

ORACLE

Oracle Database Editions

Get Started - Standard Vs Enterprise overview

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Exadata Cloud Specialist

Oracle, Alliances and Channels LAD

April, 2024



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




MARCEL LAMARCA

Exadata Cloud Specialist

Upgrade, Utilities, Patching, Performance & Migrations

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 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



Agenda

1

Oracle Database Database Standard Edition (SE)

2

Oracle Database Enterprise Edition (EE)

3

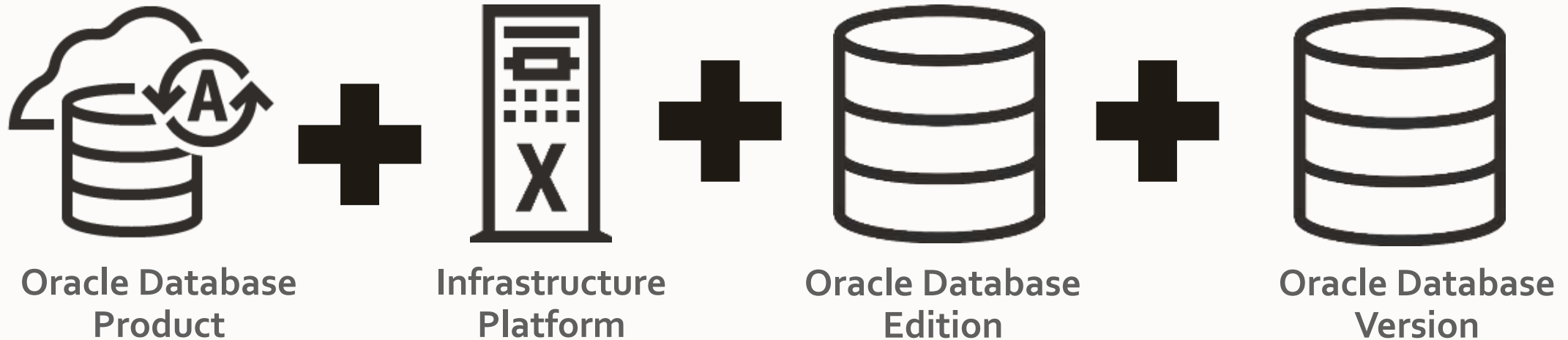
Oracle Database features and edition limitations

