#### ORACLE

# Oracle Database Licenses

Sales Academy – Get started knowledge transfer

#### **Marcel Lamarca**

Exadata Cloud Specialist
Oracle, Alliances & Channels LAD



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





#### MARCEL LAMARCA

Exadata Cloud Specialist Upgrade, Utilities, Patching, Performance & Migrations



marcel.lamarca@oracle.com

#### **About My Career**

- 22 Years dedicated to study and support Oracle Databases.
- 13 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



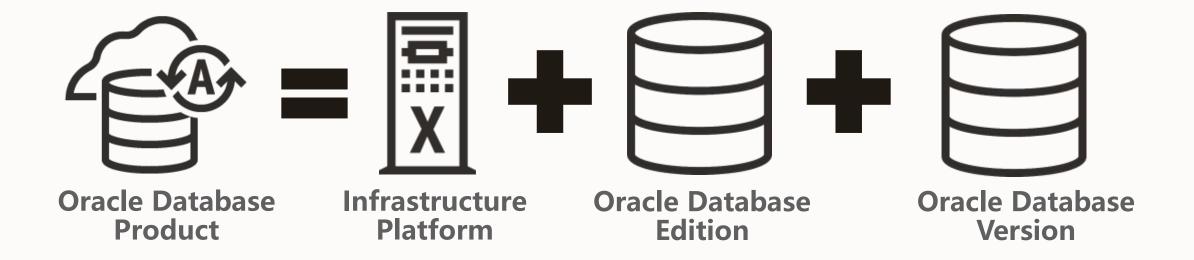
# **Agenda**

Licenses concepts Oracle Database Oracle Support **Oracle Cloud** License types **Standard Edition** Database Timeline OCI License License Metrics Manager **Enterprise Edition** Support Rewards Oracle Price List Oracle Price List BYOL **Hard Partition** License included **Soft Partition Universal Credits** 



# Licenses Basic components

# **Oracle Database topics to be consider**



# **General Licensing Information Environments**



**Development** 



Quality Assurance, Testing & Staging



**Disaster Recovery** 

Document database

Check Database Dev Policy
Here

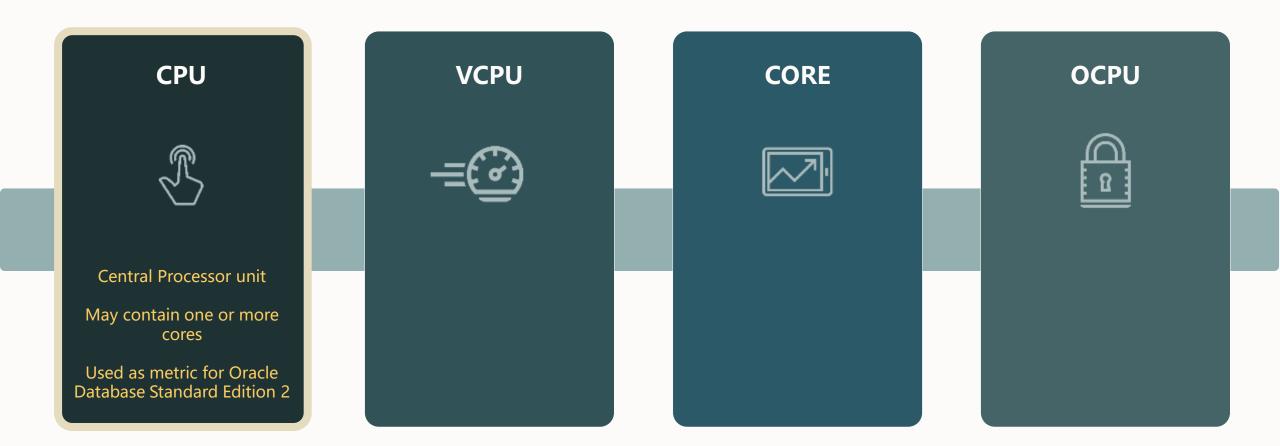
**Check Testing Policy here** 

**Check DR Policy Doc here** 

Licensing issues are not presented only in production environments!



# Oracle Processor concepts





### CPU



Central Processor unit

May contain one or more cores

Used as metric for Oracle Database Standard Edition 2

## **VCPU**



Virtual Central processor unit

Can be a core or a thread

Used as metric for others Cloud providers

## CORE



## **OCPU**





#### **CPU**



Central Processor unit

May contain one or more cores

Used as metric for Oracle Database Standard Edition 2

#### **VCPU**



Virtual Central processor unit

Can be a core or a thread

Used as metric for others Cloud providers

### CORE



Virtual or physical subdivision of a CPU

Can be a core or a thread

Used as metric for Oracle Database Enterprise Edition

#### **OCPU**





#### **CPU**



Central Processor unit

May contain one or more cores

Used as metric for Oracle Database Standard Edition 2

#### **VCPU**



Virtual Central processor unit

Can be a core or a thread

Used as metric for others Cloud providers

#### **CORE**



Virtual or physical subdivision of a CPU

Can be a core or a thread

Used as metric for Oracle Database Enterprise Edition

#### **OCPU**



Processing Unit that Oracle Uses to create Services on OCI

Used for BYOL and core factor table



# Software Licensing Metrics

## **Oracle Full Use license**

Full Use license is without restrictions and allows usage that is full functionality.

you don't have Limitations to install third applications including Oracle Tools.

