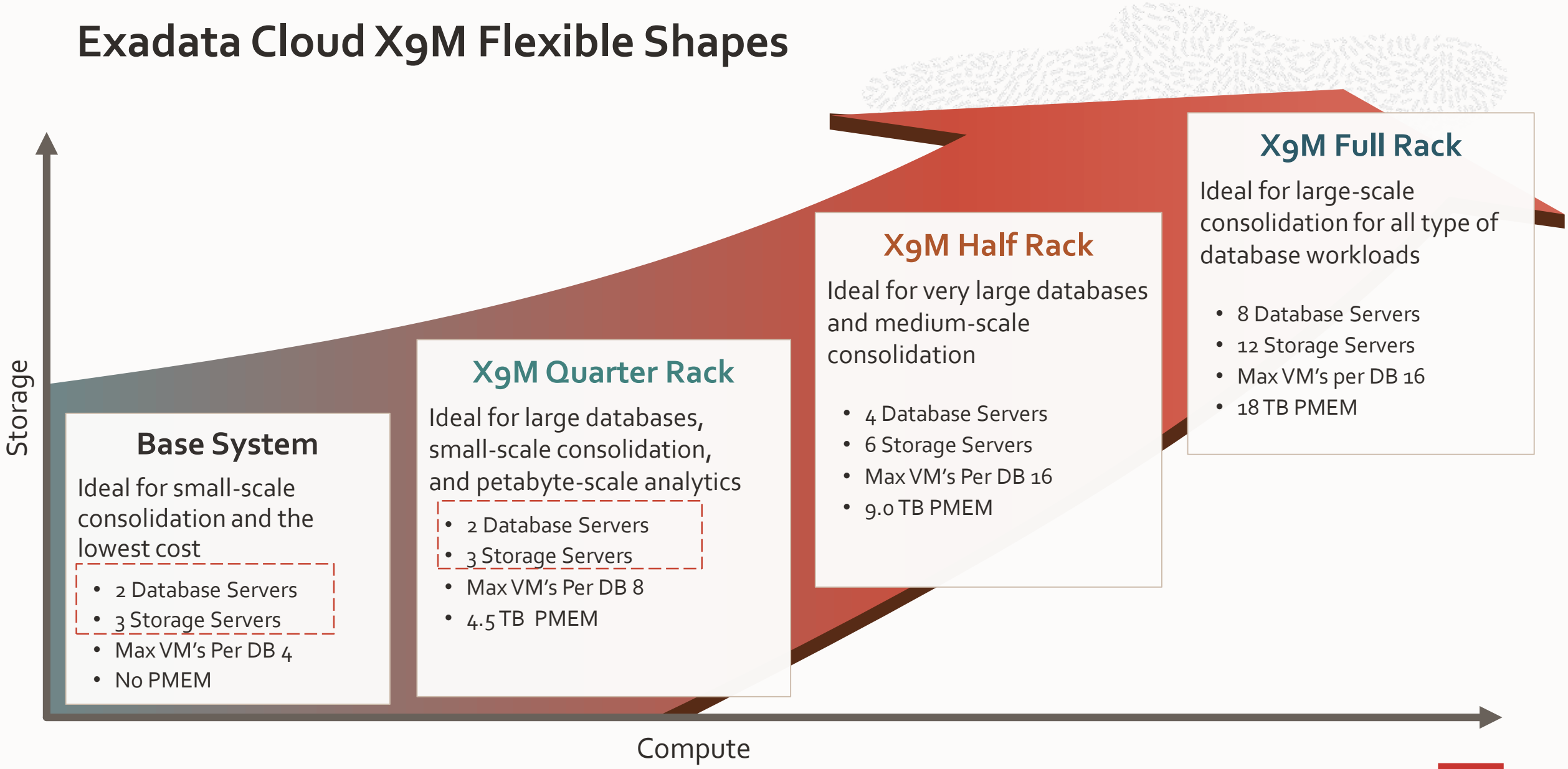
## Database uses RDMA instead of I/O to read XRMEM in Smart Storage

- Bypasses network and I/O software, interrupts, context switches
- Data is transparently managed in multiple storage tiers to minimize latency
- High-performance active-active 100 Gbit/s internal network maximize throughput
- Speeds up both database reads and commits

## Database cluster virtualization

- Deploy environments with different needs on the same system
  - Dev-Test, Staging Production, DR
  - OLTP, Analytics, Mixed Workloads
- Share and manage pools of resources to increase efficiency and lower costs
- Isolate resources to meet differing security and predictability requirements

# Exadata Cloud X9M Flexible Shapes



# Exadata Cloud at Customer X10M Shapes

## Quarter Rack – X10M

Total Capacity

DB Servers — 380 Cores – 2,780 GB Memory
Storage Servers — 192 TB Usable DB Storage

NEW SHAPE

## Quarter Rack – X10M - L

380 Cores – **4,180 GB Memory**
192 TB Usable DB Storage

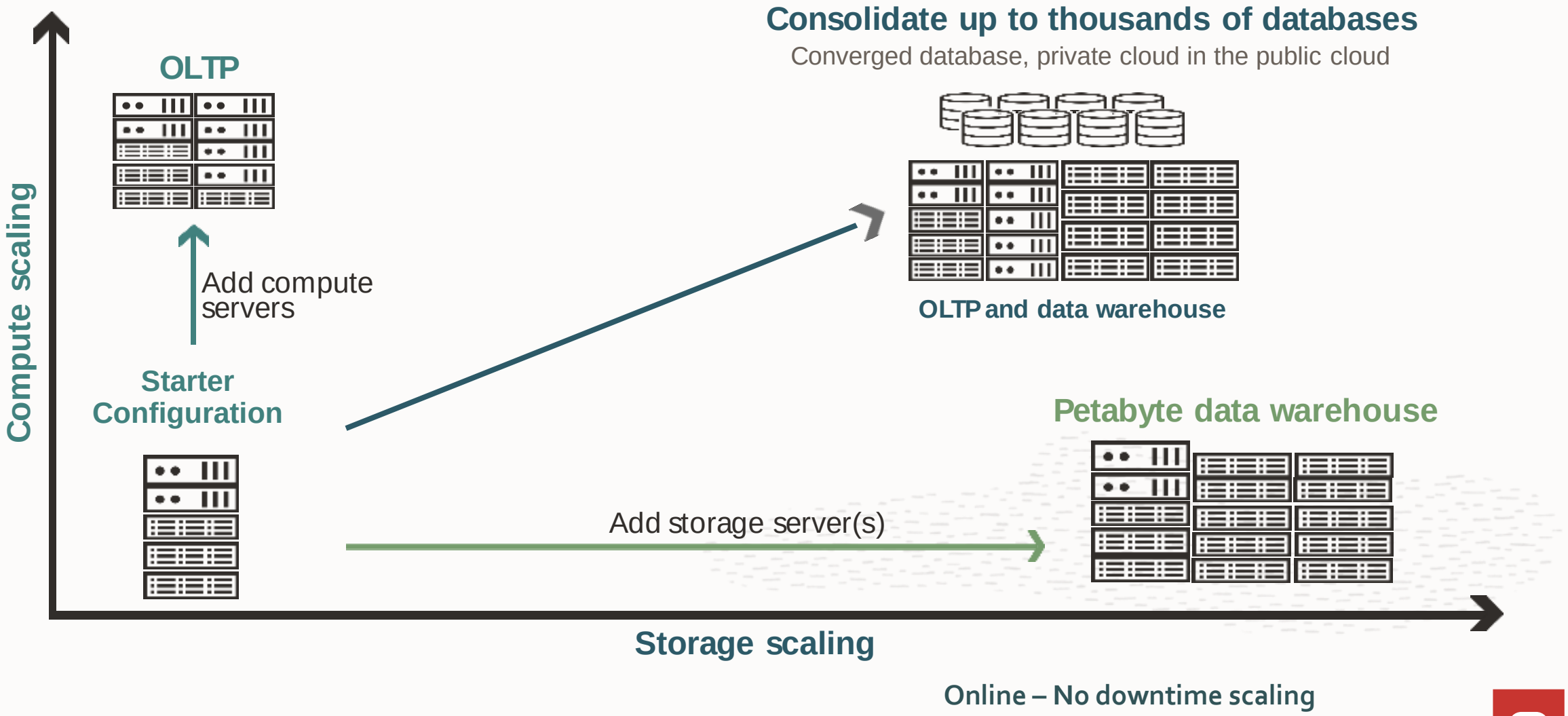
NEW SHAPE

## Quarter Rack X10M-XL

380 Cores – **5,600 GB Memory**
192 TB Usable DB Storage

There are no Half and Full rack shapes.
Expand Quarter Racks using Expansion Servers.

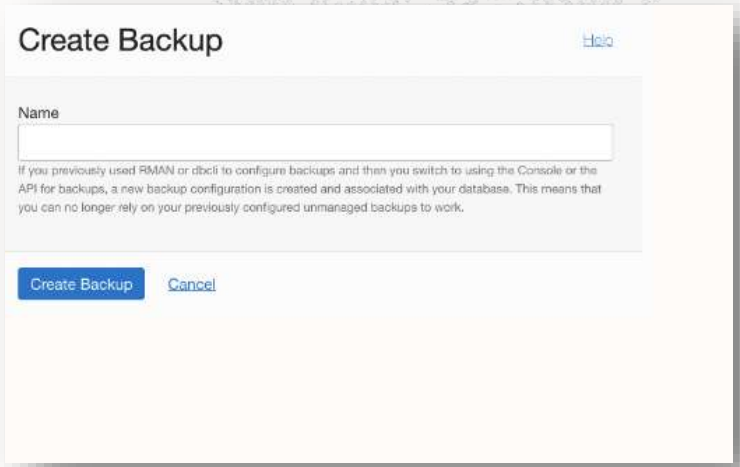
# Easily right-size your service by adding compute and storage as needed

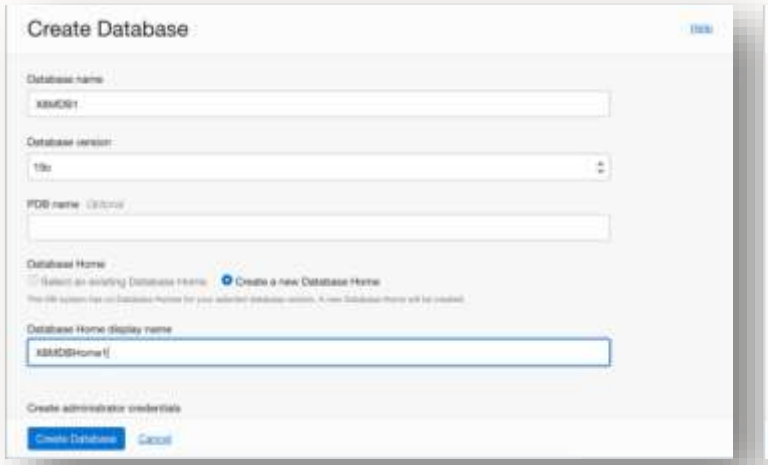


# Cloud Automation for Common Lifecycle Tasks

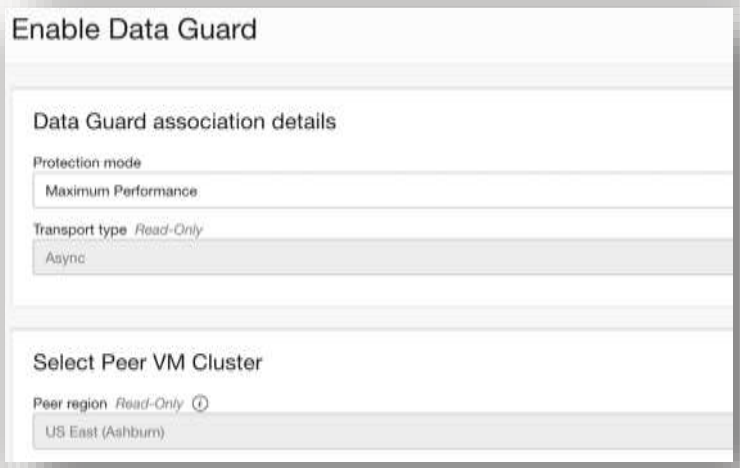
## Oracle Cloud Web base UI, REST APIs, SDK, CLI, Terraform

- Scale OCPUs
- Create Database Homes and Databases
- Schedule Infrastructure Maintenance
- Update Operating System, Grid Infrastructure, and Databases
- Backup and recovery
- Enable Data Guard





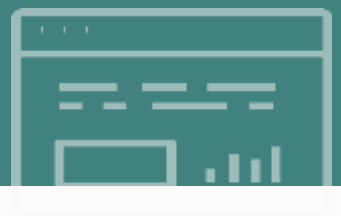


# Exadata Cloud  Command Line Interface (*dbaascli*)

How to upgrade DBAAS Cloud Tooling using dbaascli (Doc ID 2350471.1)

## Database Commands

- ***dbaascli*** database create
- ***dbaascli*** pdb create
- ***dbaascli*** pdb relocate



## Backup Commands

- ***dbaascli*** database backup
- ***dbaascli*** database recover
- ***dbaascli*** create-dbstorage

## Database Home Patch

- ***dbaascli*** database upgrade
- ***dbaascli*** db home patch
- ***dbaascli*** grid patch
- ***dbaascli*** update-dbhome

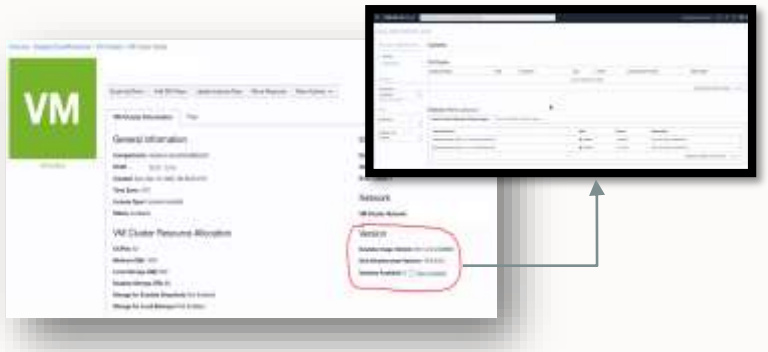
# Exadata Cloud  Pathing

## Pathing domo, domU, Tooling, Grid and Oracle home, how and how to do

### DOMU - CUSTOMER RESPONSIBILITY

Maintaining a secure Exadata Service instance in the best working order requires you to perform the following tasks regularly:

- **Patching Grid Infrastructure.**
- **Patching Database software.**
- **Patching Exadata Software Image (SO).**
- **Patching Tooling (dbaascli).**
- **Patching other components installed on DomU.**




### DOMo - ORACLE RESPONSIBILITY

Oracle manages quarterly infrastructure maintenance updates of all other infrastructure components:

- **Patching Database Servers (Dom0).**
- **Patching Storage servers.**
- **Patching Network switches.**
- **Patching Control Planes.**