4

Resources



Oracle Database topics to be consider

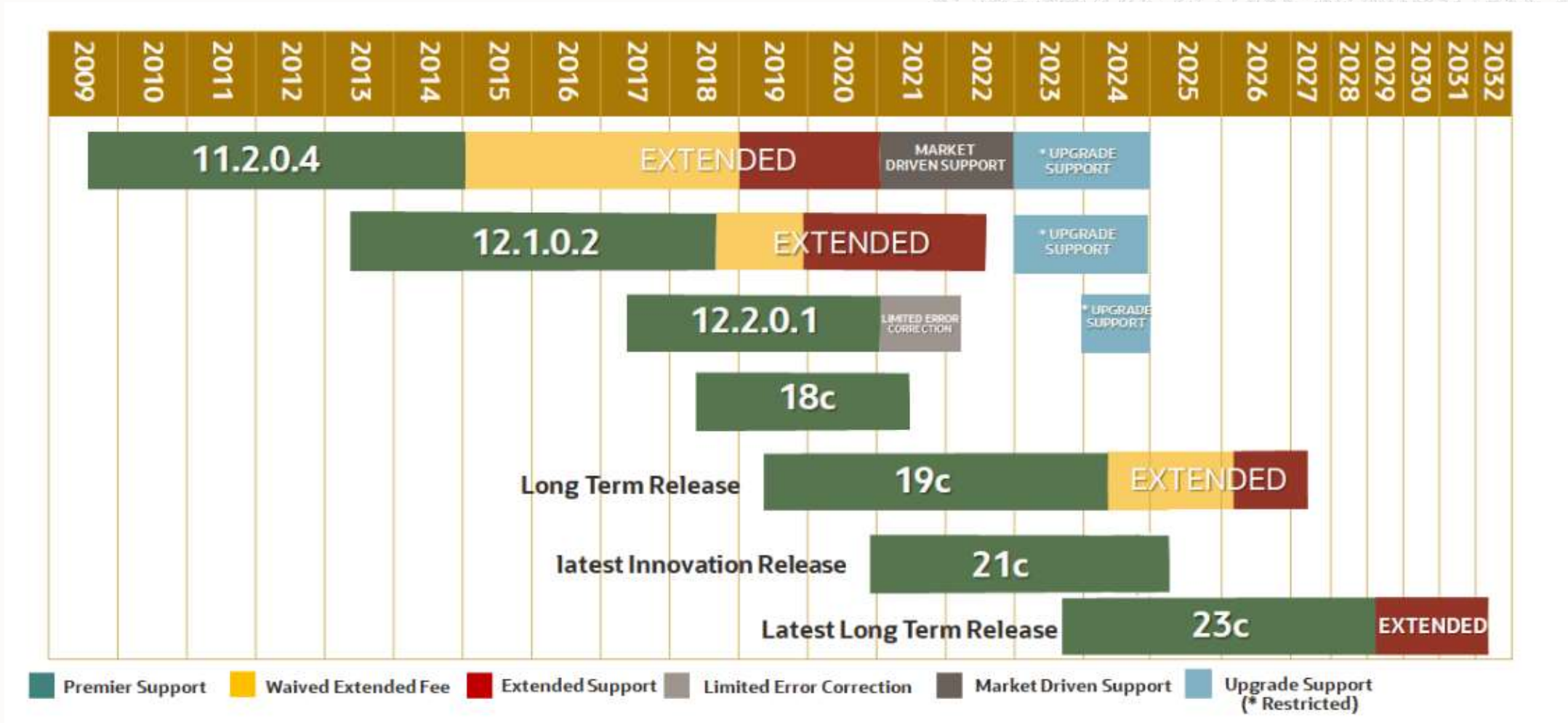


Oracle Database Timeline version



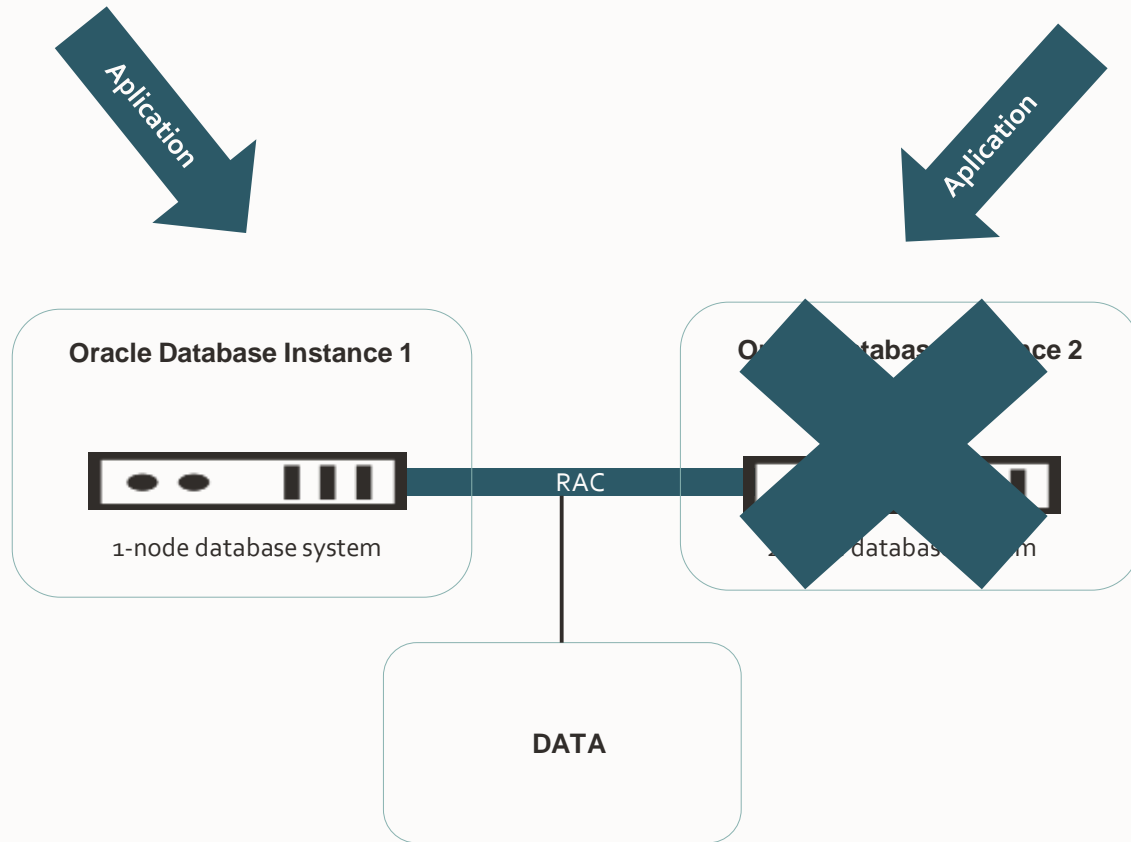
Oracle Database Releases and timeline

My Oracle Support Official Note (Doc ID 742060.1)

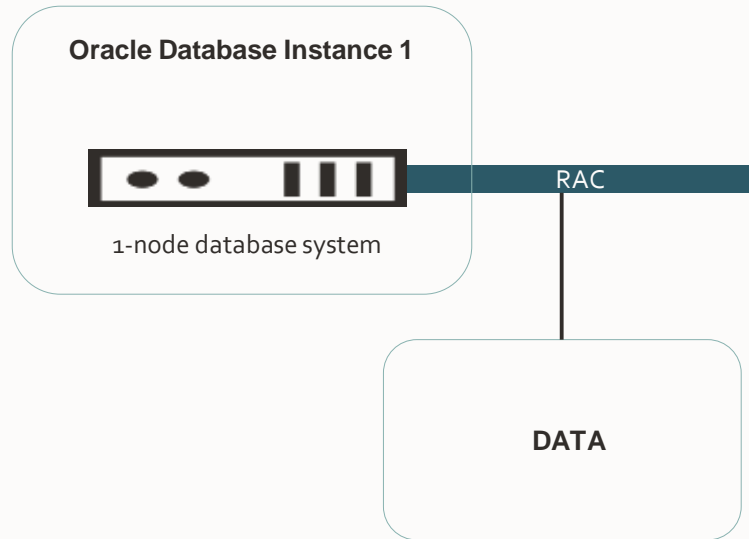


High Availability and Disaster Recovery

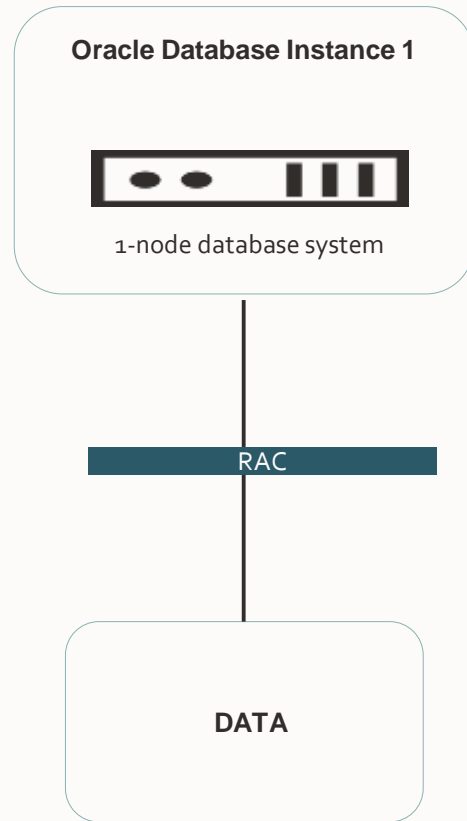
High availability (AH) VS Disaster Recovery concepts (DR)



High availability (HA)



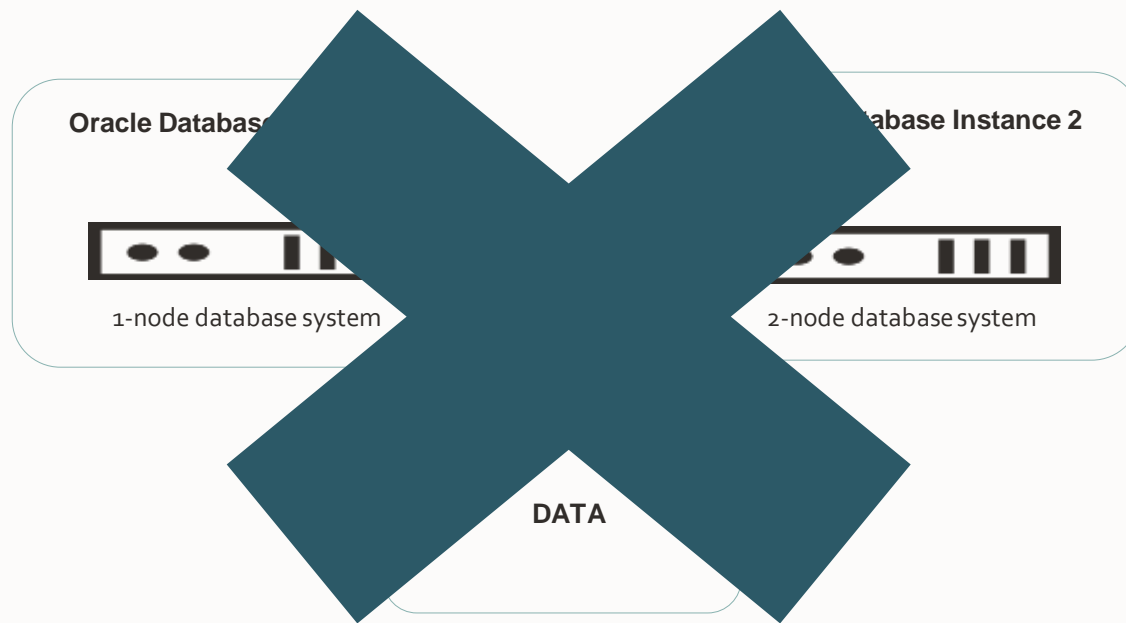
High availability (HA)