# **Application Specific Full (ASFU)**

Use is specific to run only with the defined application and may come with additional restrictions.

Share the same Datatabe with another applications and tools are not allowed.

Application Examples : **SAP**, **Oracle Business Suite**, **ISV** 

#### Not Allowed examples :

- Sqlplus connections
- Golder Gate connections
- Sql Dev lope connections



# Oracle Named User Plus VS Processor Metric Definition

#### Named User Plus (NUP)

Metric is defined as individuals authorized to use Oracle programs installed on single or multiple servers. Licensing considerations include:

 Human and non-human operated devices are counted towards NUP license

• Batch processing from computer to computer is permitted and does not require counting users at the front of the batch process

#### **Processor Metric**

The Processor metric is used to license all processors where Oracle programs are installed and/or running.

- Most Standard Edition products are licensed by Processor, which for Standard Edition programs is defined as a socket
- Enterprise Edition and other technology products may be licensed by cores



## **Oracle Core Factor table**





• **Core factor** gives you the delta to calculate Database Enterprise licenses number by processor

• Oracle strongly recomends check on-line documentation to be aware of all recent changes

• Core factor is used to calculate Database Enterprise Features too

• Last update on Septermber, 5 2023



# Oracle Database Editions



### **Database Standard Edition**

Oracle Database 19c Standard Edition 2 has some limitations compared to the Enterprise Edition.

- Lisensed by physical socket (core Factor not allowed)
- Oracle consider the socket factor limited by 2 sokets
- Standard Edition model using NUP metric requires at least >10 users

# **Oracle Database Enterprise Edition**

Is the most complete version of Oracle database software, **core-based** licensing.

- There is no limit for core usage
- The delta to calculate CPU lisenses is :

(# of cores x core factor = # of Processor licenses)

 Enterprise Edition model using NUP metric requires at least >25 users per processor lisences

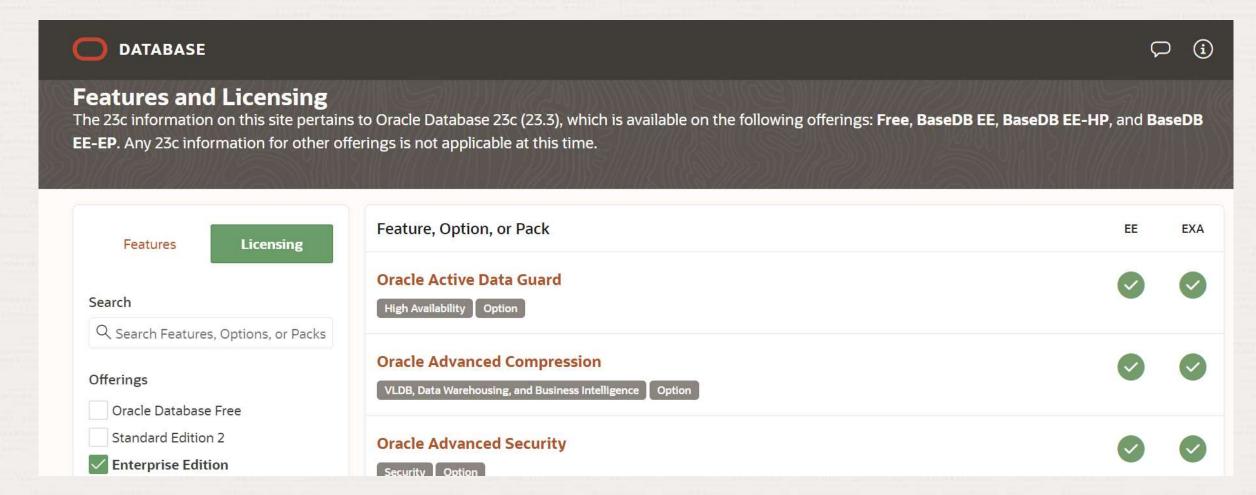


# **Oracle Database Standard Edition VS Enterprise Edition**

Security Features/Option	Enterprise Edition	Standard Edition
Database Security Assessment Tool	✓	✓
Data Safe	✓	✓
Password Profiles	✓	✓
Strong Authentication	✓	✓
Network Encryption	✓	✓
Oracle RAC	✓	$\Diamond$
Oracle RAC one node	✓	$\Diamond$
Unified Audit	✓	✓
Oracle Active Data Guard	✓	$\Diamond$
Transparent Data Encryption	✓	$\Diamond$
Management Pack for Oracle Database	✓	$\Diamond$
Oracle Diagnostics Pack	✓	$\Diamond$
Oracle Tuning Pack	✓	$\Diamond$
Oracle Partition	✓	$\Diamond$
Oracle Advanced compression	✓	$\Diamond$
Real Application Test	✓	$\Diamond$

# Oracle Database Versions, Editions, limitations and features





# Oracle Database on virtualized environments



# What is Partitioning?

"Partitioning" occurs when the CPUs on a server are separated into individual sections where each section acts as a separate system.

There are several hardware and **software virtualization** technologies available that deliver partitioning capabilities, with varying degree of resource allocation flexibility."