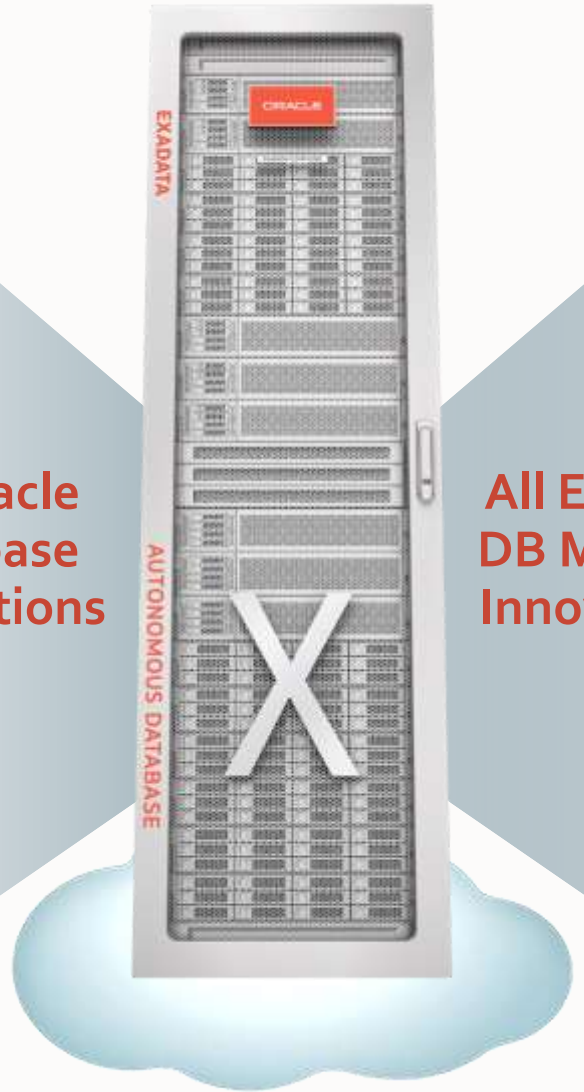
Quarterly maintenance updates may require a restart of the customer-managed guest virtual servers.

| Quarter 1 | Quarter 2 | Quarter 3 | Quarter 4 |
|---|---|---|---|
| JANUARY | APRIL | JULY | OCTOBER |
| FEBRUARY | MAY | AUGUST | NOVEMBER |
| MARCH | JUNE | SEPTEMBER | DECEMBER |

# Oracle Database and Exadata Platform Innovations

- Multitenant
- In-Memory DB
- Real Application Clusters
- Active Data Guard
- Partitioning
- Advanced Compression
- Advanced Security, Label Security, DB Vault
- Real Application Testing
- Advanced Analytics, Spatial and Graph
- Management Packs for Oracle Database

**All Oracle Database Innovations**




**All Exadata DB Machine Innovations**

- Offload SQL to Storage
- RoCE Fabric — 100 Gbps
- XRMEM Data Accelerator
- Smart Flash Cache — PCI Flash
- Storage Indexes
- Columnar Flash Cache
- Hybrid Columnar Compression — HCC 10:1
- I/O Resource Management — I/O I/O I/O
- Network Resource Management
- In-Memory Fault Tolerance
- Exafusion Direct-to-Wire Protocol

# Fastest Cloud In Memory, Smart Scan and HCC

**Unique: Smart Scan (SQL Offload)**

- Data-intensive processing* runs in Exadata Storage, bypassing network bottlenecks and freeing up DB CPUs

**Unique: Tiered Flash Cache**

- Active data is automatically cached on PCI NVMe Flash, inactive data on low cost, high-capacity disks

**Unique: Storage Indexes**

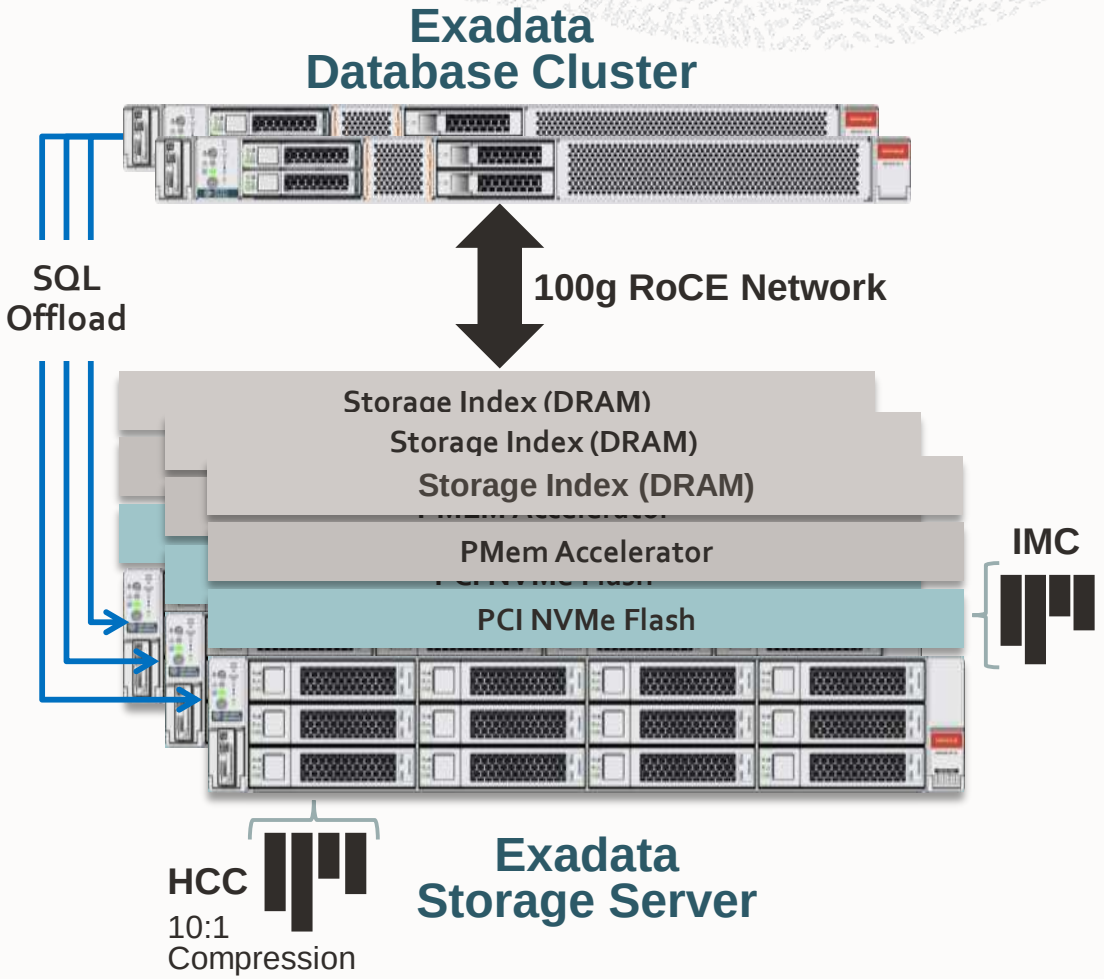
- Eliminates I/O not relevant to a particular query

**Unique: Hybrid Columnar Compression (HCC)**

- Compressed, columnar format in storage, saving space, reducing I/O, speeding analytic queries

**Unique: In-Memory Columnar (IMC)**

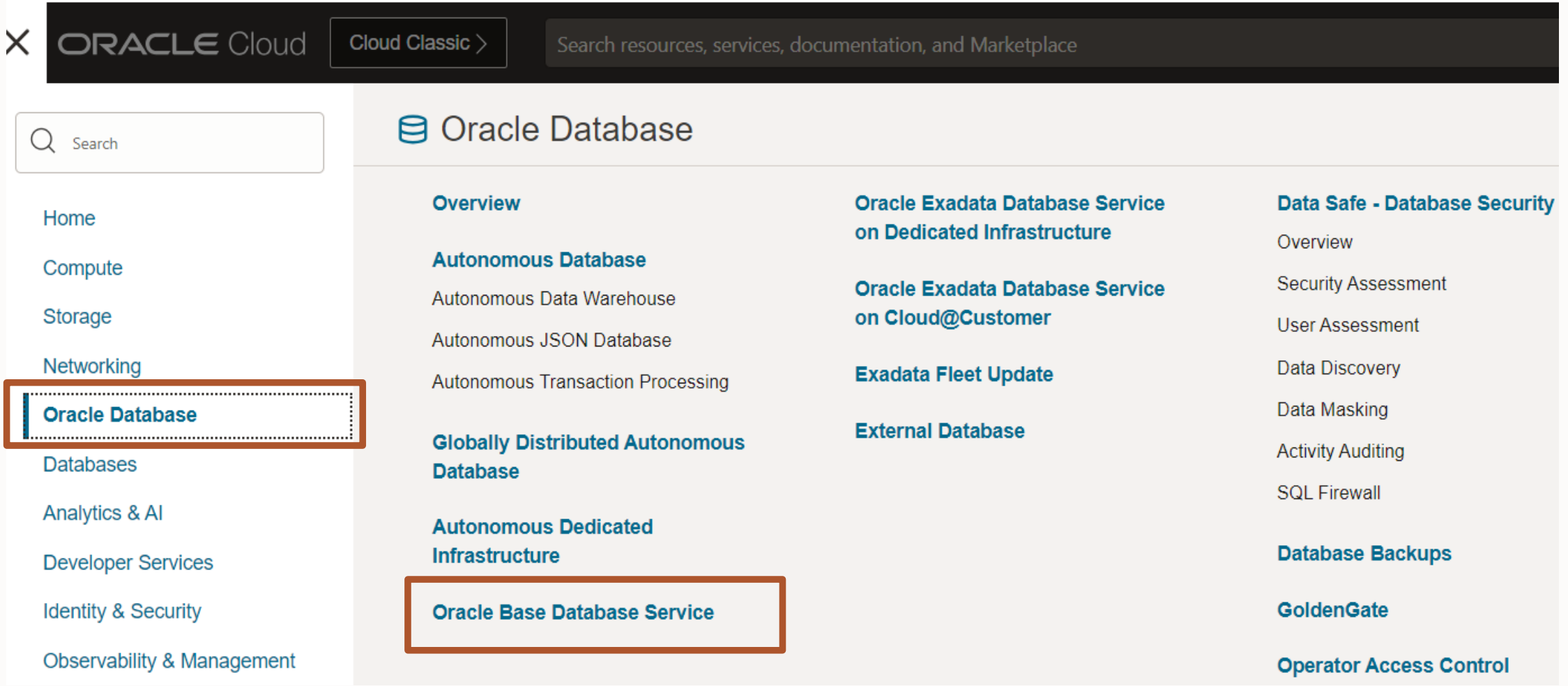
- Extends In-Memory database performance to higher capacity Flash memory in storage



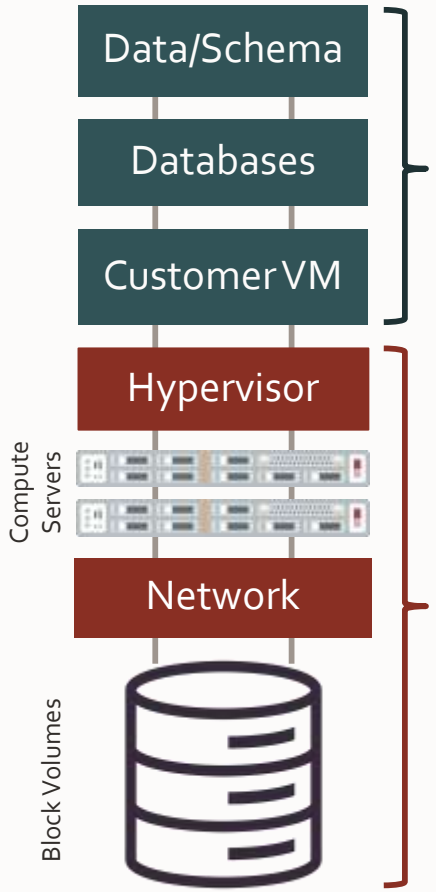

*Includes long-running SQL queries, backups, decryption, aggregation, data mining

# Oracle Database Services (DBCS)

# Oracle Database Cloud Service (DBCS) on OCI Console



# Customer managed databases with Oracle managed infrastructure




## Customer owns everything inside database

- Data, schema, encryption keys

## Customer subscribes to database services

- Customer manages VMs and Databases using Cloud Automation (UI / APIs)
- Automation to create, delete, patch, backup, scale up/down, etc.
- Runs all supported Oracle Database versions
- Customer controls access to customer VM
- Customer can install and manage additional software in customer VM
- Oracle staff are not authorized to access customer VM

## Oracle owns and manages infrastructure

- Hypervisor, compute and storage infrastructure, network
- Patching, security scans, security updates
- Monitoring and maintenance
- Customer not authorized to access Oracle infrastructure

# Database Cloud Service | Virtual Machine

Understanding Oracle OCI DBCS roles and limitations

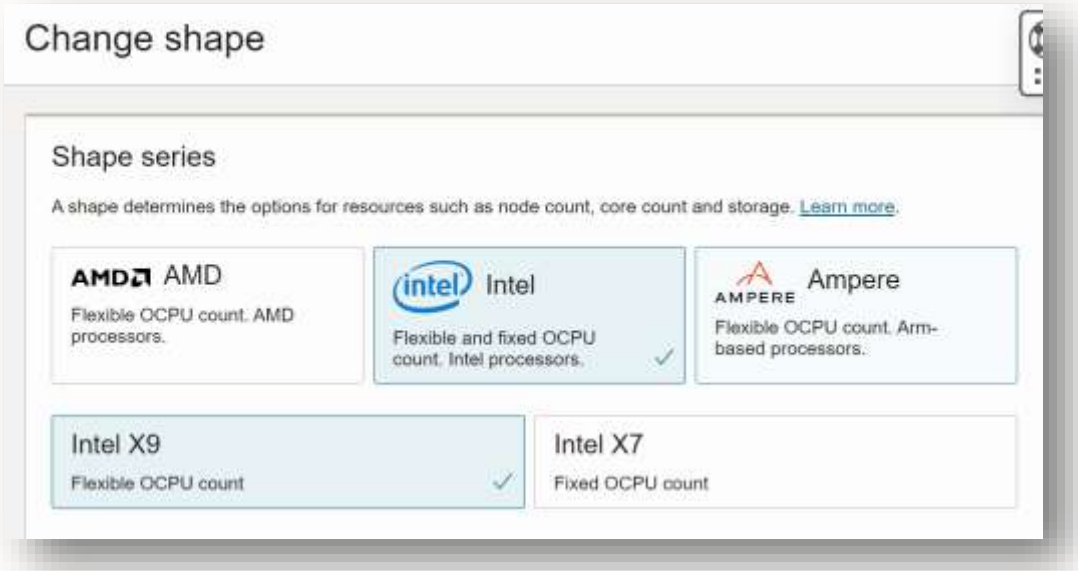

## Entry-level, provision with GI or LVM (fast-provision)

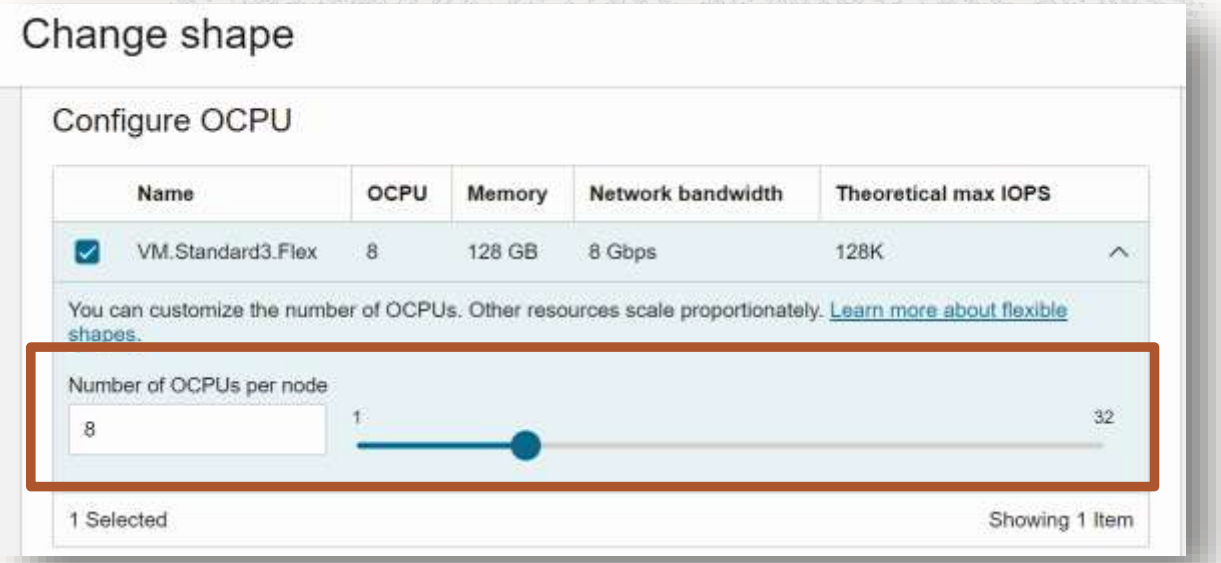
- 2 DB Systems types on VM

  One Node – One VB Database System
  Two Nodes – Two VM Clusters with Oracle RAC Features