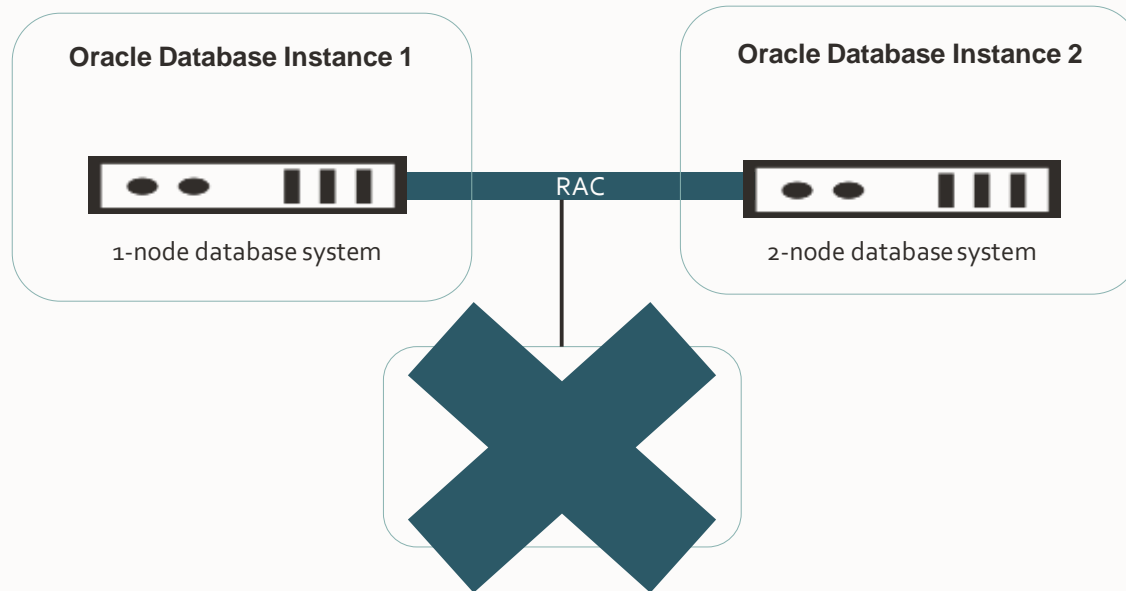
Zero downtime!



Disaster recovery (HA)



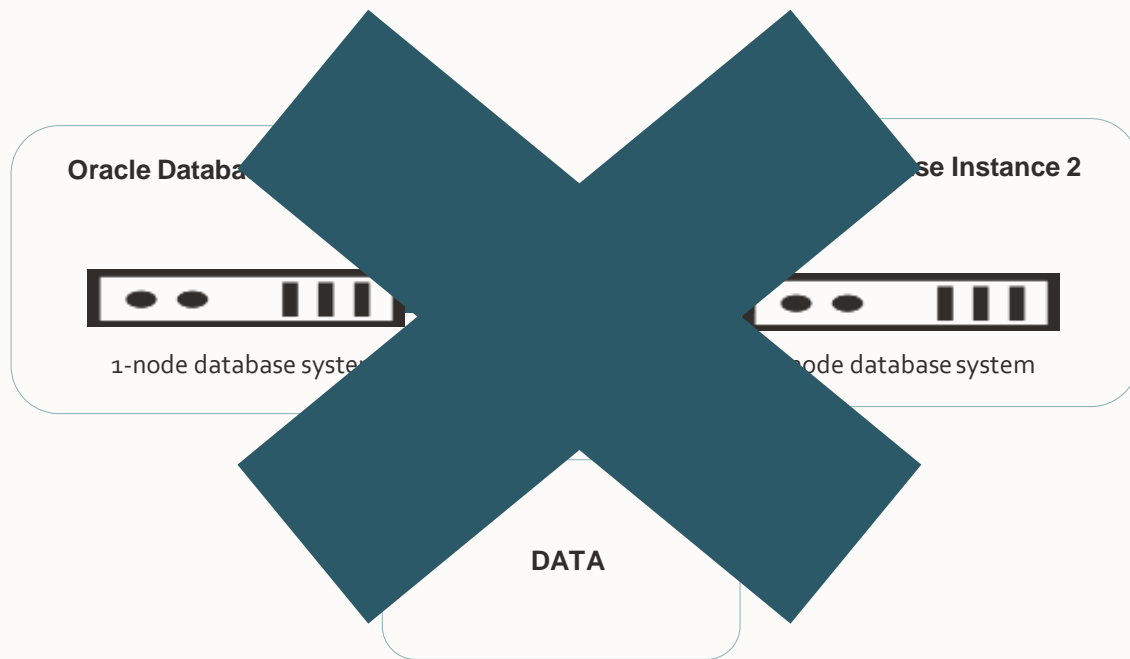
Disaster Recovery (DR)



Unavailability!



Disaster Recovery (DR)



Replication

DATA

Disaster recovery (DR)



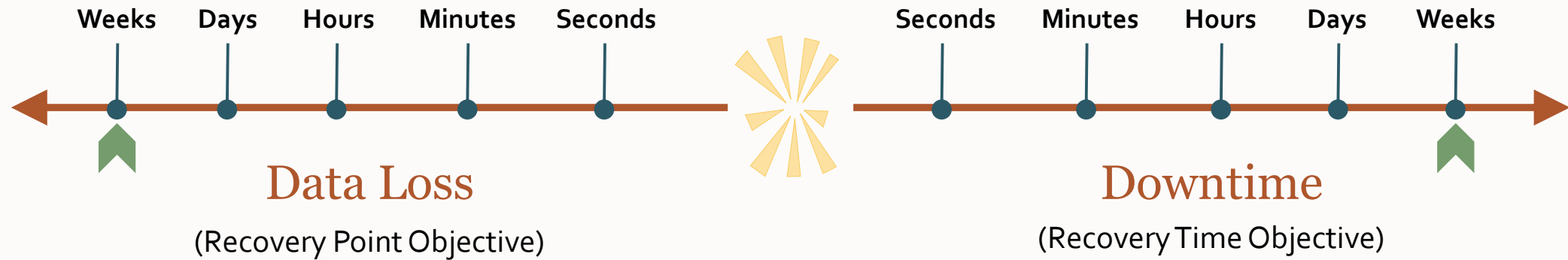
DATA



Your Data is safe!

Data protection terminology

Recovery point and recovery time objectives



Recovery Point Objective (RPO)

Tolerance for data loss (sec's, hours, days); determines frequency of backups and replication approaches

Recovery Time Objective (RTO)

The shorter the Recovery Time Objective (RTO) the quicker you get back to business

Disaster Recovery (DR) Basics



DR = Disaster Recovery

Also known as business continuity

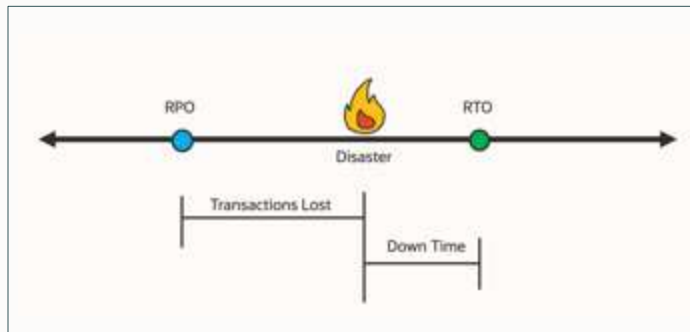
A redundant application environment that can withstand a disaster

Not the same as High Availability (HA)

Value of DR / Business Continuity

For businesses that transact business through their applications, seconds of downtime can mean millions of dollars.

DR and BC are often part of compliance regulations (e.g. SOX)

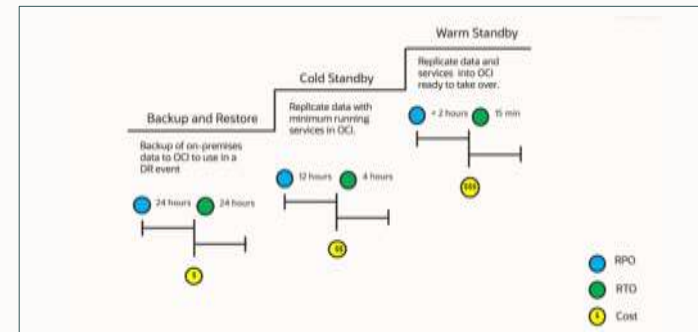


RTO = Recovery Time Objective

How quickly can my application be running again?

RPO = Recovery Point Objective

How many transactions can I stand to lose?