# Why Partition?

Database Administrators (DBAs) often partition servers to achieve the following benefits:

Ability to run multiple operating systems, or multiple versions of an operating system, on the same server

 Ability to improve workload balancing and distribution by managing processor allocations across applications and users on the server

Ability to leverage hardware models such as "Capacity on Demand" and "Pay As You Grow."



# **Hard Partitioning**

Hard partitioning physically segments a server, by taking a single large server and separating it into distinct smaller systems.

Each separated system acts as a physically independent.

#### Examples:

- Hard Partitioning LPAR
- Hard Partitioning LDOM

# **Soft Partitioning**

Soft partitioning segments the operating system using OS resource managers.

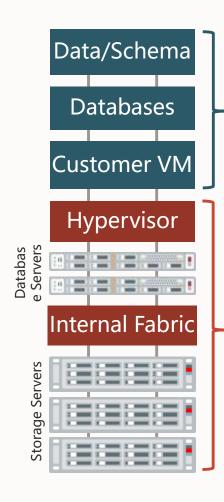
The operating system limits the number of CPUs where an Oracle database is running by creating areas where CPU resources are allocated.

#### Examples:

- Soft Partitioning VSphere
- Soft Partitioning HyperV



# **Understanding Trusted Partitioning on OCI**



#### **Customer subscribes to database services**

- Oracle Recognizes Hypervisor Technology
- You can add Processors with no need to cover all Physical cores
- Oracle staff are not authorized to access customer VM

## Oracle owns and manages infrastructure on OCI Databases

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

# Oracle Database Features

## **Oracle Database and most used features options**



#### 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



# What feature your environment needs?



#### How To Verify Which Database Features are Used (Doc ID 459837.1)

#### GOAL

This article explains how you can check which options or features are used in the database. This is particularly useful for licensing purposes or when you want to de-install a certain option.

#### SOLUTION

This can be achieved through the DBA\_FEATURE\_USAGE\_STATISTICS view. This view will list the feature usage on a per patchset basis. So the combination of feature name and version is unique.

Typically one can verify the features used using the following query:

```
select *
from DBA_FEATURE_USAGE_STATISTICS
where detected_usages > 0
order by name, version;
```

To get a list of options that are not in use:

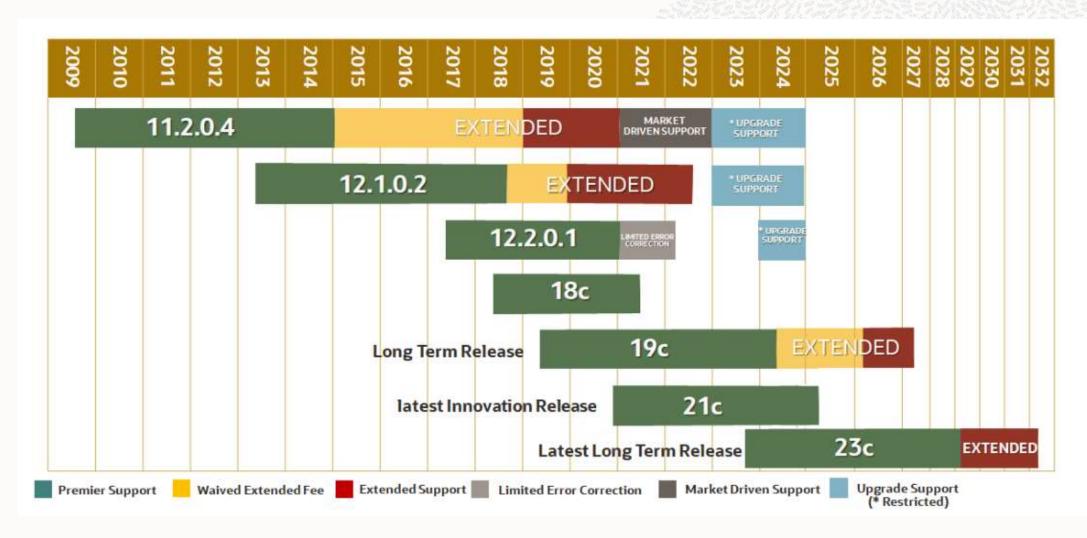
```
select *
from DBA_FEATURE_USAGE_STATISTICS
where detected_usages = 0
order by name, version;
```

Note: If the DBID has been changed via nid command, the query against the DBFUS view MUST include the current DBID otherwise the results returned will be incorrect.

For a more detailed report on the option details and their usages, please see

### **Oracle Database Releases and timeline**

My Oracle Support Official Note (Doc ID 742060.1)





# **Oracle Products Support life Time**





- Major product and technology releases
- Technical support
- My Oracle Support
- Updates, fixes, security alerts, data fixes, and critical patch updates
- Tax, legal, and regulatory updates
- Upgrade scripts
- Certification with most new third-party products/versions
- Certification with most new Oracle products