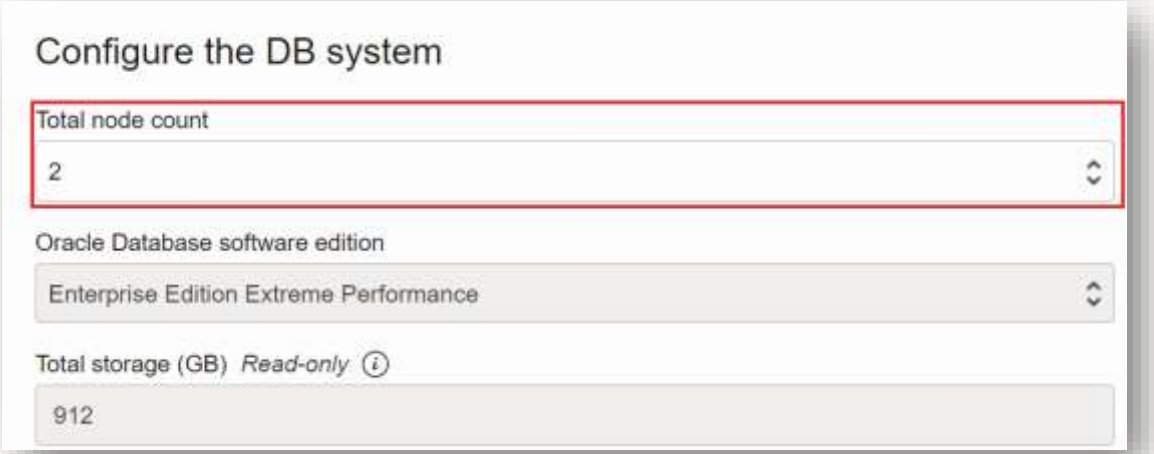
- On A RAC shape, each node is assigned on a different fault domain
- **1** to **64 OCPU's** for Enterprise Edition
- **1** to **8 OCPU's** for Standard Edition
- **16 GB** memory per **OCPU**, up to **1 TB** total memory
- Requires Node reboot after any shape change

# Oracle DBCS Virtual Machine Console provisioning

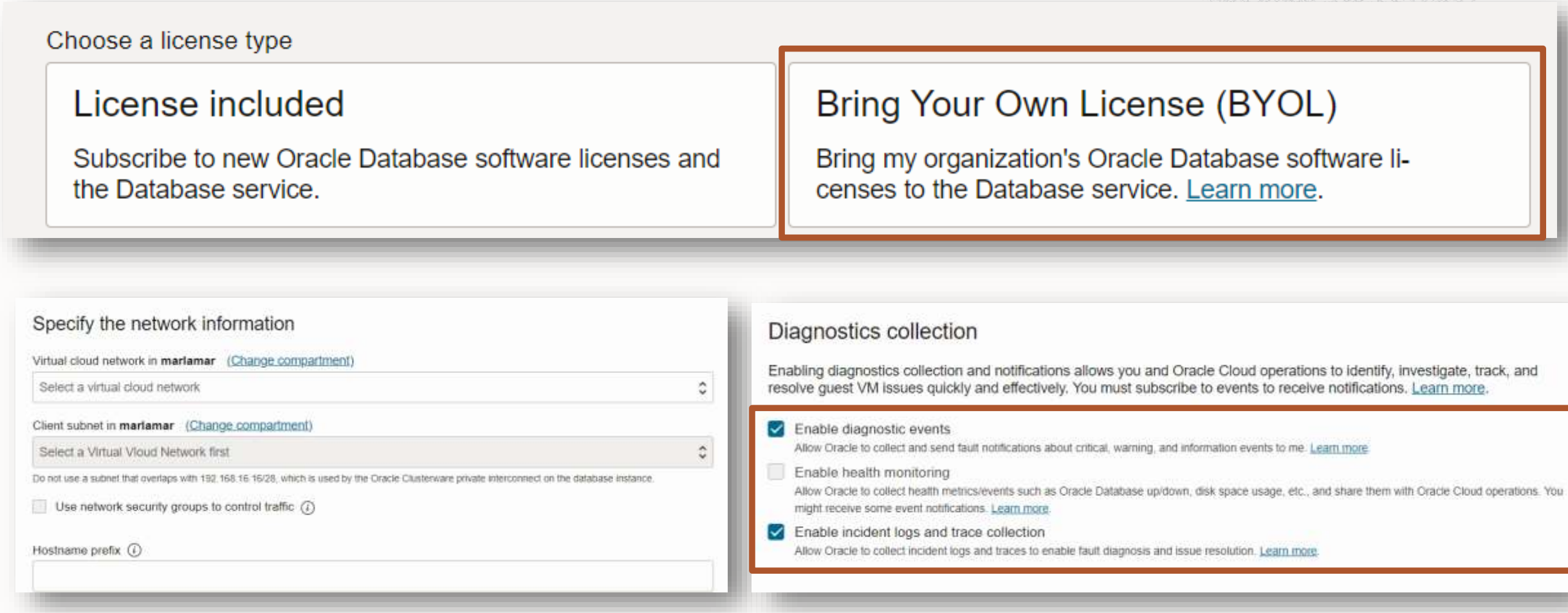


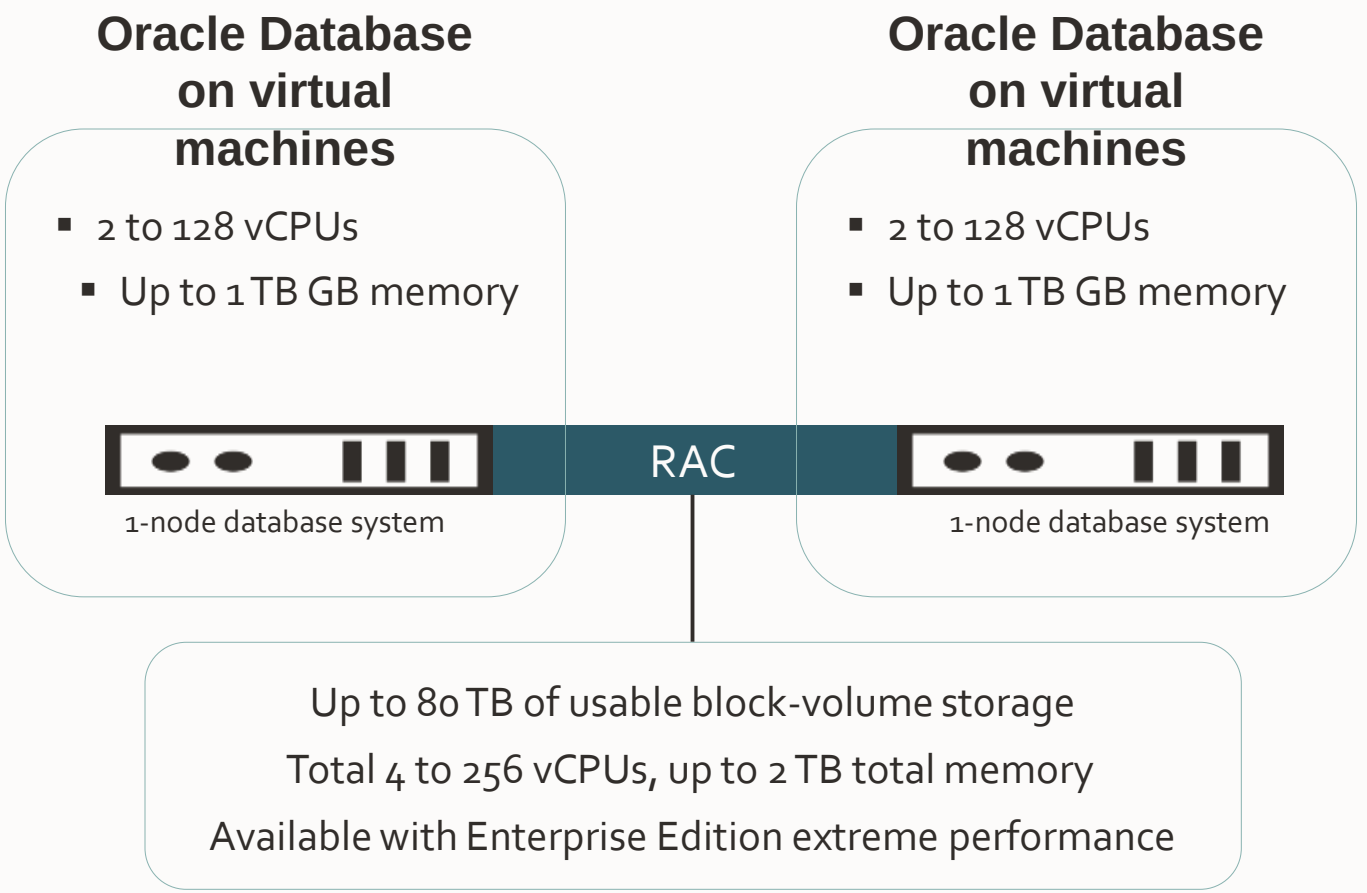




# Oracle DBCS Virtual Machine Console Management



# Continuous availability and scalability on 2-node RAC



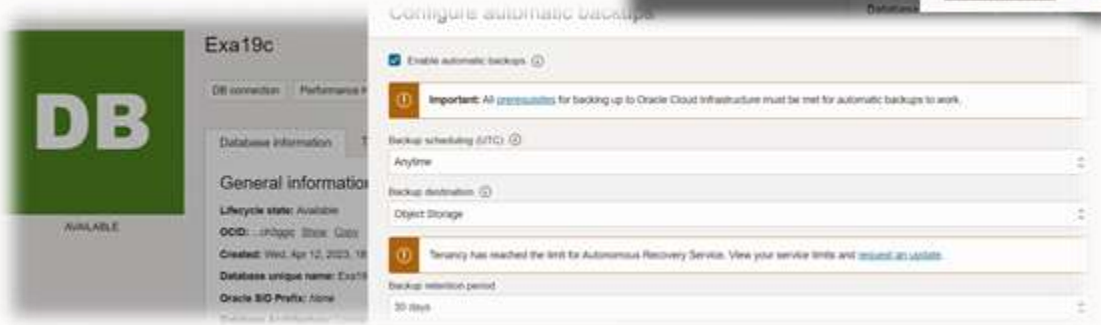
# Oracle Database automatic backup

## Manage backup and restore feature for VM/BM DB System

- Backup stored in Object or Local storage
- DB System in private subnets can leverage Service Gateway
- Start With 2 cores and Scale Up/Down OCPU's based on your requirement

### Backup Options

- It is not possible to create a non-CDB via the console - use dbcli

# Cloud Automation for Common Lifecycle Tasks

## Oracle Cloud Web base UI, REST APIs, SDK, CLI, Terraform

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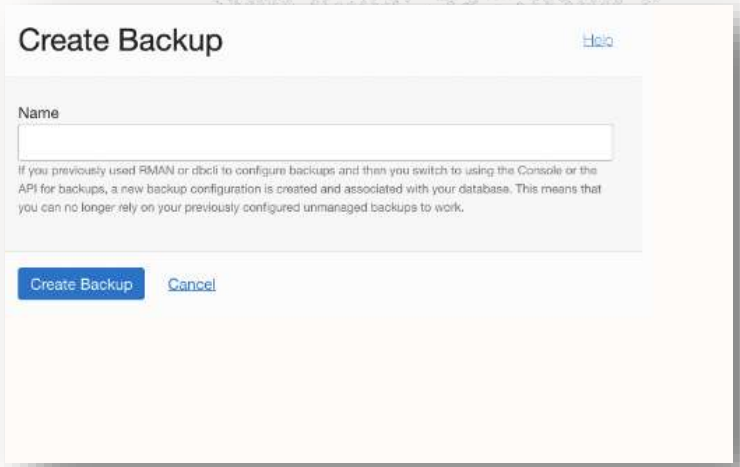
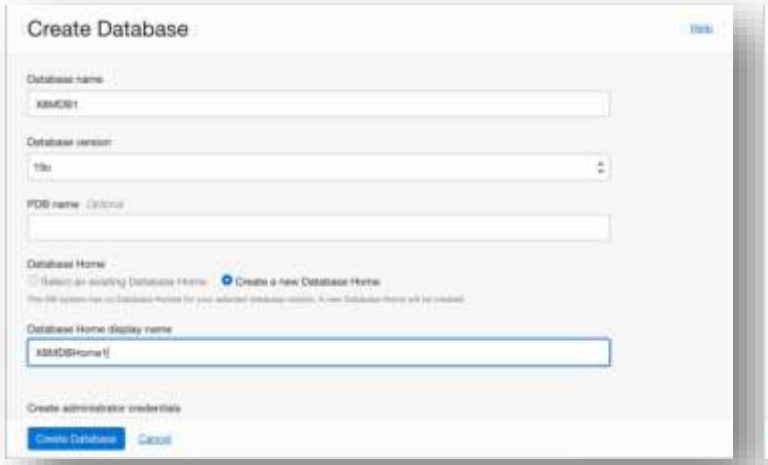
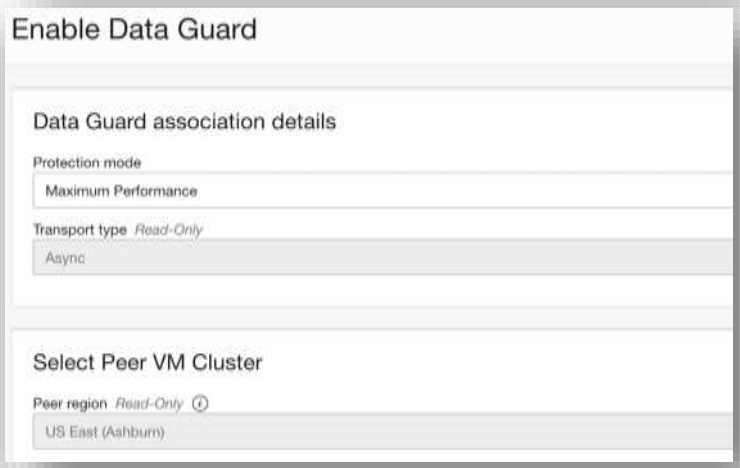