3 DR OPTIONS :

- Backup – Tolerate 24 hours of downtime and data loss
- Cold standby – 15 minutes data loss and 24 hours downtime
- Warm standby – Less than 15 minutes data loss and less than 15 minutes downtime



A disaster recovery solution for every application

Not critical	Critical	Extremely critical
Legacy, Tier 2 applications	ERP, CRM, LOB apps, Customer Facing	Fin Serv, Comms, eCommerce
Tolerates hours or days of lost data and uncertain recovery time	< 24 hours of downtime < 4 hours of data loss	< 30 minutes of downtime -OR- Need Zero data loss



No

Yes



Backup

Pilot light

Active / standby

Active / active

RPO (data loss)	24 hours +	Seconds	Seconds	Zero
RTO (down time)	Hours - Days	Hours	Minutes	Zero
OpEx	Very low	Low	Medium	Higher
Complexity	Very Low	Medium	Low	Medium

Database Editions and features

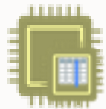
Oracle Database features available for **Standard** Editions



Multitenant
up to 3



Standard Edition High
Availability

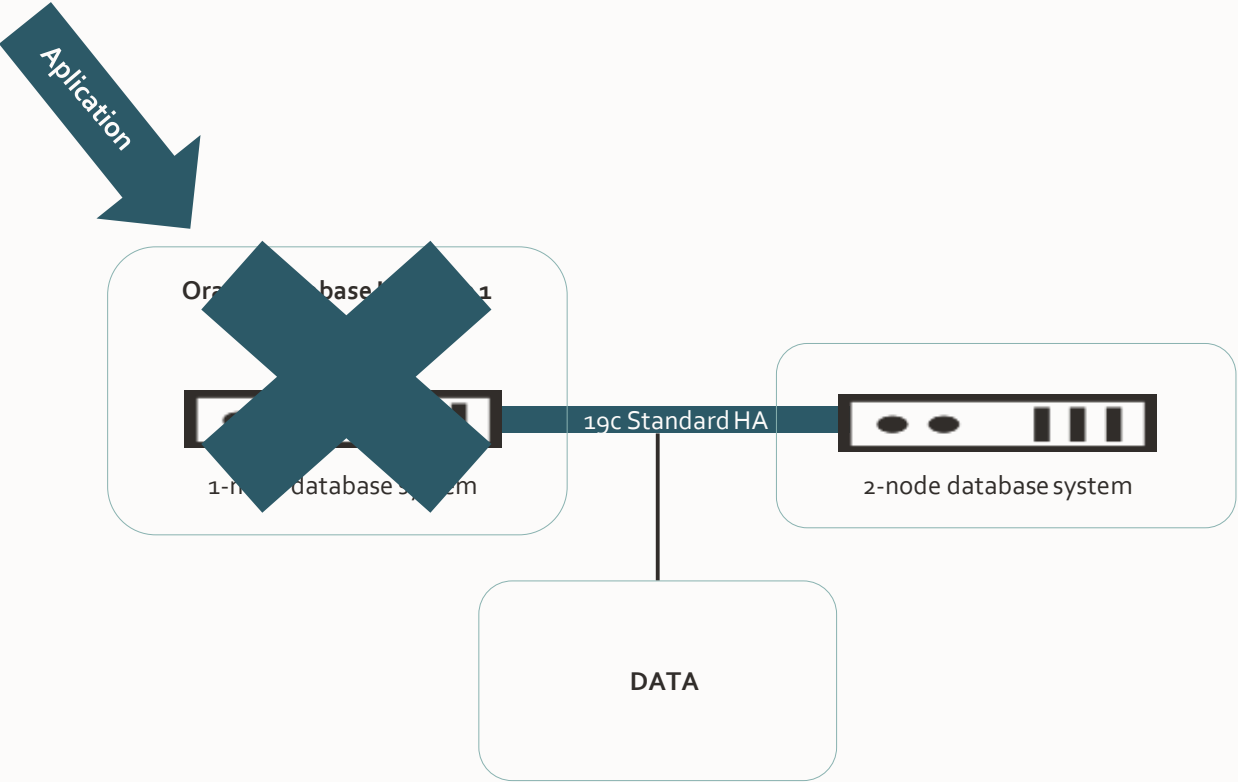


CPU Limit

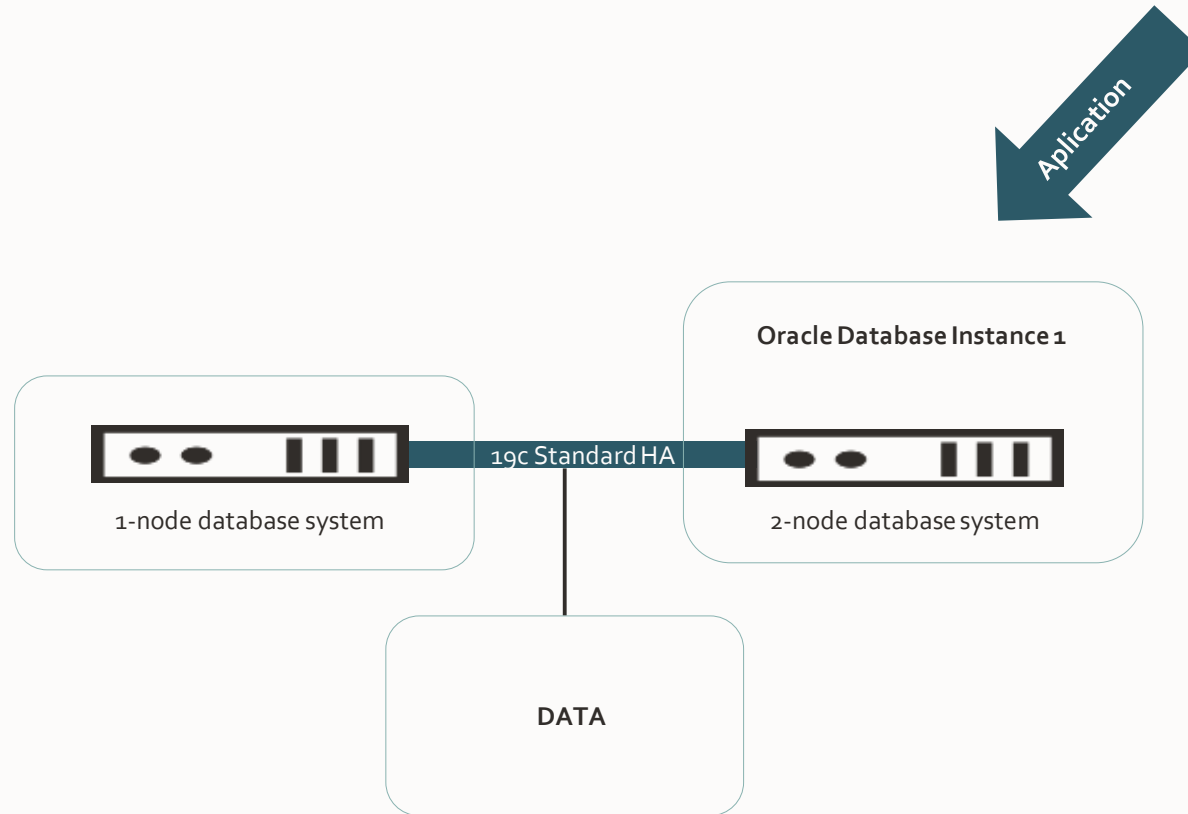
Database
Standard
Features



Oracle Database 19c Standard HA

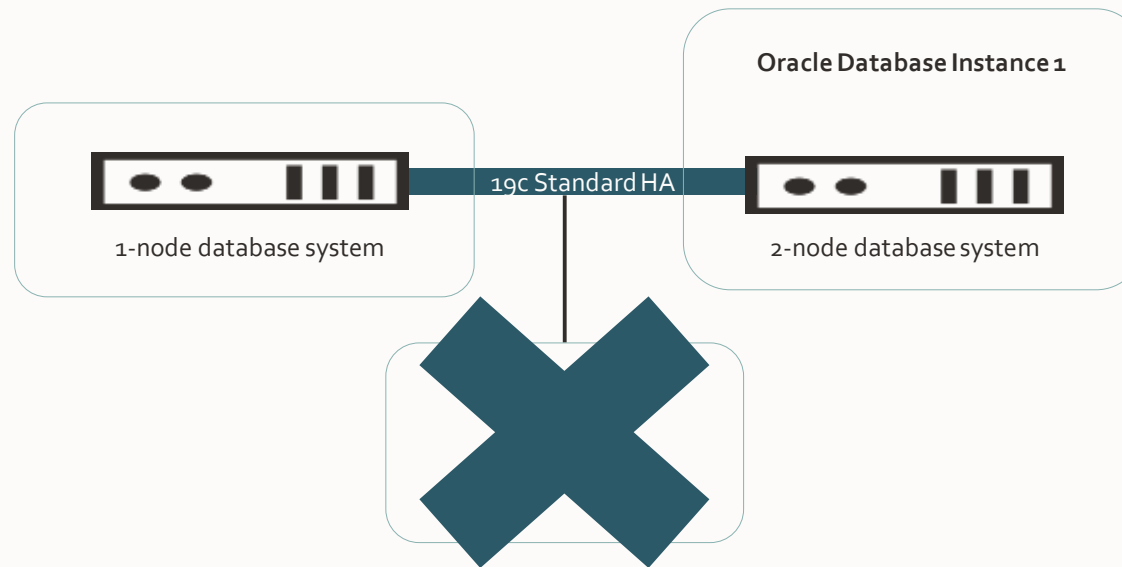


Oracle Database 19c Standard HA



Oracle Database 19c Standard HA

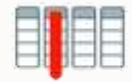
Unavailability!



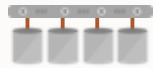
Oracle Database features available for Enterprise Edition



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

Database
Enterprise
features



What features
your
environments
needs ?

Database Editions and Options

Standard Edition

- Full database instance
- Includes Transparent Data Encryption

Enterprise Edition

Adds...

- All standard EE features
- Data Masking and Subsetting
- Diagnostics and Tuning
- Real Application Testing

EE High Performance

Adds...



Multitenant



Partitioning



Advanced Compression