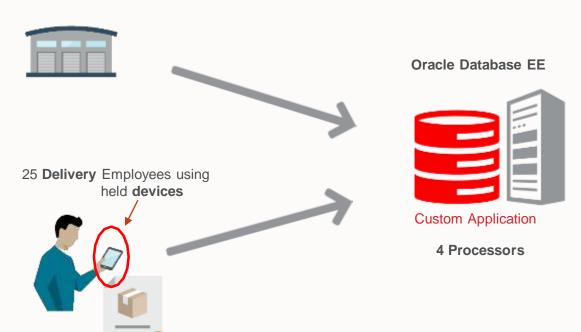
# Understanding Price List

# **Understanding price list table**

Section I		Oracle Database		Prices in USA (Dollar)	
	Named User Plus	Software Update License & Support	Processor License	Software Update License & Support	
Database Products				THE STATE OF THE S	
Oracle Database					
Standard Edition 2	350	77.00	17,500	3,850.00	
Enterprise Edition	950	209.00	47,500	10,450.00	
Personal Edition	460	101.20		•	
Mobile Server		******	23,000	5,060.00	
NoSQL Database Enterprise Edition	200	44	10,000	2,200.00	
Enterprise Edition Options:					
Multitenant	350	77.00	17,500	3,850.00	
Real Application Clusters	460	101.20	23,000	5,060.00	
Real Application Clusters One Node	200	44.00	10,000	2,200.00	
Active Data Guard	230	50.60	11,500	2,530.00	
Partitioning	230	50.60	11,500	2,530.00	
Real Application Testing	230	50.60	11,500	2,530.00	
Advanced Compression	230	50.60	11,500	2,530.00	
Advanced Security	300	66.00	15,000	3,300.00	
Label Security	230	50.60	11,500	2,530.00	
Database Vault	230	50.60	11,500	2,530.00	
OLAP	460	101.20	23,000	5,060.00	
TimesTen Application-Tier Database Cache	460	101.20	23,000	5,060.00	
Database In-Memory	460	101.20	23,000	5,060.00	
Database Enterprise Management					
Diagnostics Pack	150	33.00	7,500	1,650.00	
Tuning Pack	100	22.00	5,000	1,100.00	
Database Lifecycle Management Pack	240	52.80	12,000	2,640.00	
Data Masking and Subsetting Pack	230	50.60	11,500	2,530.00	
Cloud Management Pack for Oracle Database	150	33.00	7,500	1,650.00	

# **Licensing Oracle Enterprise Database Sample**

15 Warehouse Distribution Scanners

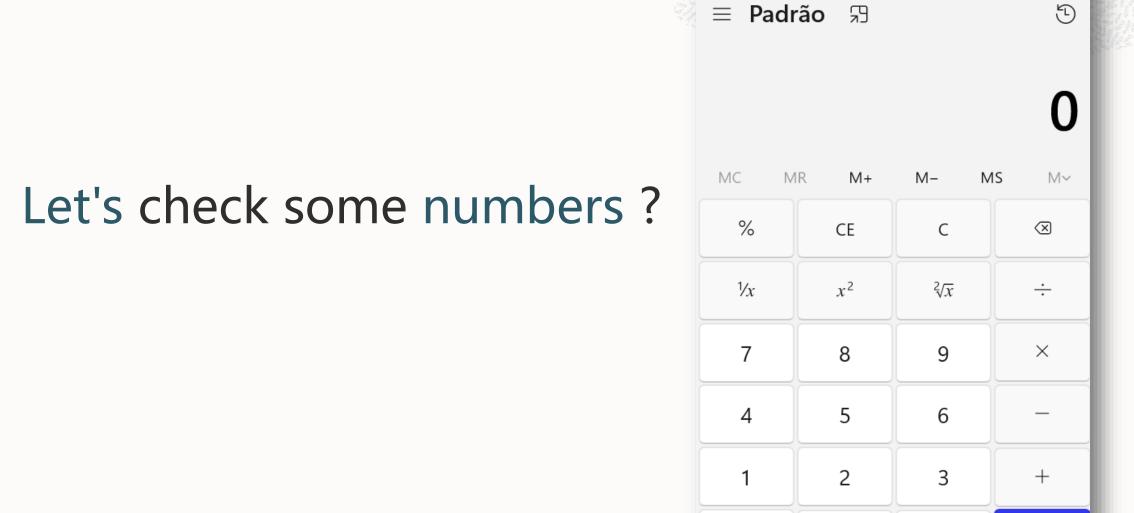


Current distribution company has 40 named users between Employees and Warehouse scanners.

Oracle Database Enterprise Edition is running on

- Processors server
- **12** Cores per processor
- **0.5** Core Factor







Calculadora

+/\_

0

 $\times$ 

# (# of cores x core factor = # of Processor licenses)

- 2 Processors server
- 12 Cores per processor
- **0.5** Core Factor

- 2 Processor 💢 12 Cores = 24 Cores
- 24 Cores **×** 0.5 Core factor **=** 12 Processor licenses required

By Core Factor

By Named User NUP

12 Processor licenses

25 (user minimum) = 300 Named User Plus user



# OCI Database Licensing Model

# **Cost-Effective Software Licensing Models**

Subscribe to infrastructure and choose License Included or Bring Your Own License (BYOL)

## **License Included Pricing**

# Ideal for organizations with new workloads and dynamic utilization

- Includes Oracle Database Enterprise Edition with all options and management packs at one low price
- Consumption-based pricing for software and vCPUs, includes software support and paid for with Universal Credits

## **Bring Your Own License Pricing**

# Ideal for organizations moving existing workloads with consistent usage to the cloud

- Utilize existing on-premises licenses and pay software support for them
- Very-low, compute-only consumption pricing, paid for with Universal Credits
- Includes Transparent Data Encryption,
   Data Safe, Oracle Machine Learning, and select management packs at no additional cost



# You can change license type using OCI Console

### Update license and Oracle Database edition

<u>Help</u>

Choose a license type

#### Bring your own license (BYOL)

Bring your organization's Oracle Database software license to Oracle Cloud Infrastructure. <u>Learn more</u>.