# OCI Command Line Interface (*DBCLI and OCI CLI*)

*DBCLI*

```
# dbcli create backup

# dbcli list-databases

# dbcli modify-database

# dbcli register-database
```

- **Must be executed on DB System host !**

*OCI CLI*

```
# oci database-management associated-
database-summary list-associated-databases
[OPTIONS]

# oci os bucket update [OPTIONS]

#oci data-safe audit-profile calculate-
audit-volume-available [OPTIONS]
```

# Patching Concepts | in Place Patching

Oracle Home, 19.18.0

# Patching Concepts | in Place Patching

~~Oracle Home, 19.18.0~~

```
SQL>  SHUTDOWN  IMMEDIATE
```

```
#  DATAPATCH
```

# Patching Concepts | Out-Of-Place Patching

Oracle Home, 19.18.0

```
SQL>  SHUTDOWN  IMMEDIATE
```

```
#  DATAPATCH
```

**New Oracle Home**, 19.20.0

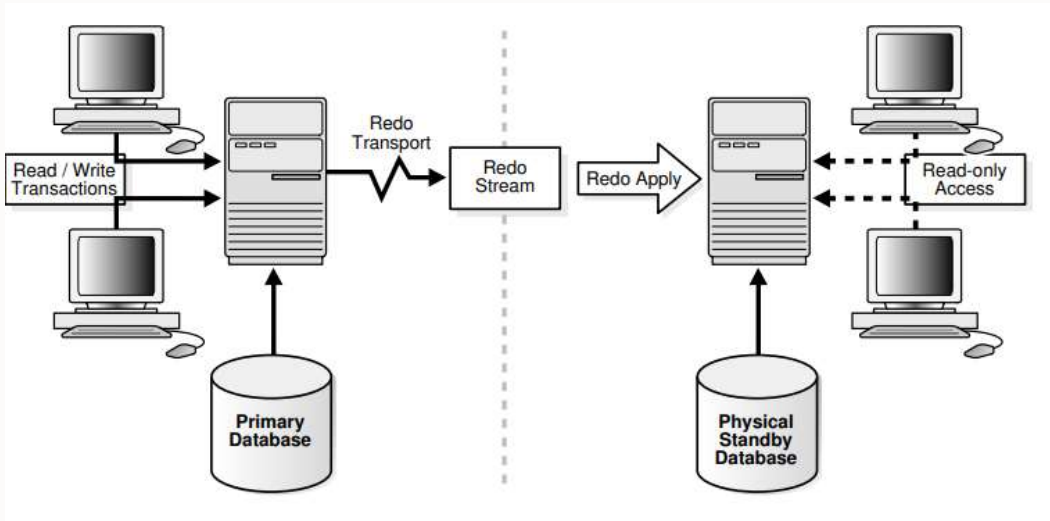
# Oracle MAA OCI Data Guard

# OCI Active Data Guard VS Data Guard

- Data Guard and Active Data Guard provide disaster recovery (DR) for databases with recovery time objectives (RTO) that cannot be met by restoring from backup.

- Oracle recommends that the DB system of **the standby database be in a different availability domain.**

- Patch apply process on DB Sysyetms with Dataguard applies on Primary First



# Oracle OCI Data Guard Network Requirements

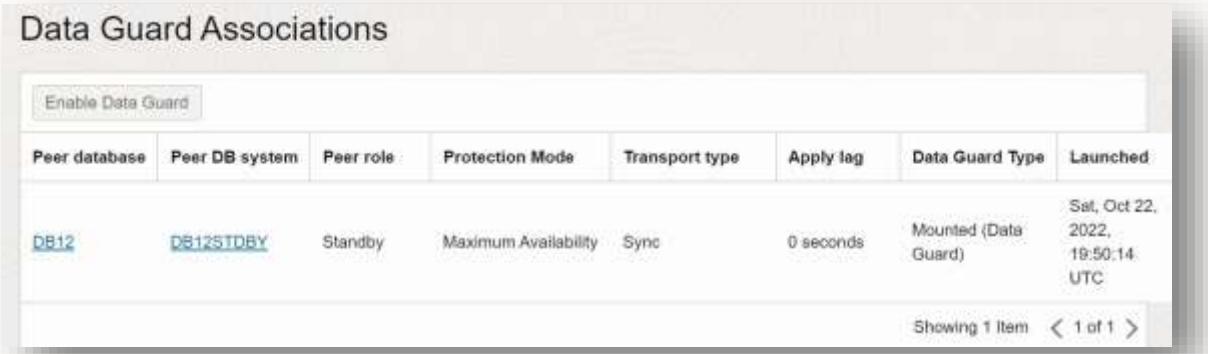
- **Properly configure the security list ingress and egress rules** for the subnets of both DB systems in the Data Guard association to allow TCP traffic to flow between the applicable ports. **Ensure that the rules you create are stateful (the default)**.

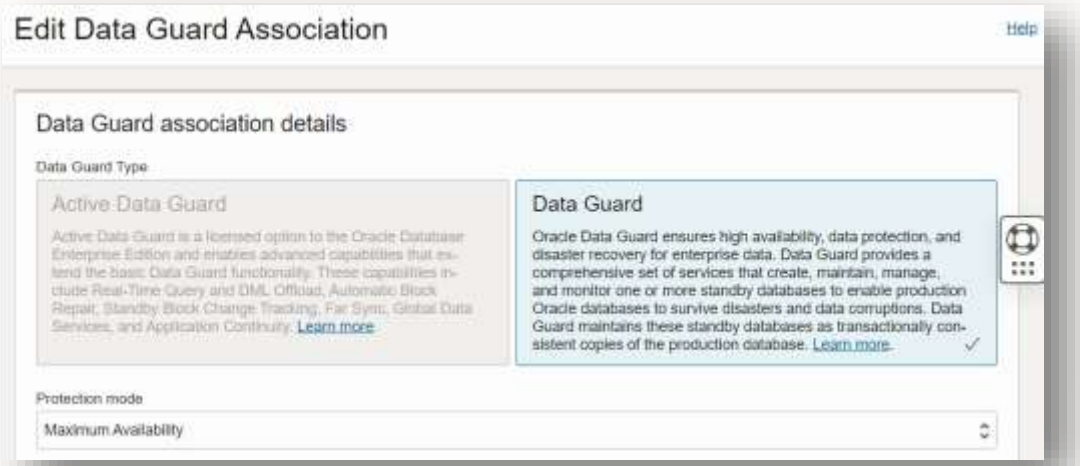
- **The egress rules in the example show how to enable** TCP traffic only for port 1521, which is a minimum requirement for Data Guard to work. If TCP traffic is already enabled on all of your outgoing ports (0.0.0.0/0), then you need not explicitly add these specific egress rules. Service Gateway can provide NW connectivity.

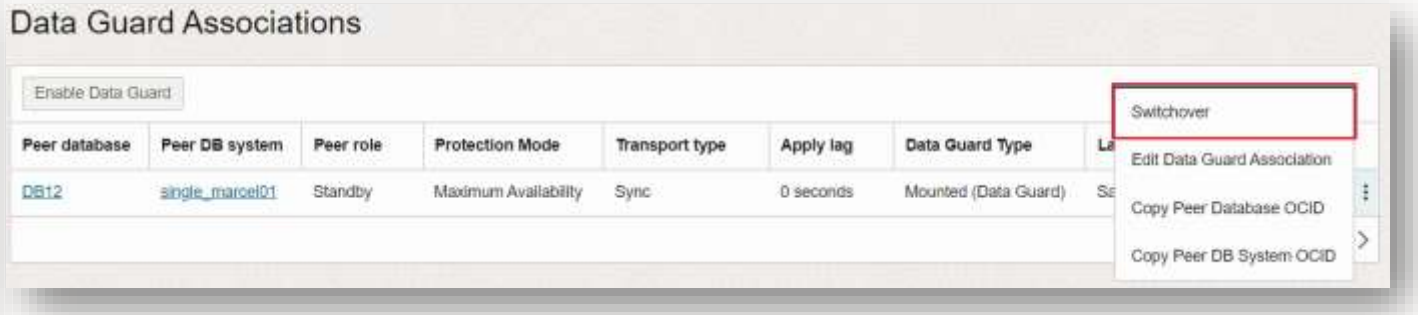
| Rules(Prod) | Stateless | Source | IP Protocol | Source Port | Dest Port |
|---|---|---|---|---|---|
| Ingress | No | 10.0.01.0/24 | TCP | All | 1521 |
| Egress | No | 10.0.1.0/24 | TCP | All | 1521 |
| Rules(Sby) | Stateless | Source | IP Protocol | Source Port | Dest Port |
| Ingress | No | 10.0.0.0/24 | TCP | All | 1521 |
| Egress | No | 10.0.0.0/24 | TCP | All | 1521 |

# Avoid Data Guard Provisioning Error | Change Ingress and Egress roles

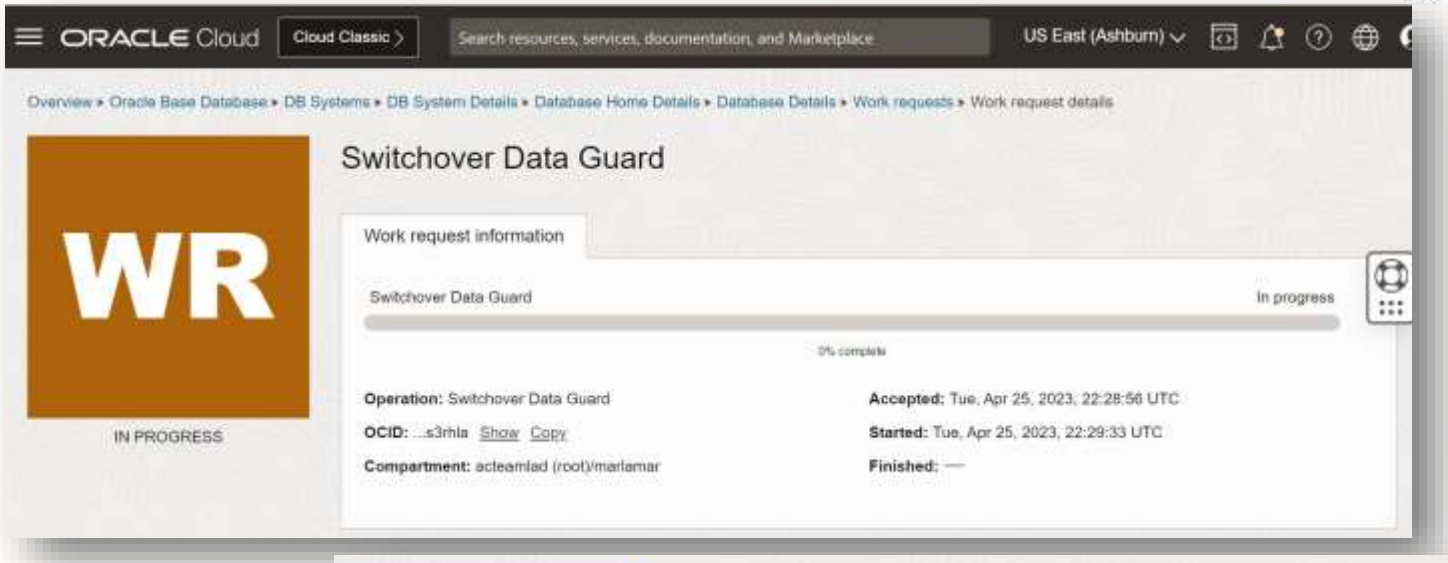
# Oracle OCI Physical Data Guard Console Management