Advanced Security,
Label Security,
Database Vault



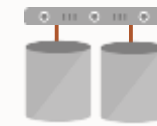
OLAP, Advanced
Analytics, Spatial
and Graph



Management Packs

EE Extreme Performance

Adds...



Real Application Clusters (RAC)



In-Memory



Active Data Guard

Oracle Database Versions, Editions, limitations and features



Database

Features and Licensing

The 23c information on this site pertains to Oracle Database 23c (23.3), which is available on the following offerings: **Free**, **BaseDB EE**, **BaseDB EE-HP**, and **BaseDB EE-EP**. Any 23c information for other offerings is not applicable at this time.

Features

Licensing

Search

Search Features, Options, or Packs

Offerings

☐ Oracle Database Free

☐ Standard Edition 2

☒ Enterprise Edition

Feature, Option, or Pack	EE	EXA
<div>Oracle Active Data Guard</div> <div>High AvailabilityOption</div>	<div>✓</div>	<div>✓</div>
<div>Oracle Advanced Compression</div> <div>VLDB, Data Warehousing, and Business IntelligenceOption</div>	<div>✓</div>	<div>✓</div>
<div>Oracle Advanced Security</div> <div>SecurityOption</div>	<div>✓</div>	<div>✓</div>



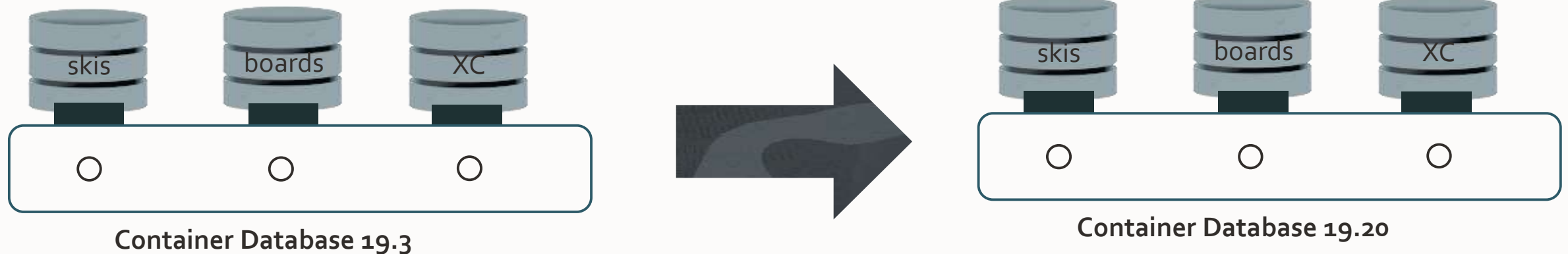
Oracle Database Multitenant



Patch, Upgrade Oracle Multitenant Databases

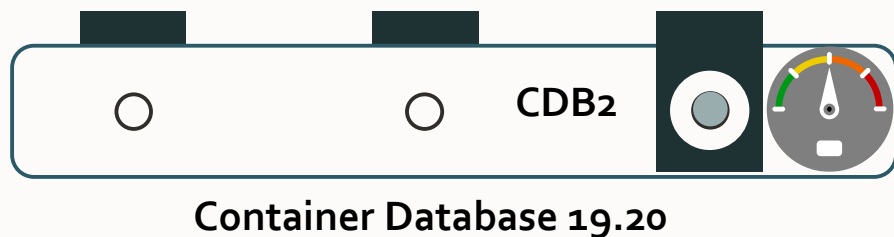
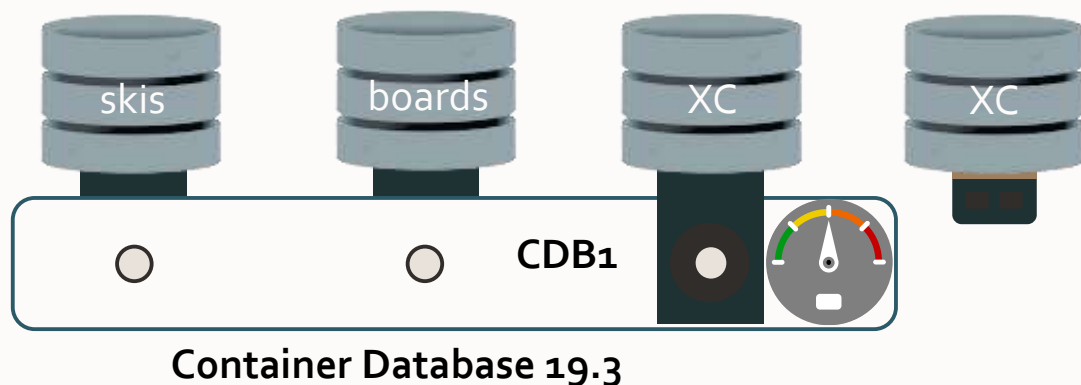
Patch CDB; multiple pluggable as as one

Investment of time and effort to patch (or upgrade) one multitenant container database results in patching many pluggable databases in it



Patch, Upgrade Oracle Multitenant Databases

Patch one pluggable at a time



To patch (or upgrade) a single pluggable database

- Unplug from the old CDB; plug into new CDB
- With shared storage, moving between CDBs is a simple case of moving PDB's metadata
- An unplugged PDB carries with its lineage, Opatch, encryption key info etc.
- Simple and quick fallback option as source CDB stays intact