#### 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.



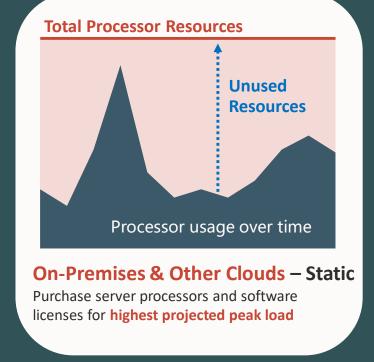
Up to 8 OCPUs, including auto scale. Learn more.

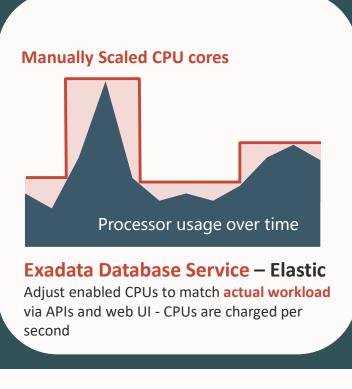


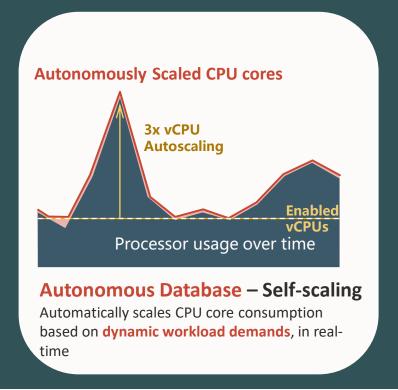
Cancel



# Online, Elastic Scaling with Exadata and Autonomous Database Services Pay only for what you use, in OCI or your data center







# Oracle PaaS and IaaS Universal Credits Description





#### Pay as You Go (PAYG)

- No upfront commitment
- Pay only for what you use
- Pay in arrears based on usage
- Built for land and expand

#### **Universal Credits**

- Agreed-to monthly spend
- Additional discounts based on size and term of deal
- Elastic payments based on usage



# Autonomous Database Billing

# **Autonomous Database ECPU billing**





The introduction of ECPU's is simply a new pricing metric. Using an ECPU
Autonomous Database is essentially identical to an OCPU Autonomous
Database

 The OCPU billing metric has been retired on Autonomous Data Warehouse and Autonomous Transaction Processing as of January 2024

• ECPU's provide similar or better price-performance than OCPU's for a given Autonomous Database workload.



# 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:

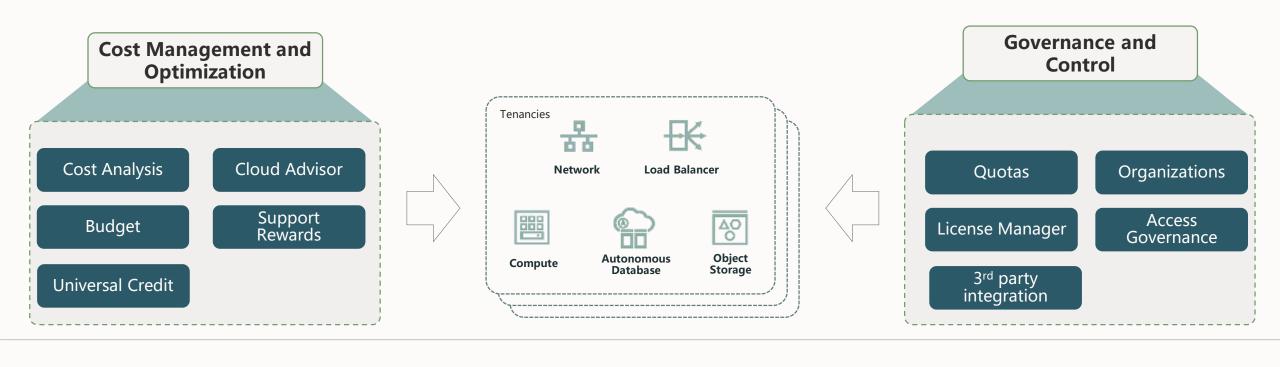
Retired OCPU Billing Metric - SKU Name	Part Number	Metric
Oracle Autonomous Data Warehouse - Dedicated	B92182	OCPU Per Hour
Oracle Autonomous Data Warehouse – Dedicated - BYOL	B92184	OCPU Per Hour
Oracle Autonomous Transaction Processing - Dedicated	B92181	OCPU Per Hour
Oracle Autonomous Transaction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