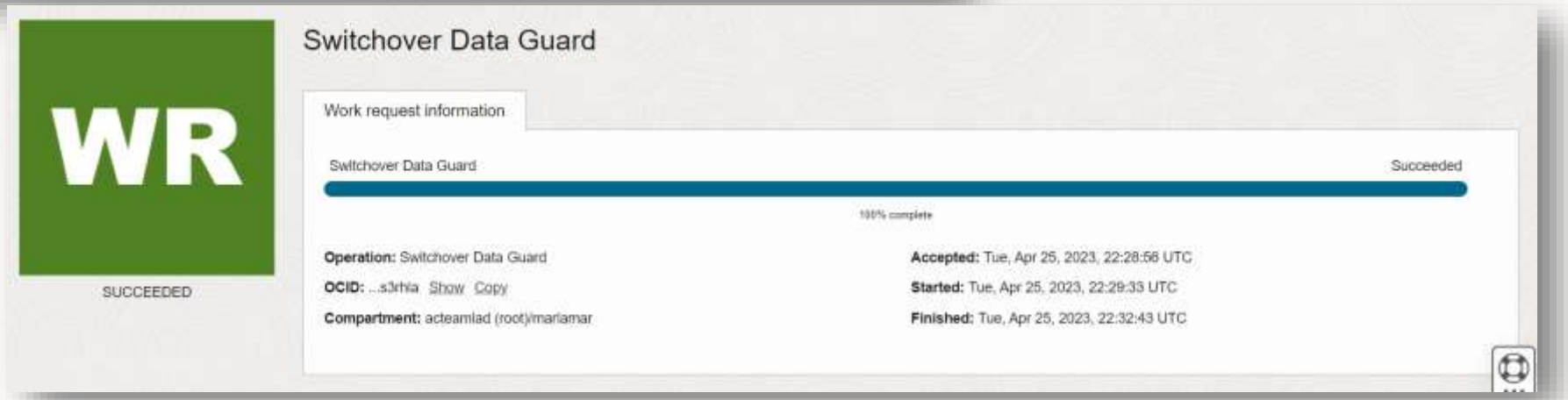



# VM Data Guard Switchover through OCI Console

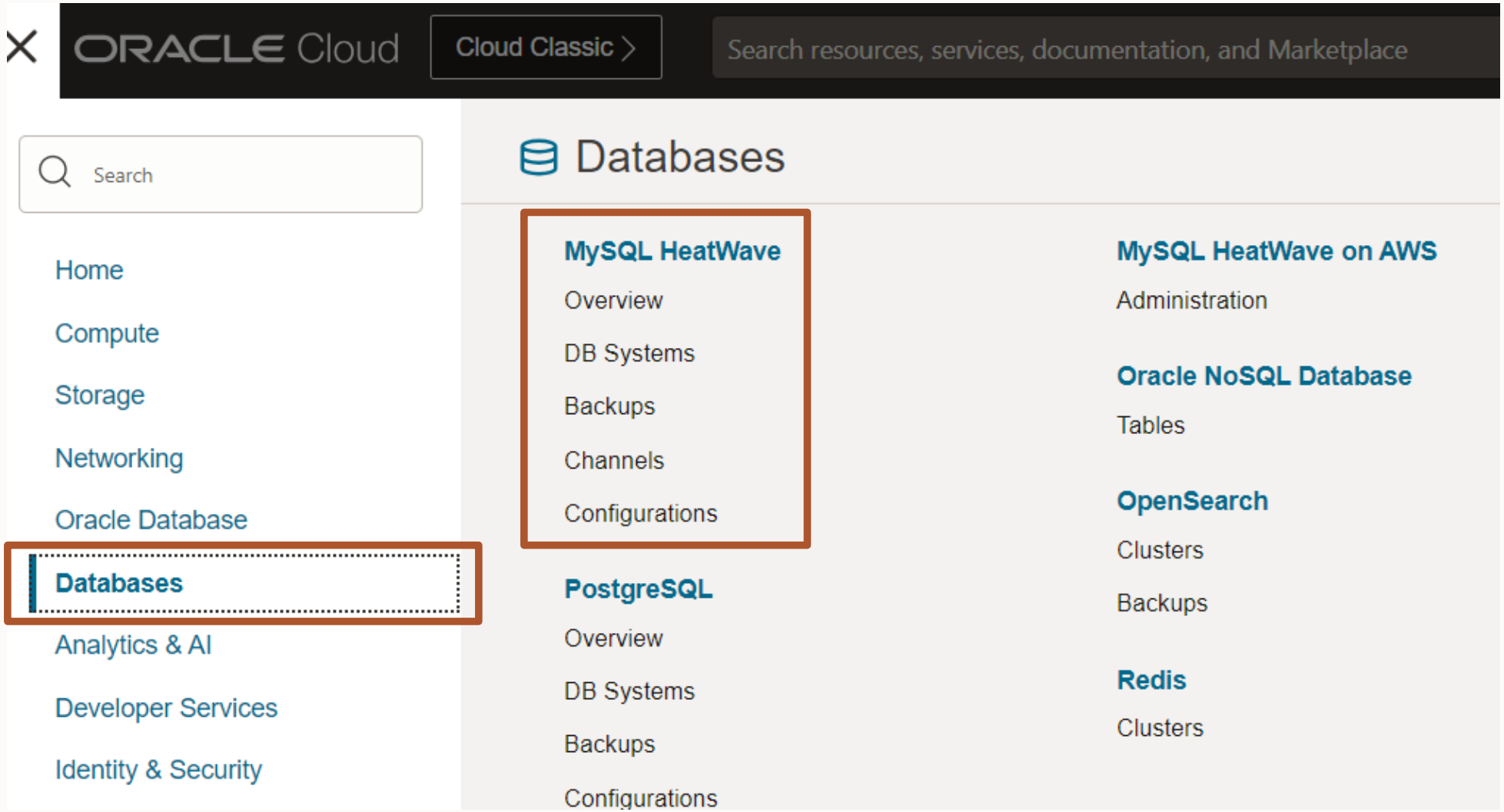






# MySQL Database Service

# Oracle NoSQL Database Services on OCI Console

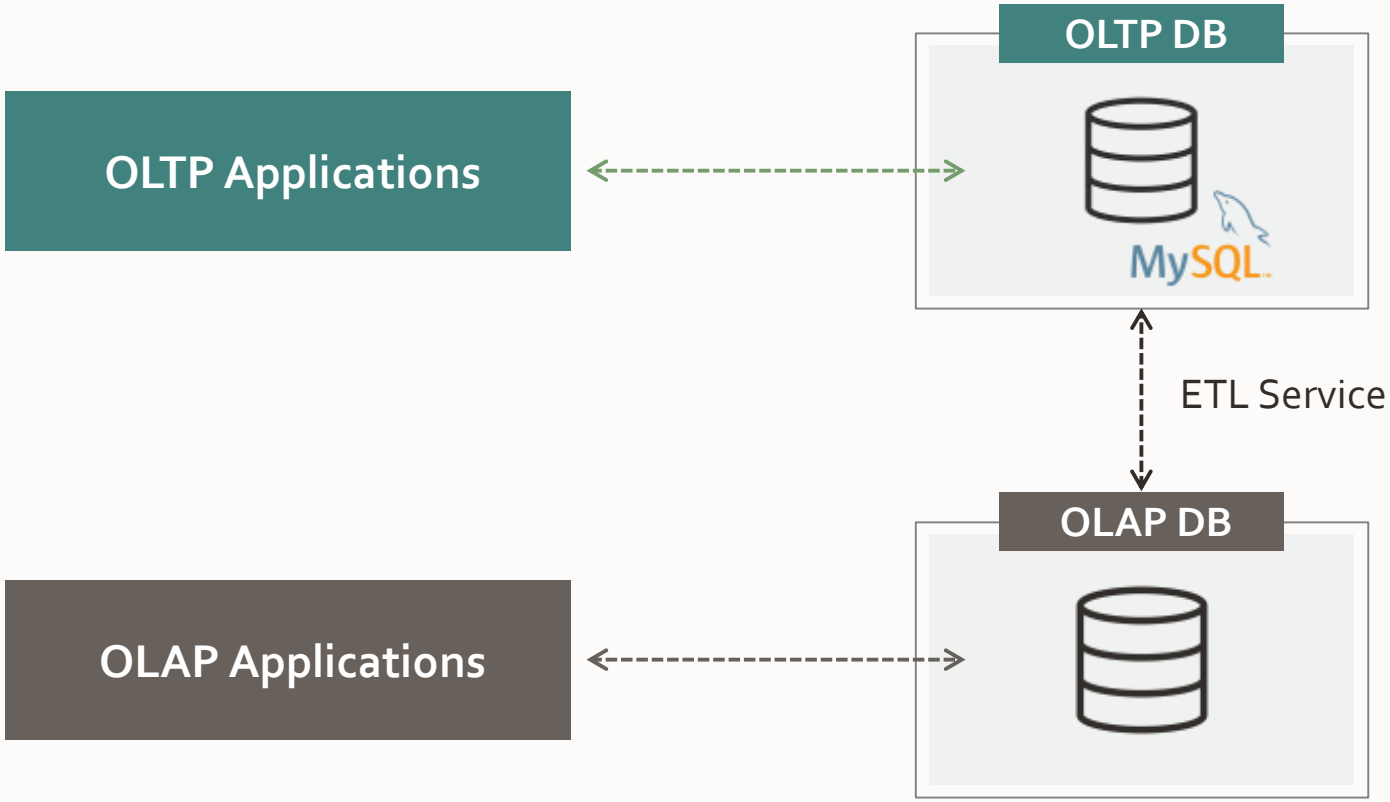


# MySQL is the #1 Open Source Database

| Rank | | | DBMS | Database Model | |
|---|---|---|---|---|---|
| Dec 2023 | Nov 2023 | Dec 2022 | | | Dec 2023 |
| 1. | 1. | 1. | Oracle | Relational, Multi-model | 1257.41 |
| 2. | 2. | 2. | MySQL | Relational, Multi-model | 1126.64 |
| 3. | 3. | 3. | Microsoft SQL Server | Relational, Multi-model | 903.83 |
| 4. | 4. | 4. | PostgreSQL | Relational, Multi-model | 650.90 |
| 5. | 5. | 5. | MongoDB | Document, Multi-model | 419.15 |

DB-ENGINES

# MySQL is optimized for OLTP, not designed for analytic processing




Separate analytics database

Complex ETL

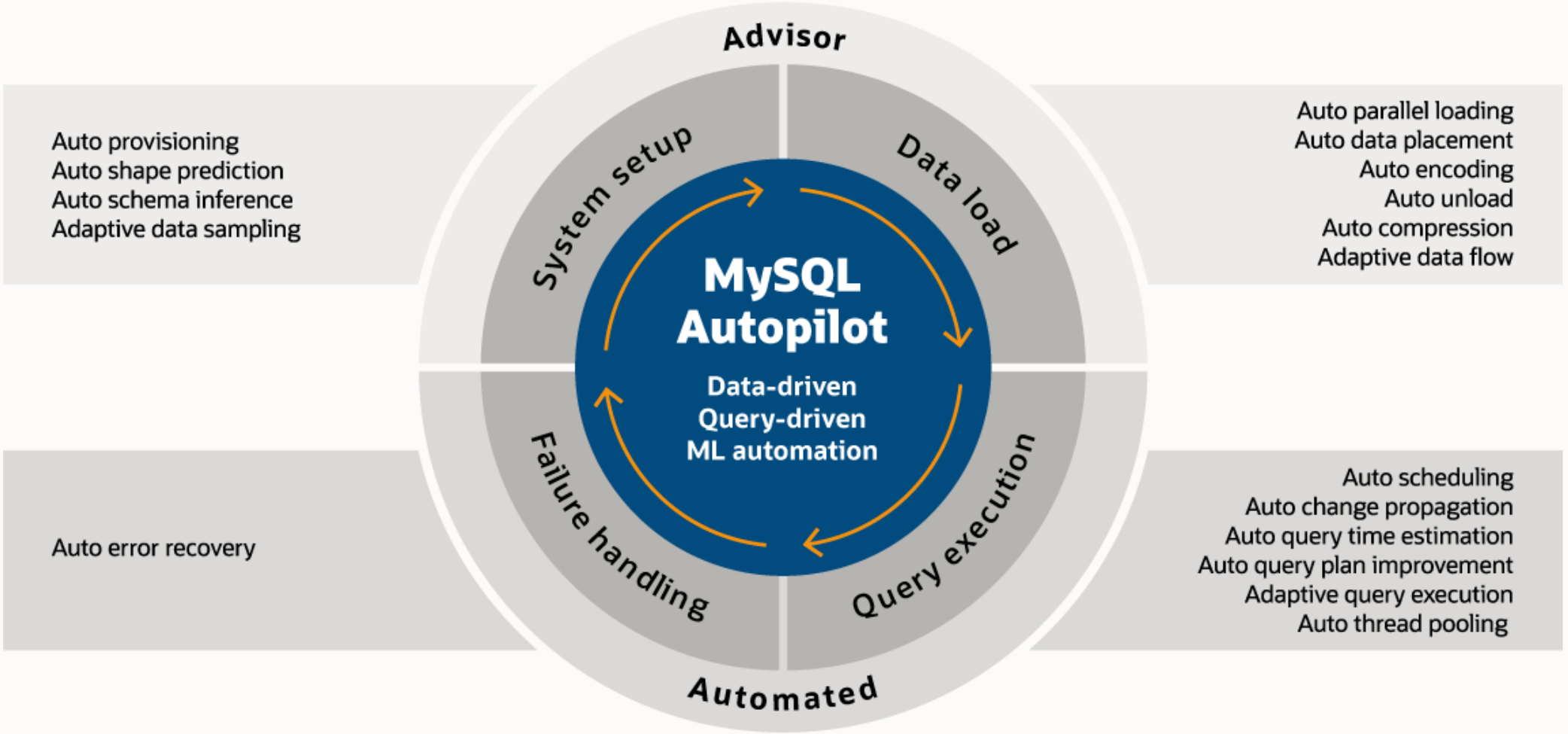
No real-time analytics

Security & compliance risks

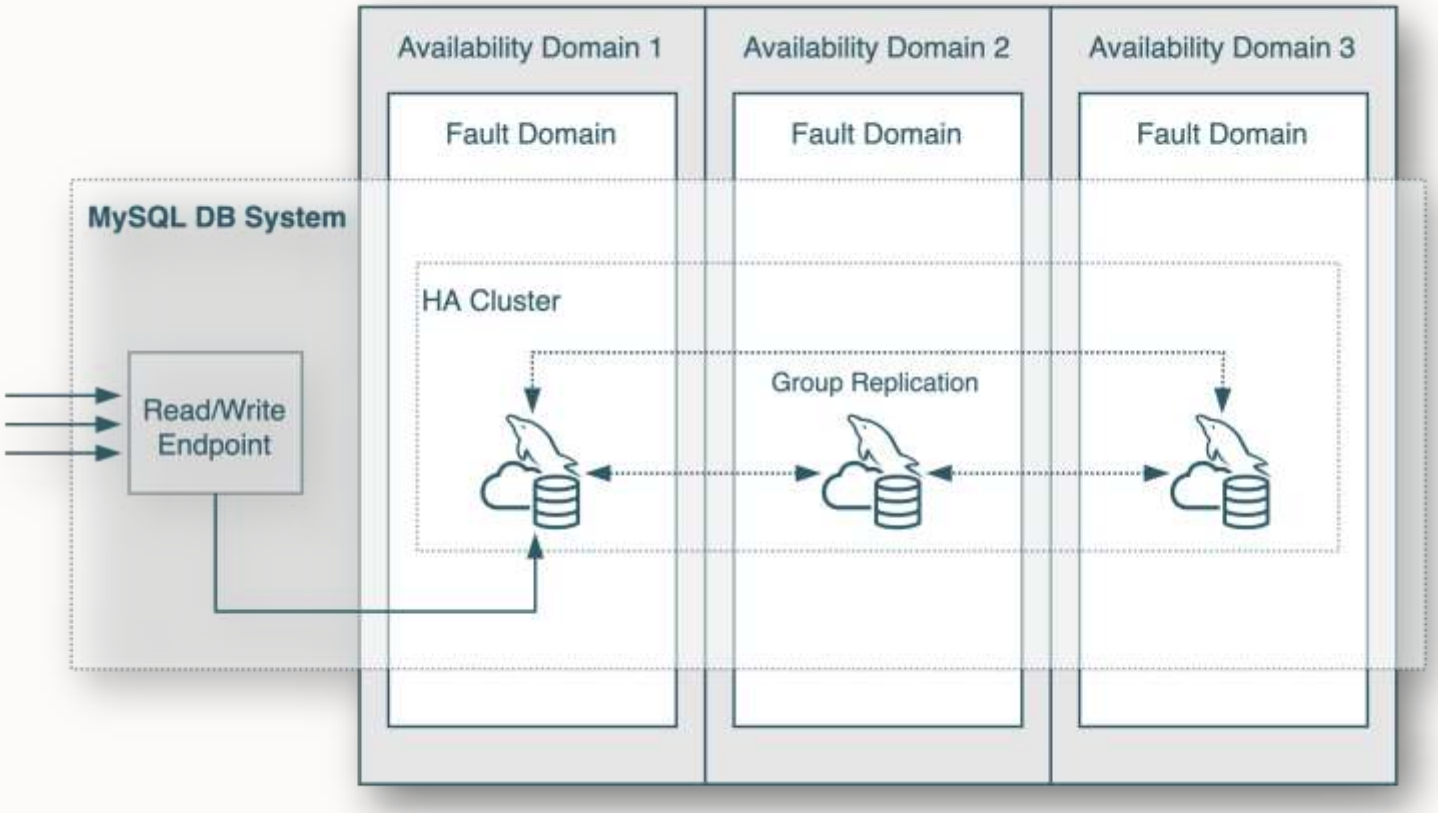
Increased costs

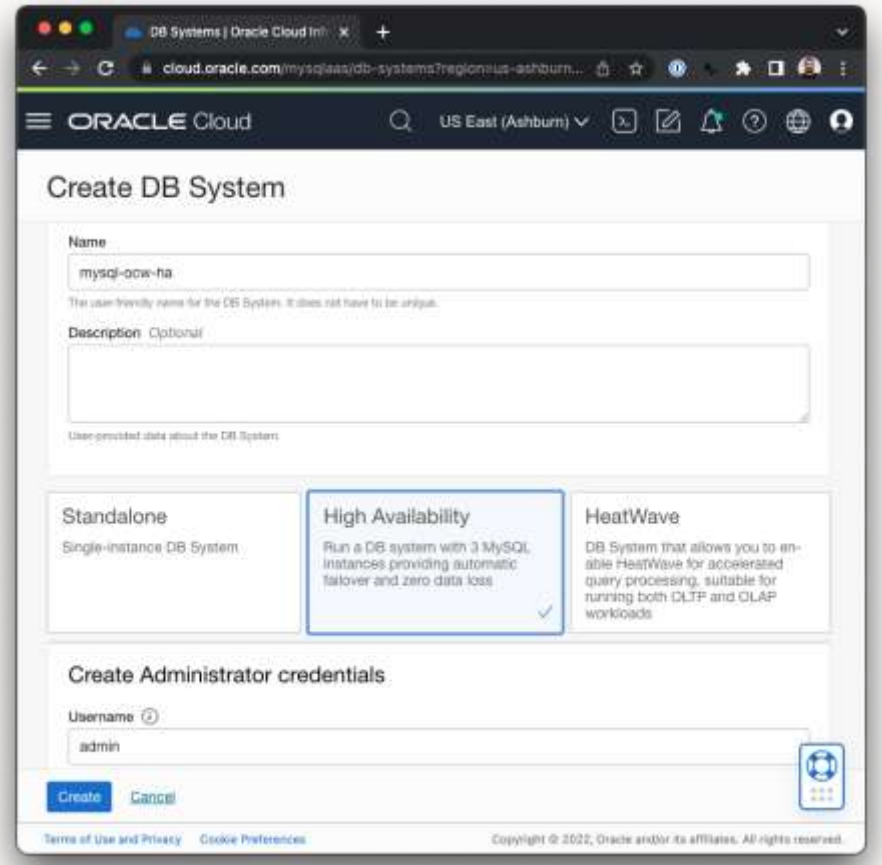
# Machine learning-powered automation for MySQL HeatWave