OCI Database Options



Oracle Database Cloud Deploy and Edition options

Oracle Database Service (DBCS)



Support **Enterprise** and **Standard**
Editions for Database version 19c
and 23c

Oracle Exadata Cloud



Supports only **Enterprise Edition**
for Database Versions 19c and 21c

Oracle Autonomous Database



Supports **Enterprise** and **Standard**
Edition for Database Version 19c

Autonomous Database

Autonomous ADB Operations and security



Automatic provisioning



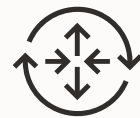
Automatic configuration



Automatic encryption



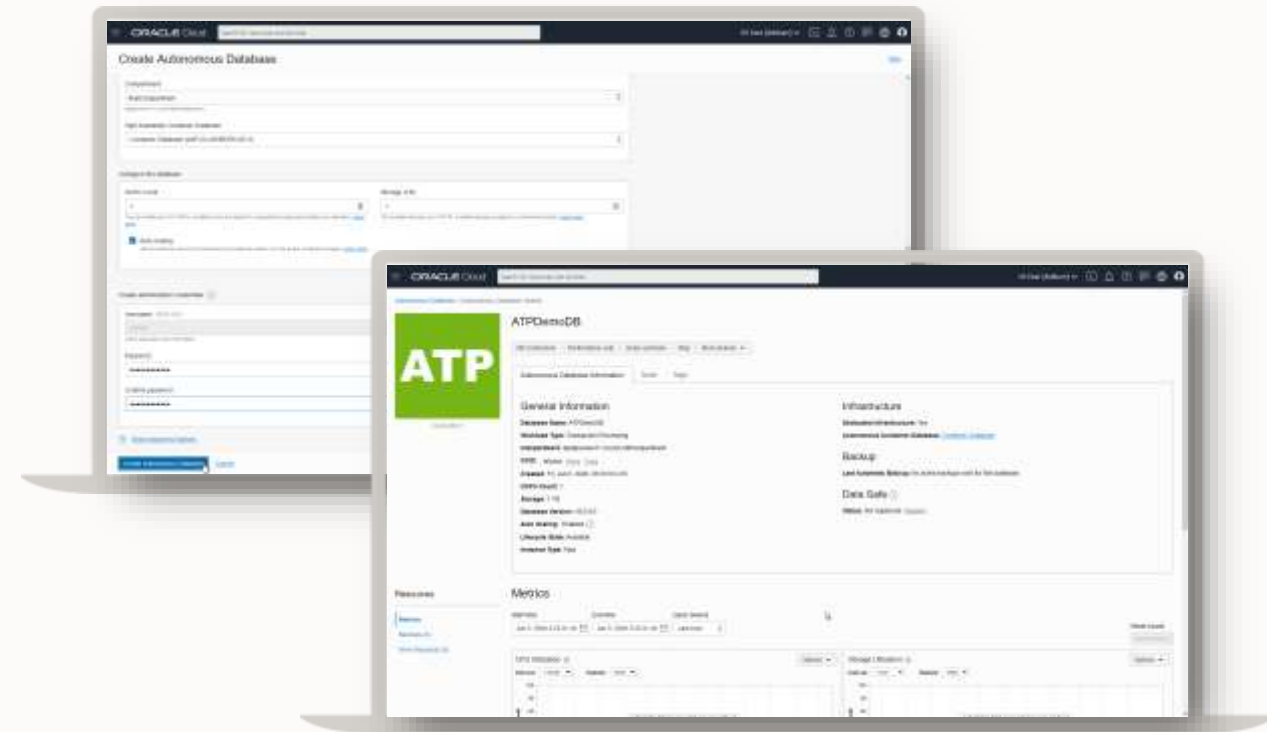
Automatic online patching and updating



Automatic elastic scaling



Automatic tuning



Autonomous performance and availability above 99.95 %



High performance

Delivers 80% lower latency and more than 5X throughput than other cloud providers by utilizing database-optimized hardware, automated tuning, and indexing.



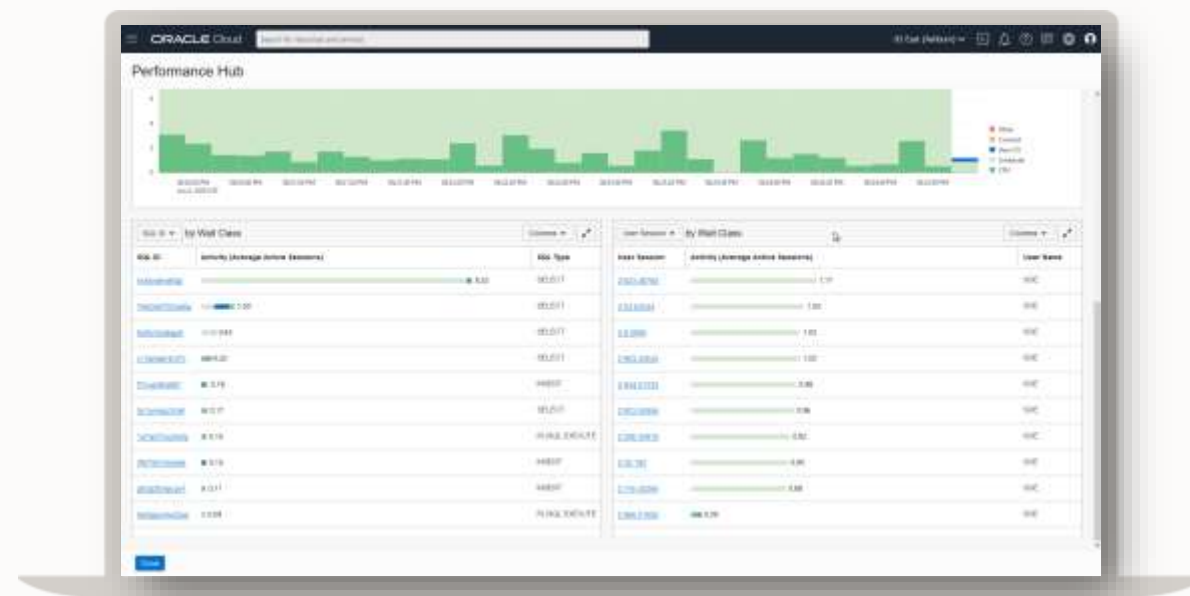
Always online

Provides more than 99.95% availability using a combination of Oracle's Gen 2 Cloud Infrastructure, Oracle RAC, Autonomous Data Guard, and daily automatic backups.



Protection from human error

Oracle Flashback, provided with Autonomous Transaction Processing, instantly rewinds accidental changes to application schemas, protecting users from human errors. It supports recovery at all levels including row, transaction, and table—and across the entire database.



Autonomous Database OCPU metric

Update license and Oracle Database edition

[Help](#)

Choose a license type

Bring your own license (BYOL)

Bring your organization's Oracle Database software license to Oracle Cloud Infrastructure. [Learn more.](#) ✓

License included

Subscribe to a new Oracle Database software licenses and the Oracle Database Service.

Choose an Oracle Database edition

Oracle Database Enterprise Edition (EE)

User-selected OCPU limit. [Learn more.](#) ✓

Oracle Database Standard Edition (SE)

Up to 8 OCPUs, including auto scale. [Learn more.](#)

Save

[Cancel](#)



Autonomous Database ECPU metric

Update license and Oracle Database edition

[Help](#)

Choose a license type

Bring your own license (BYOL)

Bring your organization's Oracle Database software license to Oracle Cloud Infrastructure. [Learn more.](#)



License included

Subscribe to a new Oracle Database software licenses and the Oracle Database Service.