# OCI License Manager

# **Oracle's Cost Management and Governance Strategy**

Core principle to guide cloud leaders into best practices



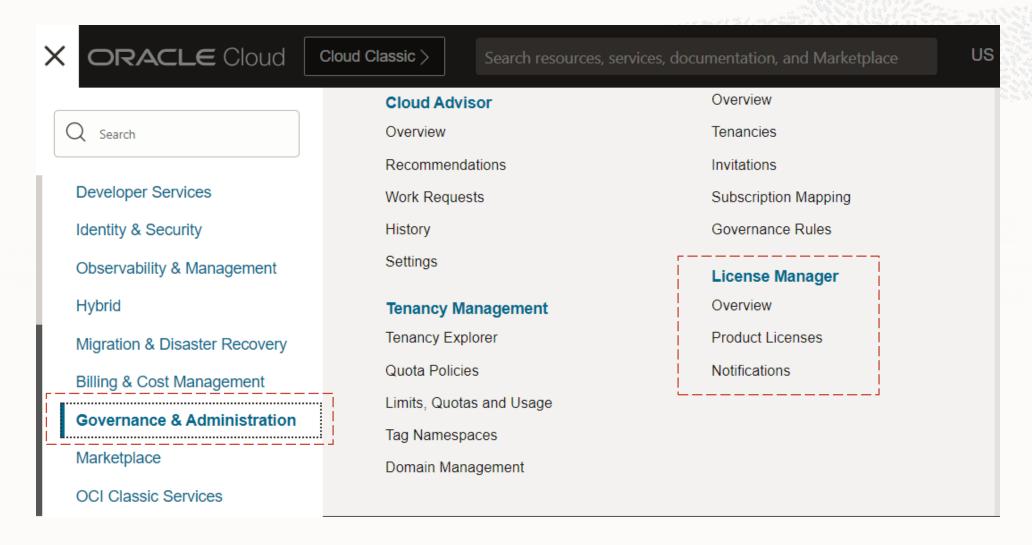
Easy-to-use

**Automated** 

**Prescriptive** 



# Oracle License Manager on OCI Console

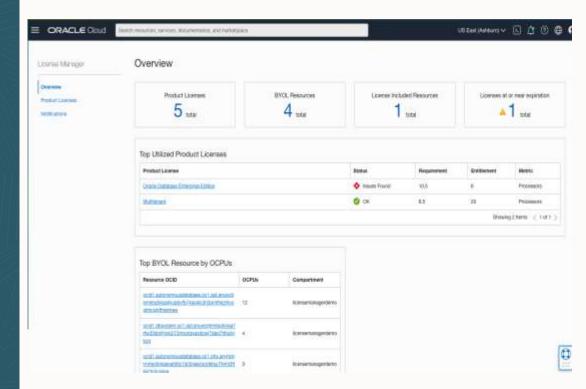




## **License Manager**

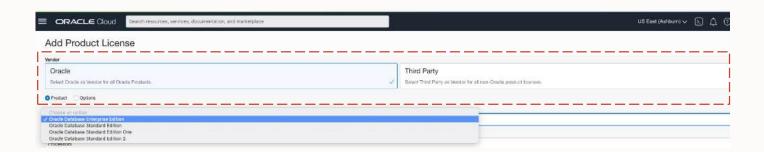
License Manager is a free, opt-in service that makes it easier for you to Bring Your Own License (BYOL) on OCI with the following capabilities:

- Automating the license portability rules for Oracle Database products to OCI Database service
- Single pane of glass to track licensing needs on both laaS and PaaS resources. Use the same tool to track Oracle and Thirdparty license utilization
- Pro-active email notification on over-subscription and license expiration scenarios.





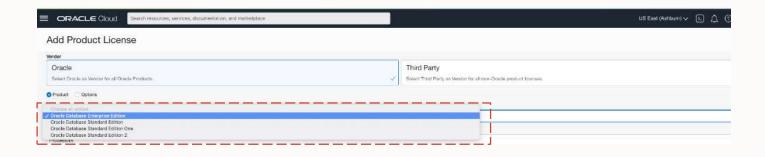




**Step 1 :** Click Add Product License button.

**Step 2 :** Select between Oracle and third party for License creation.







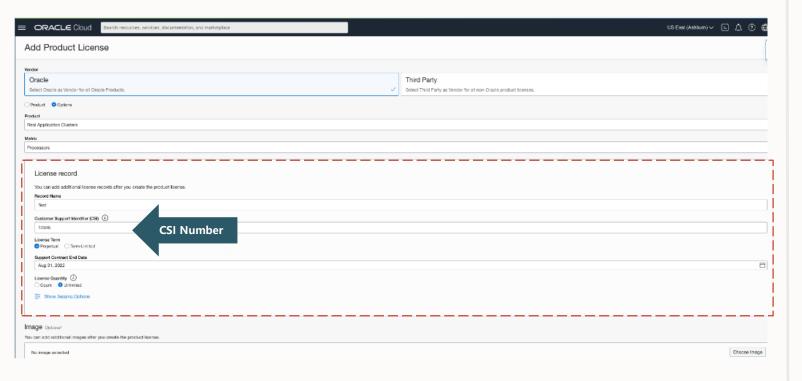
**Step 3 :** Select an Oracle Database Product

Edition.

Samples: Enterprise Edition, Standard Edition.