High query performance at scale, higher OLTP throughput, and the best price performance

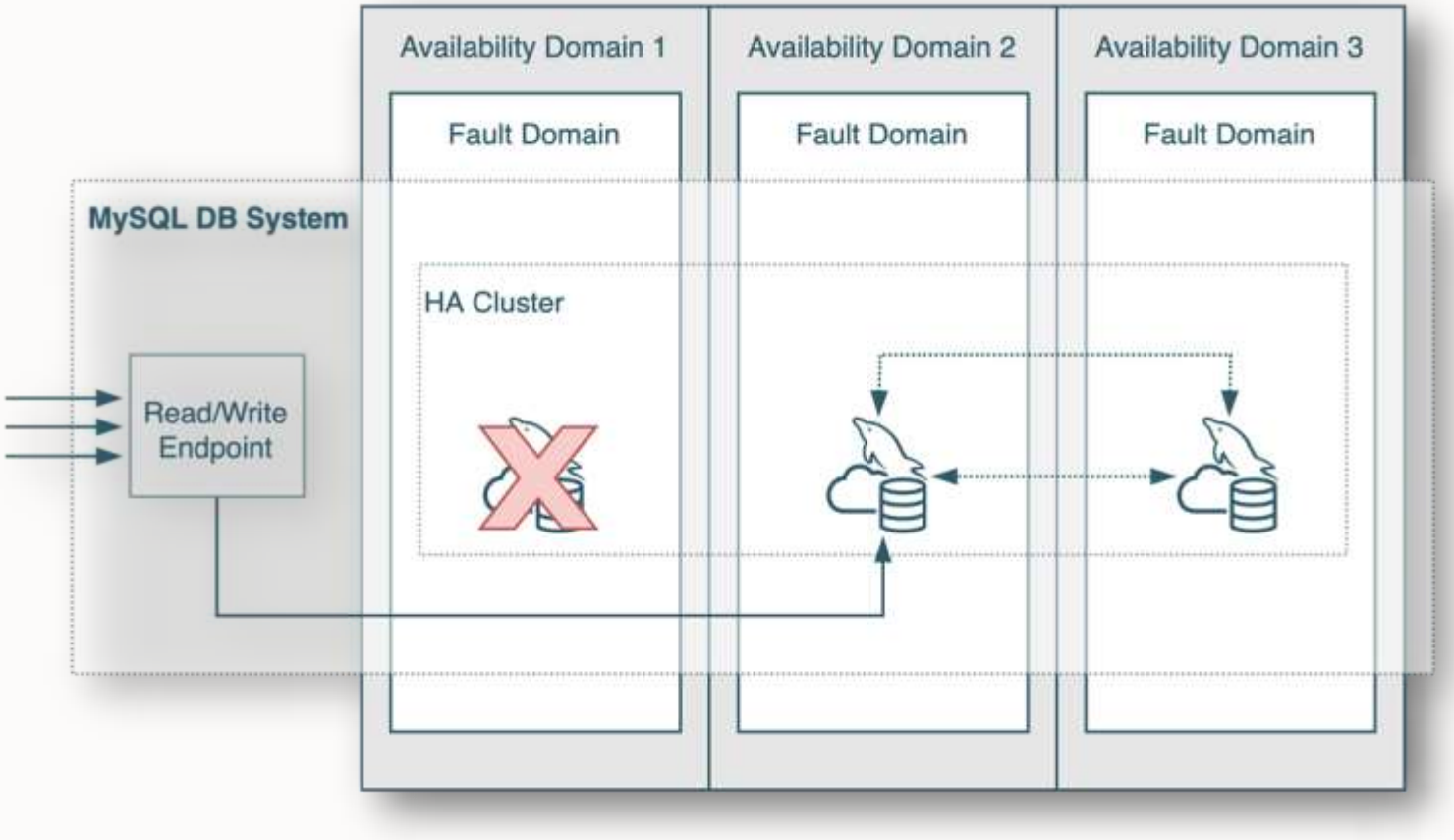


# High Availability



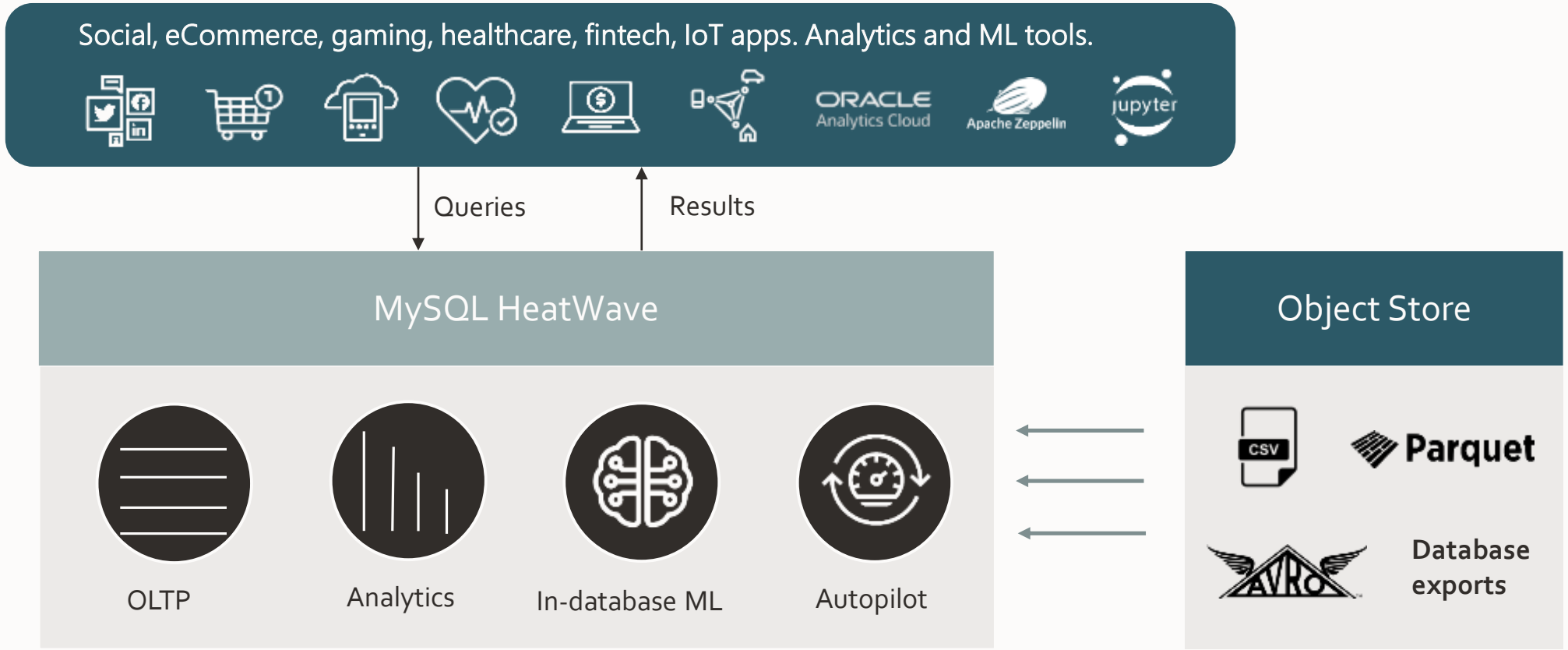
# High Availability




- SLA 99.99%
- Automatic failover
- Manual switchover
- Rolling upgrades during maintenance
  - Less than 1 minute impact
  - MySQL version upgrades and OS security patches
- RPO: 0
- RTO: Less than a minute

# MySQL HeatWave overview

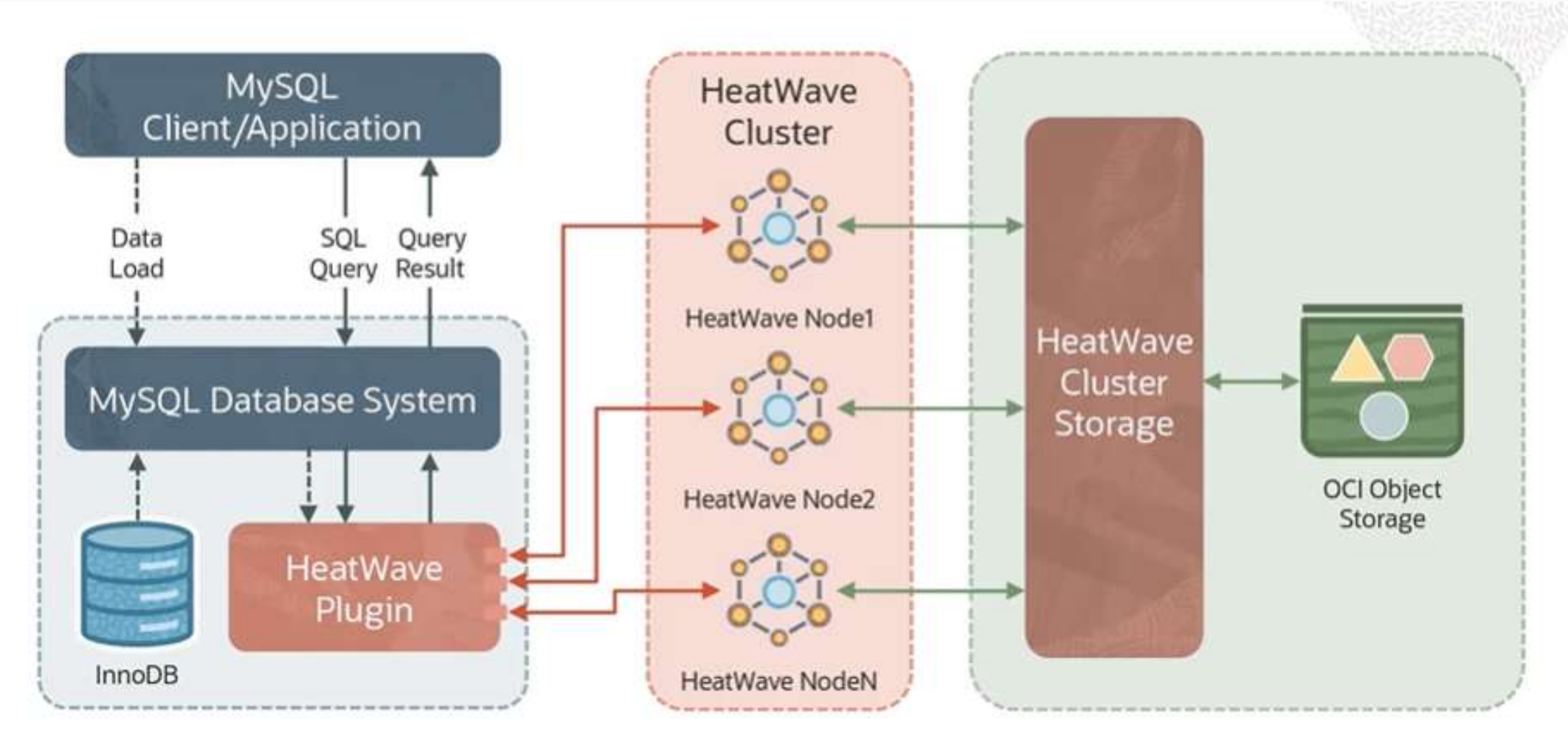
Transactions, real-time analytics across data warehouse and data lake, and machine learning in one database service