Choose an Oracle Database edition

Oracle Database Enterprise Edition (EE)

User-selected ECPU limit. [Learn more.](#)

Oracle Database Standard Edition (SE)

Up to 32 ECPUs, including auto scale. [Learn more.](#)



Save

[Cancel](#)



Retirement Of The OCPU Billing Metric In Autonomous Database Serverless (Doc ID 2998742.1)

ACTIONS

What action do I need to take now?

We encourage customers to provision all new Autonomous Data Warehouse and Autonomous Transaction Processing databases or clones with the ECPU billing metric. We also encourage customers to update all existing databases to the ECPU billing metric, which is a simple and seamless button click or API call, as described in the documentation here. While you may choose not to update your existing databases' billing metric at this time, Oracle may convert your databases from the OCPU billing metric to the ECPU billing metric in the future.

Note: Autonomous Data Warehouse databases provisioned as part of Oracle Data Intelligence Platform (formerly Fusion Analytics Warehouse) service instance will be updated to the ECPU billing metric by Oracle. No user action is required on those databases.

How will updating my databases to the ECPU billing metric affect my service?

Updating your Autonomous Database Serverless to the ECPU billing metric will have **no impact to your service** and incur **no downtime**.

Which SKUs are affected by this retirement notice?

Oracle Autonomous Database will be retiring the OCPU-based SKUs and replacing them with the ECPU-based SKUs listed below:

Retired OCPU Billing Metric - SKU Name	Part Number	Metric
Oracle Autonomous Data Warehouse	B89040	OCPU Per Hour
Oracle Autonomous Data Warehouse - BYOL	B89039	OCPU Per Hour



Retirement Of The OCPU Billing Metric In Autonomous Database On Dedicated Infra (Doc ID 2998755.1)

ACTIONS

What action do I need to take now?

We encourage users to provision new Autonomous VM Clusters (AVM) with the ECPU billing metric. Oracle will offer an online conversion capability to update existing OCPU AVMs and their respective Autonomous Container Databases and Autonomous Databases to the ECPU billing metric via the OCI console and API in Q3 CY2024. In the meantime, users can also use database cloning to migrate existing OCPU ADBs to ECPU if they have AVMs configured with the ECPU billing metric. While you may choose not to update your existing databases' billing metric at this time, Oracle may convert your databases from the OCPU billing metric to the ECPU billing metric in the future.

Which SKUs are affected by this retirement notice?

Oracle Autonomous Database on Dedicated Infrastructure will be retiring the OCPU-based SKUs and replacing them with the ECPU-based SKUs listed below:

Retired OCPU Billing Metric - SKU Name	Part Number	Metric
Oracle Autonomous Data Warehouse - Dedicated	B92182	OCPU Per Hour
Oracle Autonomous Data Warehouse – Dedicated - BYOL	B92184	OCPU Per Hour
Oracle Autonomous Transaction Processing - Dedicated	B92181	OCPU Per Hour
Oracle Autonomous Transaction Processing – Dedicated - BYOL	B92183	OCPU Per Hour



Oracle Database Service (DBCS)



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


Change shape

Shape series

A shape determines the options for resources such as node count, core count and storage. [Learn more.](#)

**AMD**
Flexible OCPU count. AMD processors.

**Intel**
Flexible and fixed OCPU count. Intel processors. ✓

**Ampere**
Flexible OCPU count. Arm-based processors.

Intel X9
Flexible OCPU count ✓

Intel X7
Fixed OCPU count

Change shape

Configure OCPU

Name	OCPU	Memory	Network bandwidth	Theoretical max IOPS
<input checked="" type="checkbox"/> VM.Standard3.Flex	8	128 GB	8 Gbps	128K

You can customize the number of OCPUs. Other resources scale proportionately. [Learn more about flexible shapes.](#)

Number of OCPUs per node

1 32

1 Selected

Showing 1 Item

Configure storage

You can choose the storage management software type (Grid Infrastructure or Logical Volume Manager), the performance setting and specify how much storage to provision.

Oracle Grid Infrastructure
Block Volume Performance: Higher performance
256 GB available storage, 19.2K IOPS

Change storage

Configure the DB system

Total node count

2

Oracle Database software edition

Enterprise Edition Extreme Performance

Total storage (GB) *Read-only* ⓘ

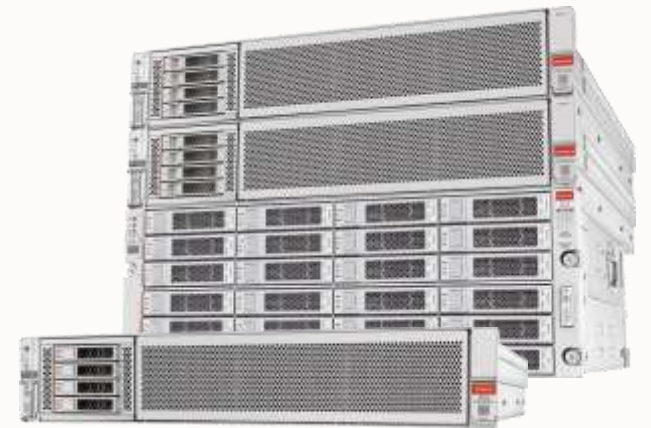
912



Oracle Database Appliance (ODA)

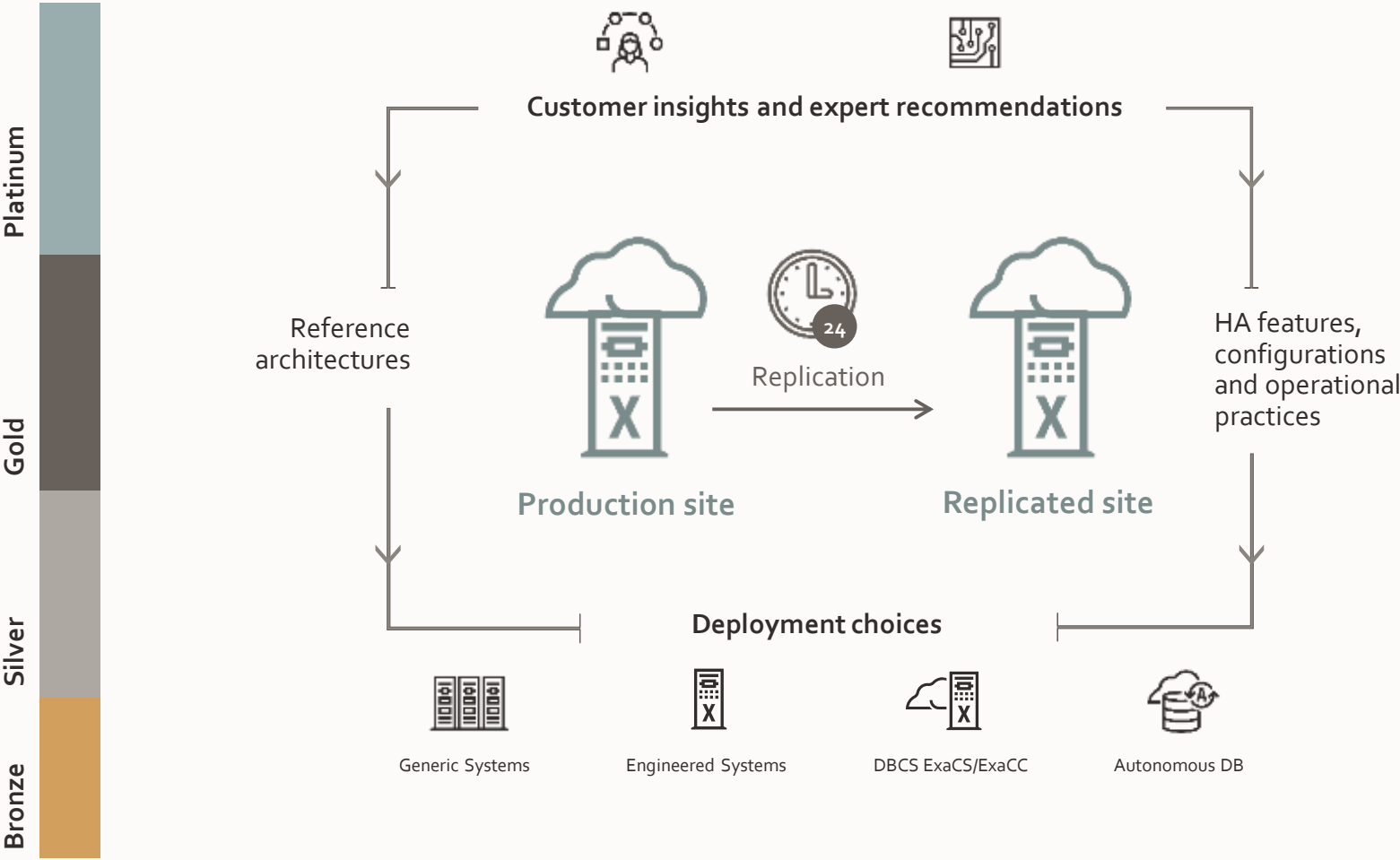
Oracle Database Appliance X10M Standard Edition