**Step 4 :** You can choose options : **Real Application Cluster** (RAC), **Multitenant** and **Active Data Guard** 





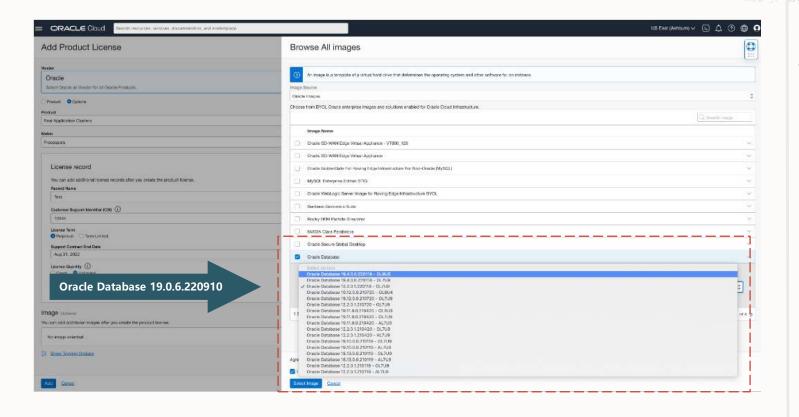
#### Step 5:

• You can input your license record details in the License record portion of the form.

 You can record information such as your Customer Support Identifier (CSI)

 You can also record your support contract end date and if your license





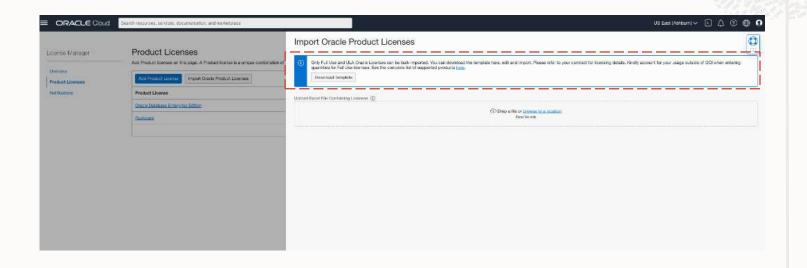
#### Step 6:

 To track license utilization on Compute resources, you can associate a Compute image with your license.

Under the Image section, select Choose Image.

• You can select the specific image and image build in the form that appears.





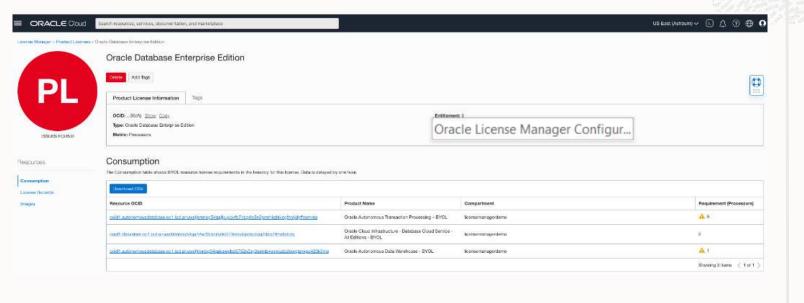
	A	В	C	D	E		F		G	H
1	Product Name	▼ Metric	▼ License Term	▼ License End Date	▼ License Level	*	License Count	*	CSI	Support Contract End Date
2	Oracle Database Enterprise Edition	PROCESSORS	PERPETUAL		ULA				1234567	28-May-2023
3	Real Application Clusters	PROCESSORS	PERPETUAL		ULA				1234567	28-May-2023
4	Multitenant	NAMED USER PLUS	TERM-LIMITED	28-Apr-2	2023 FULL USE			100	1234568	28-May-2023
5	Oracle Database Enterprise Edition	NAMED USER PLUS	TERM-LIMITED	28-Apr-2	2023 FULL USE			150	1234568	28-May-2023
6				0.000,000						
7										

#### Non-mandatory steps:

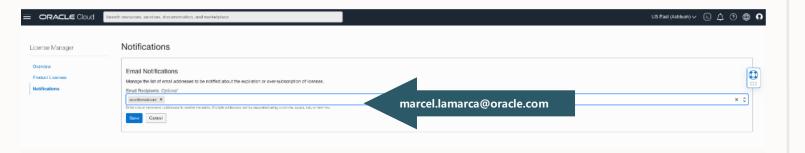
 You can also add Oracle licenses by clicking the Import Oracle Product Licenses button on the Product License page.

 You can download an Excel template, edit it to match your licensing data, and reimport it. The following image depicts a sample file.