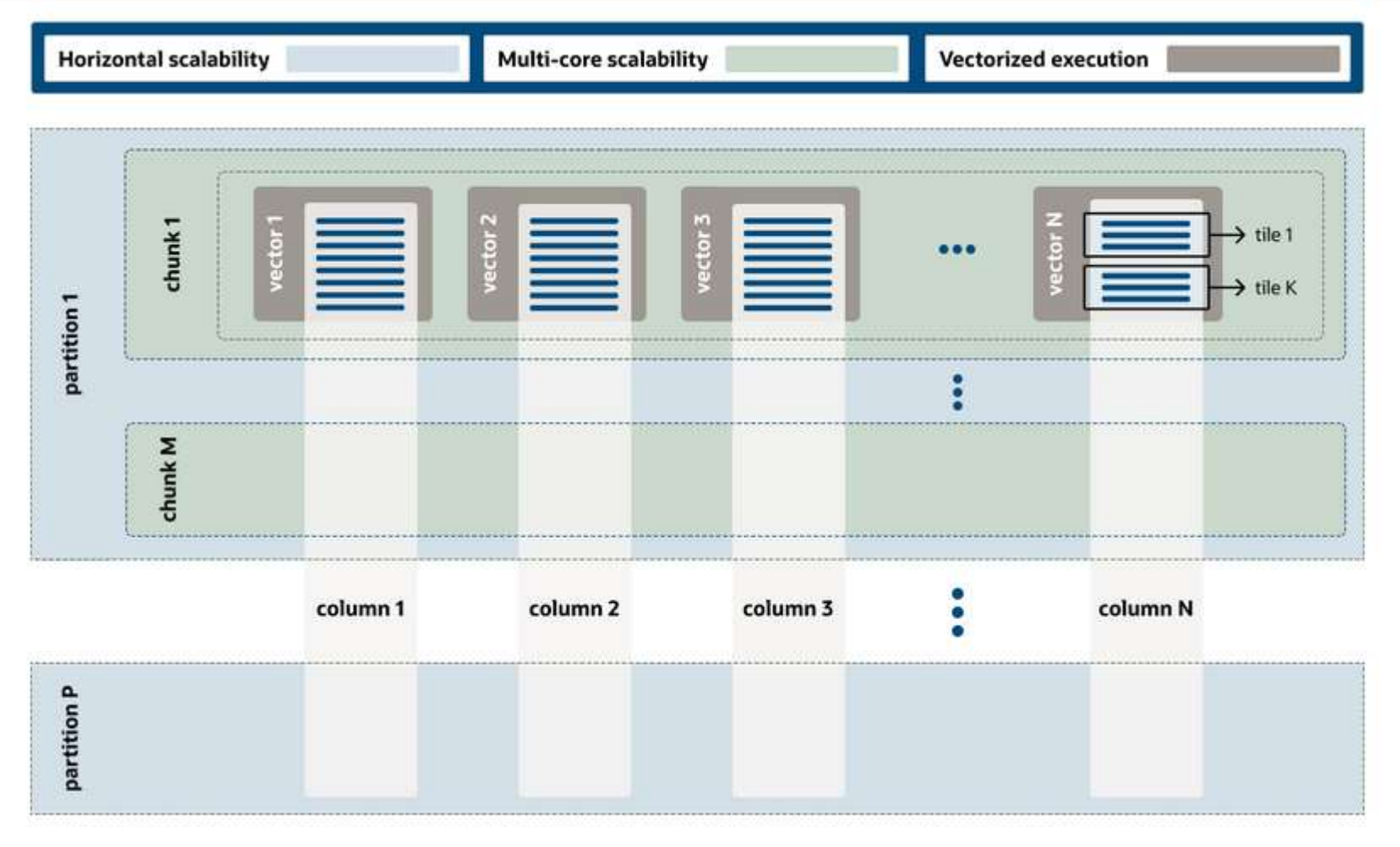

Data remains in object store, processing is done in HeatWave

## For both non-MySQL and MySQL workloads

# MySQL Heatwave Architecture



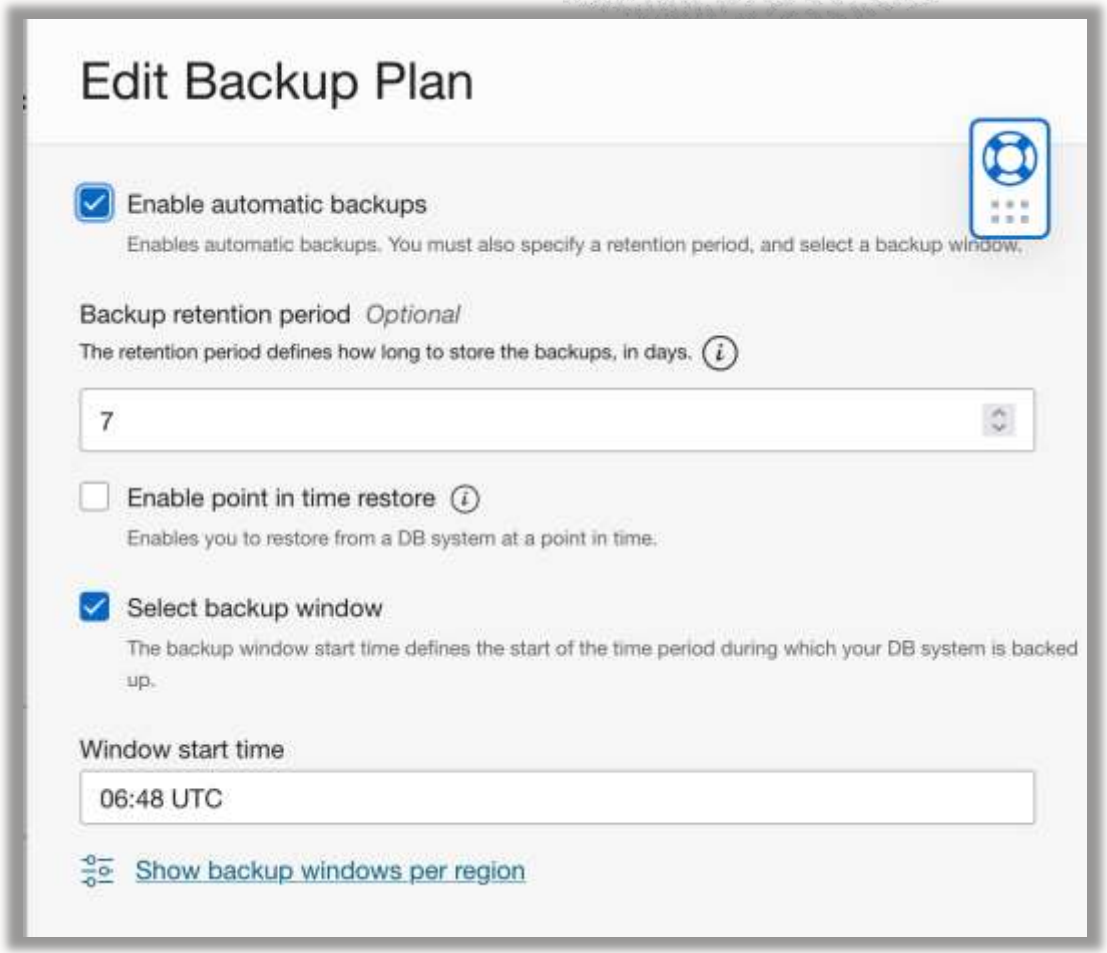
# In-Memory hybrid Heatwave columnar Format



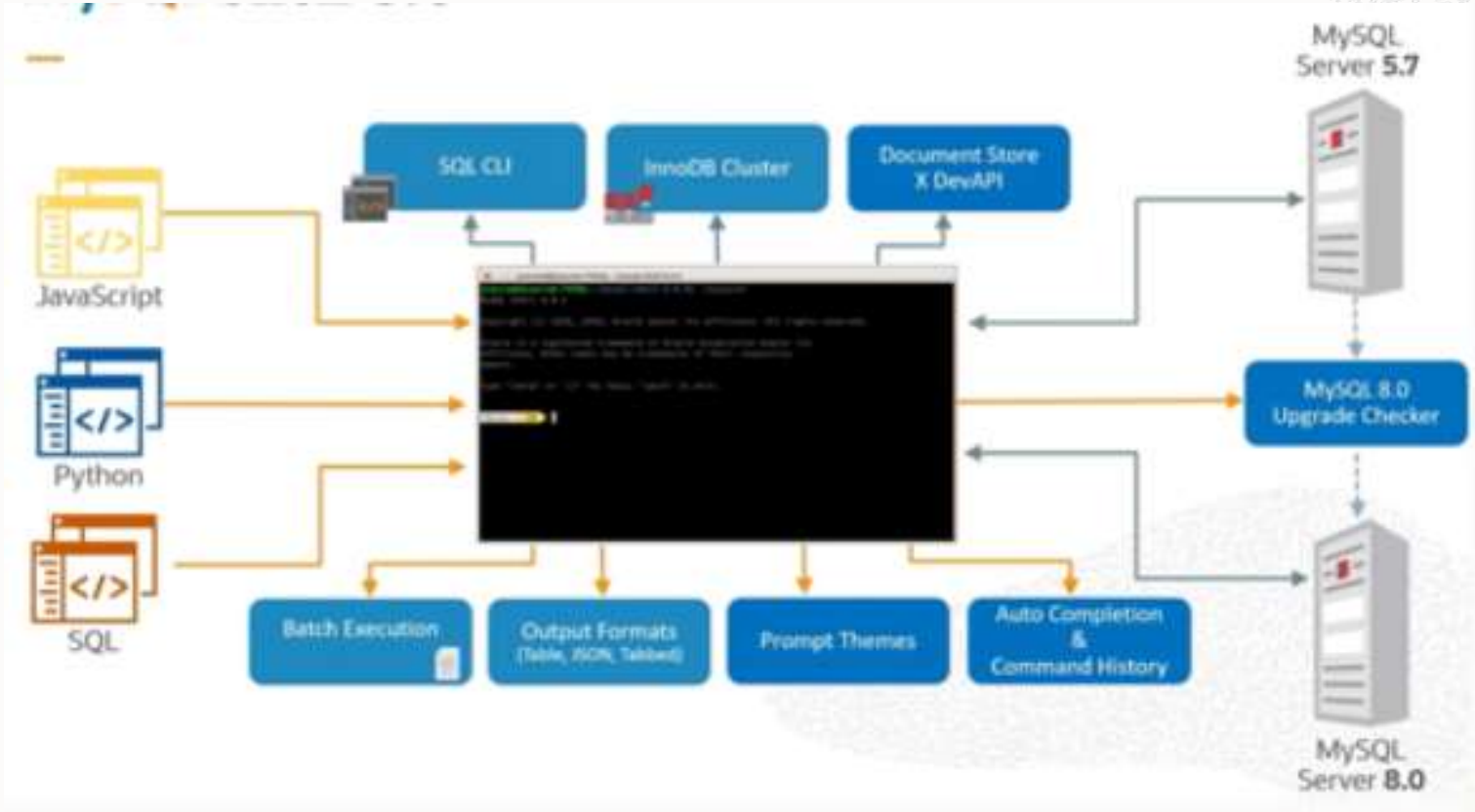
# Backups

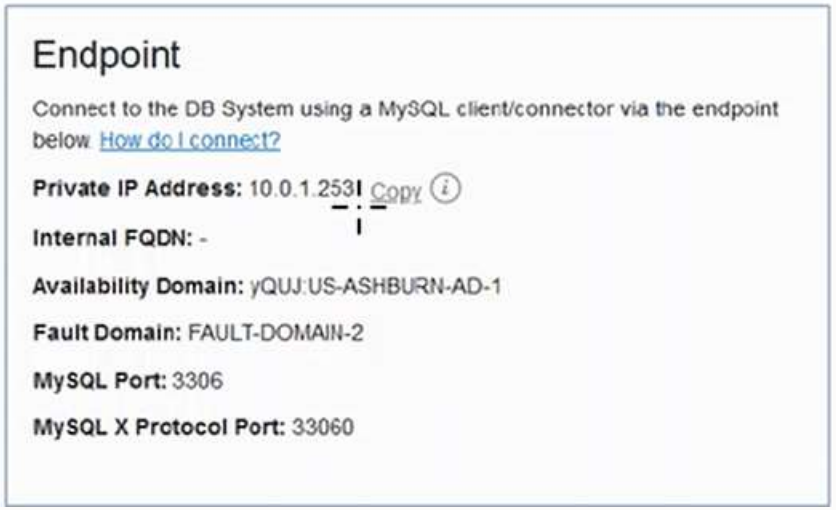
## Manual or Automatic

- Retention Period from 7 up to 35 days
- When to Backup
- Full or Incremental
- Point-in-Time Recovery (only non-HA DB Systems)