- Oracle Database Appliance X10 Now supports Database Standard Editions !

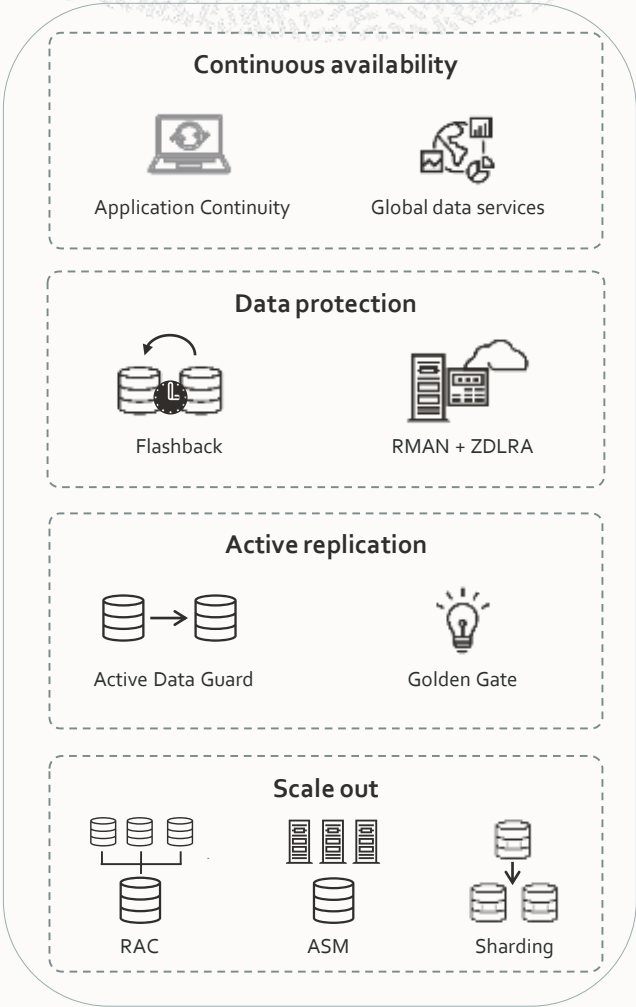


Oracle Database MAA Architecture

Oracle Maximum Availability Architecture (MAA)



Oracle Multitenant



Oracle Database Physical Flashbacks



Rman Restore and Recover



Oracle Database Physical Flashback



Oracle Licenses channels

Service Request Types: Technical vs Non-Technical

DashboardKnowledgeService RequestsPatches & UpdatesCommunityCertificationsMore...

Service Requests Home

Technical Service Requests

Ask in Community... or Create Technical SR

SR Type	Problem	Required Privileges
Technical	<ul style="list-style-type: none">Product related	<ul style="list-style-type: none">Restricted privilege assigned by CUACreate – View - None
Non-Technical	<ul style="list-style-type: none">Permissions - LoginLicense - Entitlement	<ul style="list-style-type: none">All usersCreate - Update – and View your own

Non-Technical Service Requests

Create Non-Technical SR

Or send an e-mail to : infoprice@oracle.com



Oracle Software Investment Advisor



Licensing Solutions

Can you help us understand the licensing implications of future technology decisions?"



Cloud Sizing

"What do we need to consider when moving parts of our existing environment to the cloud?"



Investment Economics

"How is our Oracle investment supporting the long-term goals of the business?"



Deployment Optimization

"How do I find out if my Oracle TCO is optimized across both on-premise and the cloud?"



License Knowledge Transfer

"Can you help us better understand our license and subscription terms and conditions?"



Entitlement Intelligence

"How do I find out the current state of our contractual agreements with Oracle?"

For more informatio contact sia-global_ww@oracle.com or visit www.oracle.com/goto/sia





Resources



- **Lower Costs with Oracle Autonomous Standard (BYOL)**

<https://www.oracle.com/in/autonomous-database/upgrade-standard-edition-byol>

- **Oracle Database 19c Standard Edition (HA) presentation**

<https://www.youtube.com/watch?v=zMI8xhGBjUE>

- **Oracle Database 19c Standard Edition (HA) presentation**

<https://www.youtube.com/watch?v=zMI8xhGBjUE>

- **Oracle Features Vs Licenses Dashboard**

<https://apex.oracle.com/pls/apex/r/features/dbfeatures/home>



- **Oracle Database Licensing**

www.oracle.com/assets/databaselicensing-070584.pdf

- **Oracle Processor Core factor Table**

www.oracle.com/us/corporate/contracts/processor-core-factor-table-070634.pdf

- **Oracle Partition policy**

www.oracle.com/us/corporate/pricing/partitioning-070609.pdf

- **Licensing Oracle Software in the Cloud Computing Environment**

www.oracle.com/us/corporate/pricing/cloud-licensing-070579.pdf

- **Oracle Database 23c Licensing Information User Manual**

<https://docs.oracle.com/en/database/oracle/oracle-database/23/dblic/database-licensing-information-user-manual.pdf>

- **Oracle Licensing price team e-mail**

infoprice@oracle.com

- **Microsoft Licensing on Oracle Cloud Infrastructure**

<https://docs.oracle.com/en-us/iaas/Content/Compute/References/microsoftlicensing.htm>

- **OCI Cost Estimator**

<https://www.oracle.com/cloud/costestimator.html>



- **OCI License Manager Documentation**

<https://docs.oracle.com/pt-br/iaas/Content/LicenseManager/Concepts/licensemanageroverview.htm>

- **OCI License Manager Announcement**

<https://blogs.oracle.com/cloud-infrastructure/post/announcing-license-manager-for-oracle-cloud-infrastructure>

- **Oracle Database Features and licensing comparison**

<https://apex.oracle.com/database-features/>

- **Oracle Database Licensing Information User Manual**

<https://docs.oracle.com/en/database/oracle/oracle-database/19/dblic/database-licensing-information-user-manual.pdf>

- **Oracle Database BYOL FAQ**

<https://www.oracle.com/cloud/bring-your-own-license/faq/>

- **Oracle Lifetime Support**

<https://www.oracle.com/us/assets/lifetime-support-technology-069183.pdf>

- **Oracle Licensing Management Services**

<https://www.oracle.com/corporate/license-management-services/>

- **Oracle Database Appliance X10 Datasheet**

<https://www.oracle.com/a/ocom/docs/oda-x10-ha-datasheet.pdf>

Thank you

Marcel Lamarca

marcel.lamarca@oracle.com



ORACLE