# Understanding MySQL shell tool

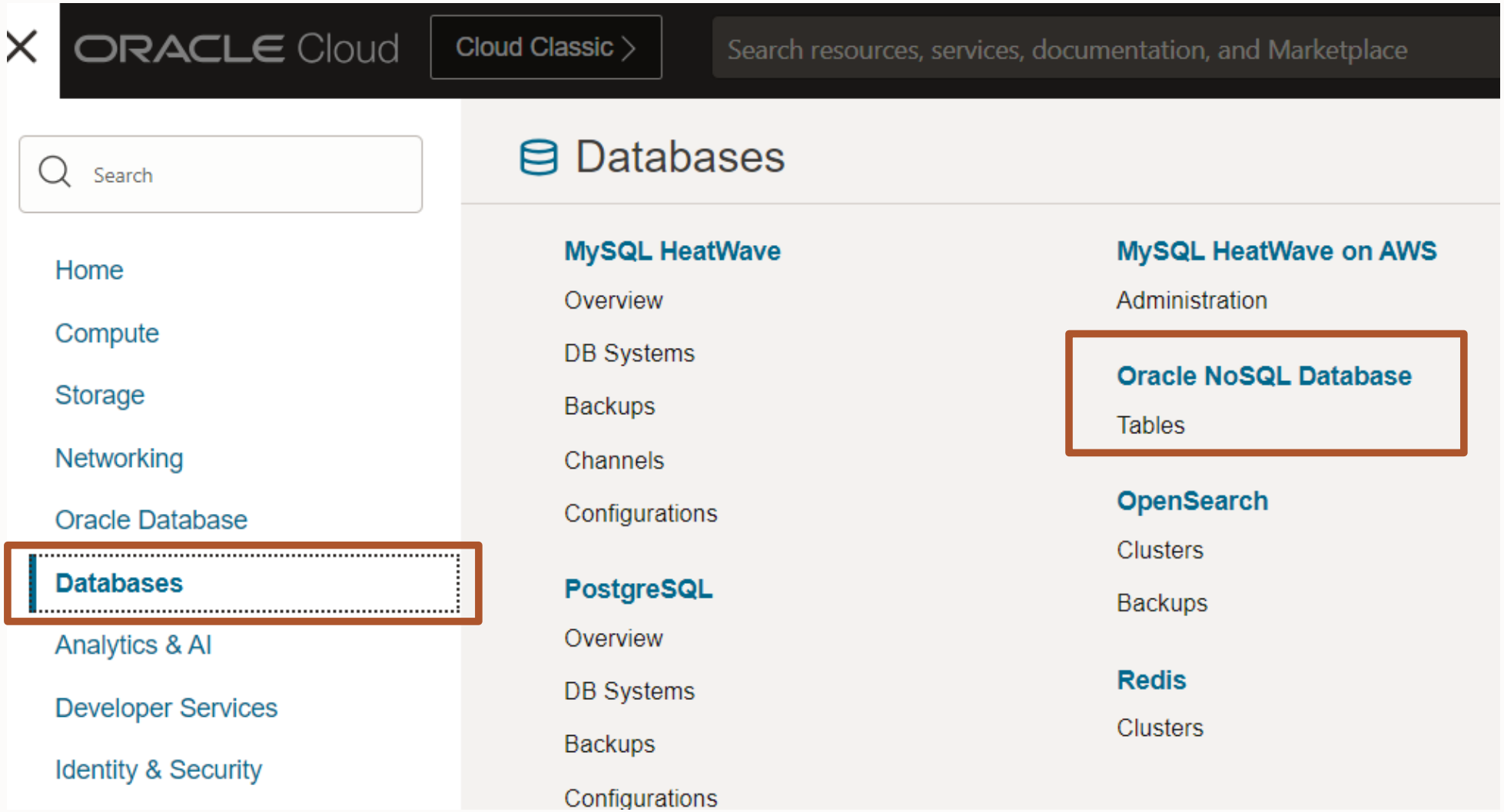



# sudo yum -y install mysql-shell

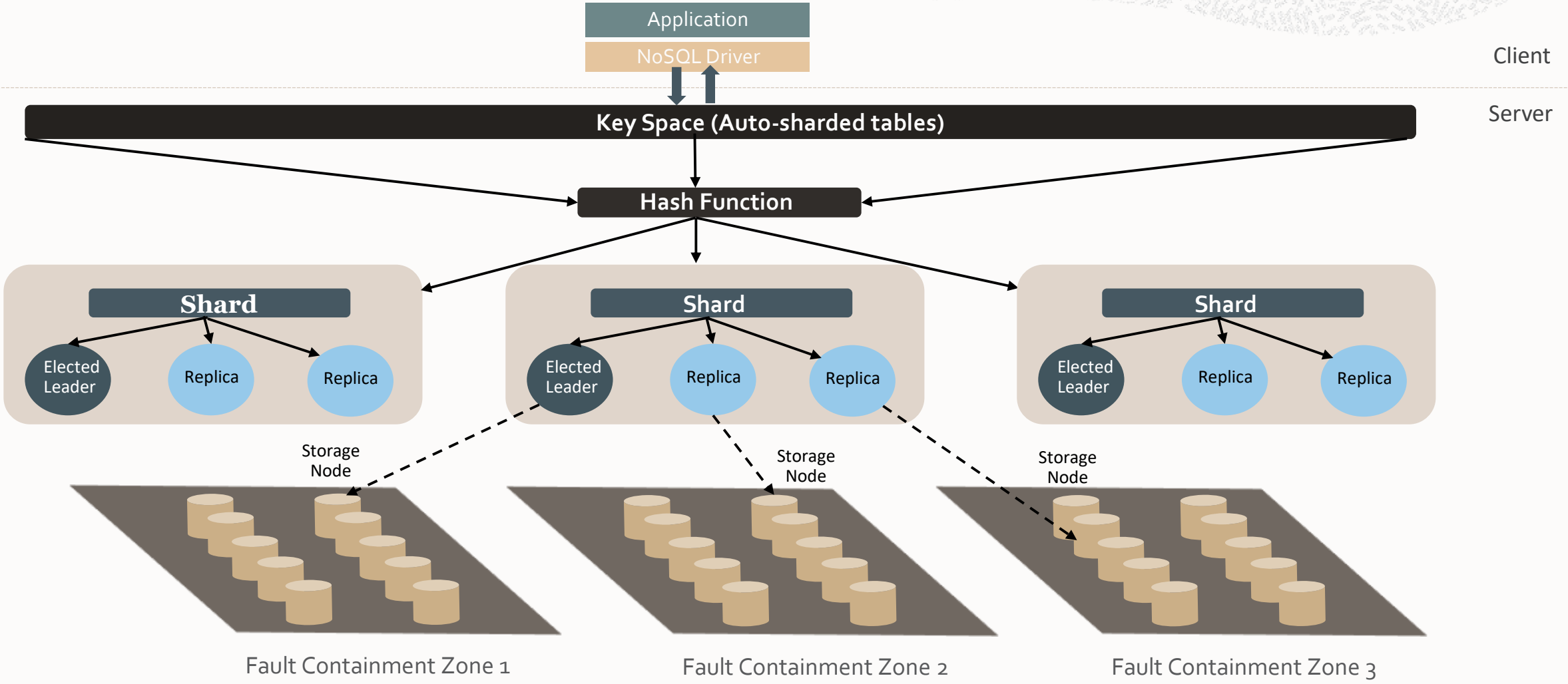
# Oracle NoSQL Cloud Service

# Oracle NoSQL Database Services on OCI Console



# Oracle NoSQL Database Architecture Overview

A distributed, shared nothing key/value data store architected for HA



# Oracle NoSQL Database Cloud Service

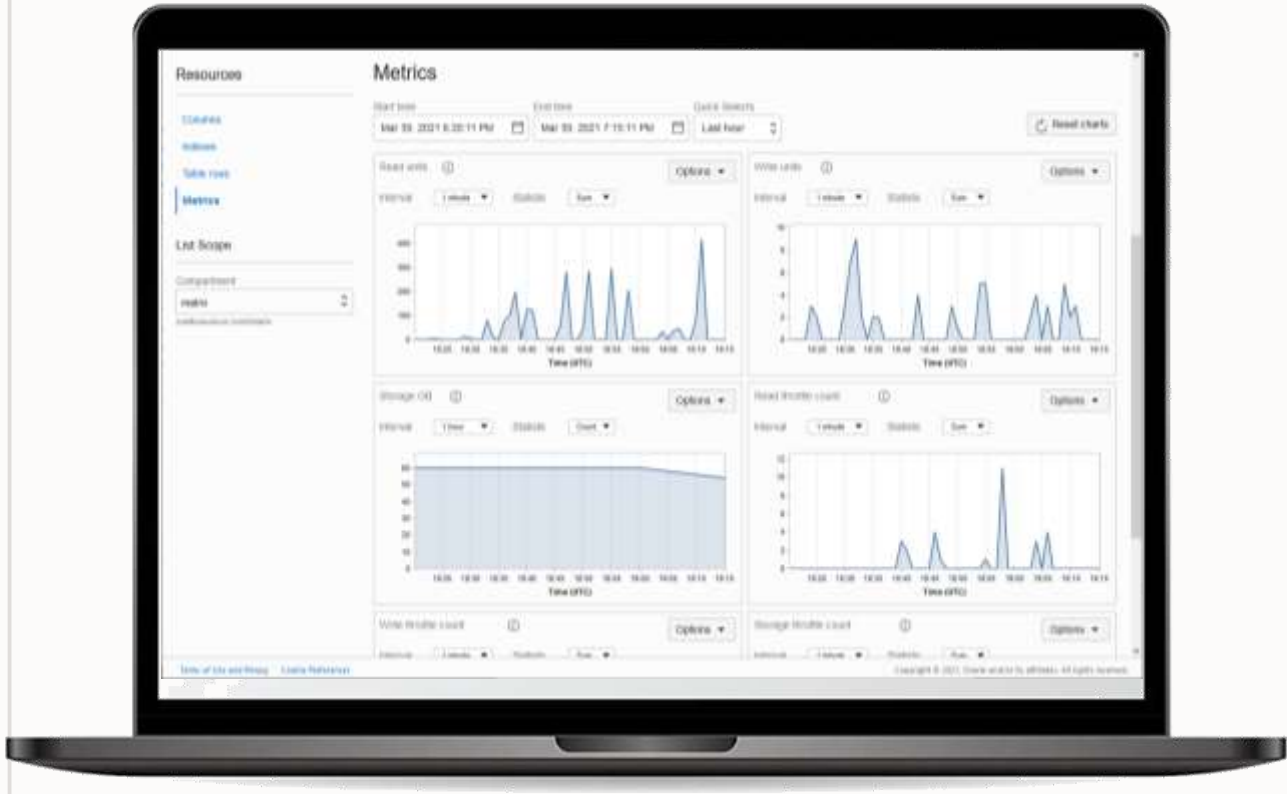
Built for extreme, dynamic workloads of today's modern applications

## Fast, Flexible NoSQL Database Service at any scale

- **Fully managed, serverless** NoSQL database **table service**
- **Single digit millisecond** and **predictable** latency at any scale
- **Linear throughput scaling** for **extreme** workloads
- Multi-model support (document, fixed schema, key/value)
- **Built-in high availability** for business continuity
- Fully **ACID compliant** and **adjustable** read consistency
- Serverless computing through Oracle Functions
- Available in 30 OCI commercial regions worldwide (Mar 2022)

## Differentiated Use Cases

- **Request level granularity** for extreme workloads, and handles **spikes** and **drops optimally**
- Fast, constant, high-volume workloads requiring **predictable low latency** for **highly responsive applications**
- Designed for business applications requiring **scale, performance,** and **high availability** with flexible consistency



# Oracle NoSQL Database Cloud Service - Metrics

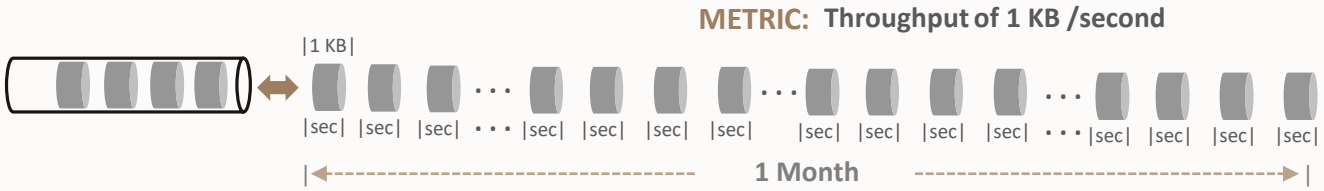
Throughput provisioning

## 1 Write Unit

- The throughput of up to 1 kilobyte (KB) of data per second for a write operation over a one-month period
- Approximately 2.67 million writes per month

## 1 Read Unit

- The throughput of up to 1 kilobyte (KB) of data per second for an eventually consistent read operation
- Approximately 2.67 million eventually consistent reads per month
- 2 Read units are needed for an absolute consistent read




Period of a month
=3600 KB/Hr*744 Hr
=2.67 million (writes/reads) KBs

# Oracle NoSQL Database Cloud Service – Capacity

Provisioned capacity vs. on-demand capacity

## Provisioned Capacity

- Must determine read/write units in advance
- Adjustments done via API or console
- Increasing unlimited
- Decreases limited to 4 per day
- Pay for what you provision
- Deep understanding of workload needed

## On-Demand Capacity

- Automatic scaling
- No rate limiting in your application
- No workload characterization
- Simple to use
- Pay for what consumed

# Data Models

## Key-Value, Schemaless JSON, Fixed Schema

```
create table if not exists myTable(id long generated always as identity,
                                   resNum string,
                                   value JSON,
                                   primary key((shard(id)))'
```

```
{
  "lastName" : "Jones",
  "firstName" : "Philly-Joe",
  "bagInfo" : [ {
      "tagNum" : "17657806285185",
      "lastSeenAt" : "LHR",
      "flightLegs" : [ {
          "flightNo" : "BM254",
          "flightDate" : "2019-02-28T22:00:00",
          "fltRouteSrc" : "SYD",
          "fltRouteDest" : "LHR"
      } ] }
]
```

### Key-Value

```
record = {'resNum' : 'JS8PKQ',
          'value' : {
              'lastName' : 'Jones',
              'firstName' : 'Philly-Joe',
              'bagInfo' : […]}
         }

req = PutRequest().set_table_name('myTable').
            set_value(record)
handle.put(request)
```

### Schema-less JSON

```
statement = ( 'select
                m.value.bagInfo.lastSeenAt
              from
                myTable m
              where
                m.bagInfo.tagNum = '17657806285185' )

request = QueryRequest().set_statement(statement)
result = handle.query(request)
```

### Fixed Schema

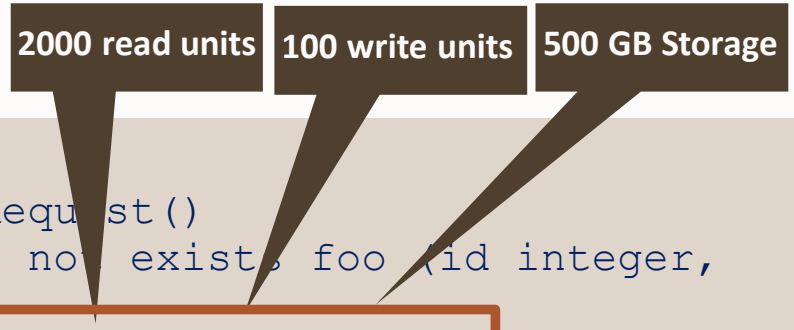
```
statement = ( 'select
                m.value
              from
                myTable m
              where
                m.resNum = 'JS8PKQ' )

request = QueryRequest().set_statement(statement)
result = handle.query(request)
```

# Oracle NoSQL Database Cloud Service – Provisioned Capacity

Provisioned throughput

- Provision reads/sec, writes/sec, GB storage at table creation time
  - Dynamically increase
  - Dynamically decrease




```
JAVA code sample:
TableRequest tableRequest = new TableRequest()
        .setStatement("create table if not exists foo (id integer,
value JSON)")
        .setTableLimits(new TableLimits(2000, 100, 500))
        .setTimeout(1000);
TableResult res = NoSQLHandle.tableRequest(tableRequest);
```

Modify the table lowering the read units to 1000

```
tableRequest.setTableLimits(new TableLimits(1000, 100, 500))
```

Note: Every TableRequest is a DDL call to the NoSQL store and may be performed 4 times within a minute.

# Resources

# OCI Basic Administration concepts

- **Oracle Cloud Database Services Professional (University)**

  https://mylearn.oracle.com/ou/learning-path/become-an-oracle-cloud-database-services-professional-2023/122178

- **OCI Foundations Associate (2023) (University)**

  https://mylearn.oracle.com/ou/learning-path/become-an-oci-foundations-associate-2023/122043

- **OCI Architect Associate (2023) (University)**

  https://mylearn.oracle.com/ou/learning-path/become-an-oci-architect-associate-2023/122195

- **OCI Architect Professional (University)**

  https://mylearn.oracle.com/ou/learning-path/become-an-oci-architect-professional-2023/122238

# Oracle Database Cloud  Services (DBCS) link References

- **Oracle Database Cloud Services Documentation**

  https://docs.oracle.com/en-us/iaas/base-database/index.html

- **Real Application Cluster (RAC) Administrator Guide**

  https://docs.oracle.com/en/database/oracle/oracle-database/21/racad/real-application-clusters-administration-and-deployment-guide.pdf

- **Oracle Database 19c Administrator Guide**

  https://docs.oracle.com/en/database/oracle/oracle-database/19/admin/#Oracle%C2%AE-Database

- **Oracle Database 23c Administrator Guide**

  https://docs.oracle.com/en/database/oracle/oracle-database/19/admin/#Oracle%C2%AE-Database

# OCI MySQL service and Heatwave link References

- **MySQL HeatWave Implementation Associate (University Training)**

https://mylearn.oracle.com/ou/learning-path/become-a-mysql-heatwave-implementation-associate/128102

- **MySQL Web Site**

https://mysql.com

- **MySQL Web Site for developers**

https://dev.mysql.com

- **Oracle MySQL web Page**

https://www.oracle.com/mysql

- **MySQL Githup Repository**

https://github.com/mysql

- **Getting Started with MySQL HeatWave on OCI**

https://developer.oracle.com/learn/technical-articles/getting-started-with-mysql-heatwave-on-oci

# Exadata Cloud  Link References

- **Exadata Cloud Service Product Page**

https://www.oracle.com/engineered-systems/exadata/database-service/

- **Exadata Cloud at Customer product page**

https://www.oracle.com/engineered-systems/exadata/cloud-at-customer/

- **Exadata Cloud at Customer Documentation**

https://docs.oracle.com/en/engineered-systems/exadata-cloud-at-customer/

- **Exadata Cloud Services documentation**

https://docs.oracle.com/en-us/iaas/exadatacloud/exacs/exadata-cloud-infrastructure-overview.html

- **Exadata X9M Datasheet**

https://www.oracle.com/a/ocom/docs/engineered-systems/exadata/exadata-cloud-infrastructure-x9m-ds.pdf

- **Exadata Cloud Dbaascli commande reference**

https://docs.oracle.com/pt-br/iaas/exadata/doc/ecc-using-dbaascli.html

# Exadata Cloud  Link References

- **Exadata X10M Cloud at Customer Datasheet**

  https://www.oracle.com/a/ocom/docs/engineered-systems/exadata/exadb-cc-x10m-ds.pdf

# Oracle NoSQL Database Cloud Service Link References

- **Oracle NoSQL product page**

  https://www.oracle.com/database/nosql/

- **Oracle NoSQL Database Cloud Services Documentation**

  https://docs.oracle.com/en/cloud/paas/nosql-cloud/

- **Oracle NoSQL Database Cloud Service: Most flexible NoSQL Database**

  https://www.youtube.com/watch?v=TtZOy_NRouc

- **Live Labs - NoSQL Cloud Service**

  https://apexapps.oracle.com/pls/apex/f?p=133:180:17361911969675::::wid:642

- **Live Labs - Oracle NoSQL powers Video On-Demand applications**

  https://apexapps.oracle.com/pls/apex/f?p=133:180:17361911969675::::wid:3694

- **Live Labs - Discover Server less Apps Using NoSQL Cloud Service**

  https://apexapps.oracle.com/pls/apex/r/dbpm/livelabs/view-workshop?wid=879&clear=RR,180&session=17361911969675

# Oracle NoSQL Database Cloud Service Link References

- **NoSQL Database Cloud Service Polices Reference**

https://docs.oracle.com/en/cloud/paas/nosql-cloud/ncsai/oracle-ndcs-policies-reference.html#GUID-34315873-9617-4DF8-855B-D6E9540A2971

# Thank you

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