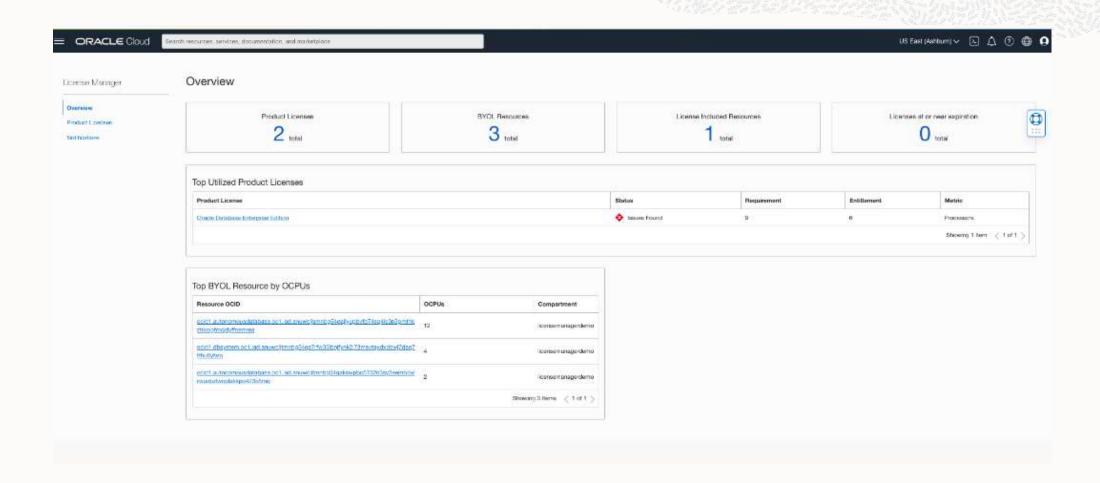


 You can view the entitlements and requirements for a license in the metric that the license was created in from the Product Licenses page.



 You can also choose to receive a weekly email notification on scenarios such as oversubscription of licenses or license records at or near expiration by adding the email recipient list on the Notifications page







# License Manager e-mail notification

If items require action, you receive an email similar to the following example.



Dear Customer,

Re: License Manager Summary.

The following is a summary of License Manager items that require your attention for licensemanagerdemo as of date 05/09/2022.

Sincerely,

License Manager

#### **Product Licenses Over Subscribed**

Product Name	Metric	Requirement	Entitlement	License Records
Oracle Database Enterprise Edition	Processors	9	6	2

#### License Records near or past expiration date for License or Support Contract

Product Name	Metric	License Record	License Record	License Expiration Support Contract	
		Name	Product Id	Date	End Date
Oracle Database Enterprise Edition	Processors	s 323213	231231231	05/03/2122	05/04/2022 - Expired

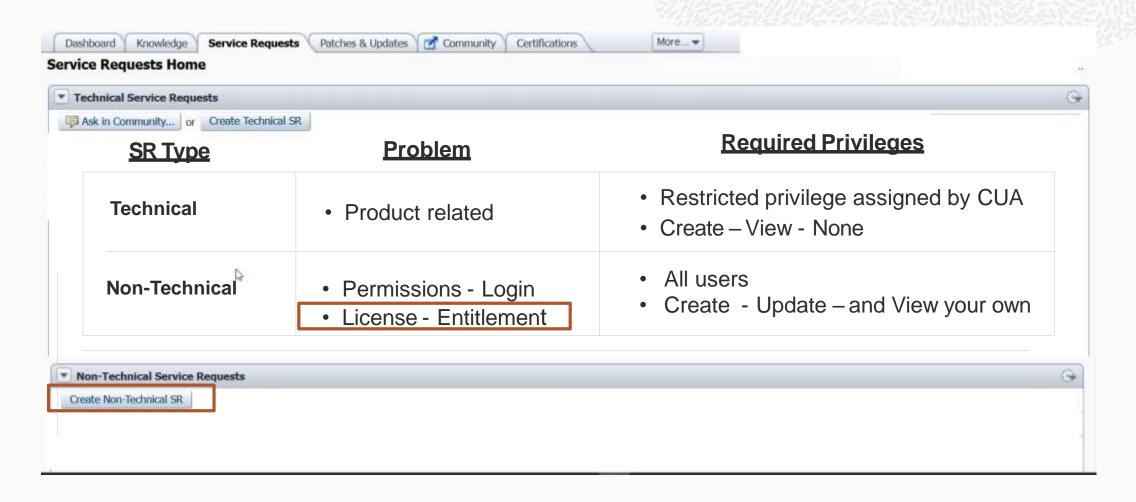
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# License communication channels

## **MOS Service SR Technical vs Non-Technical**



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



## **Oracle Software Investiment Advisor**





#### **Licensing Solutions**

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



#### Investment Economics

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



#### License Knowledge Transfer

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



#### **Cloud Sizing**

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



#### **Deployment Optimization**

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



#### **Entitlement Intelligence**

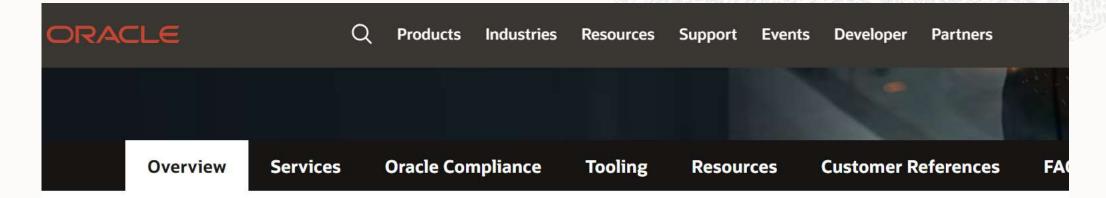
"How do I find out the current state of our contractual agreements with Oracle?"

For more informatio contact <u>sia-global\_ww@oracle.com</u> or visit <u>www.oracle.com/goto/sia</u>



# **Oracle License Management Services (LMS)**





# What is Oracle License Management Services?

Oracle License Management Services (LMS) is the established authority on Oracle licensing policy. We provide Oracle customers with an open, transparent, and definitive assessment of their compliance position. We achieve this with an engagement process that's designed to help customers measure actual usage versus their contractual entitlements, and to address the operational and financial risks associated with any unauthorized deployments.





# Resources



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/enus/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

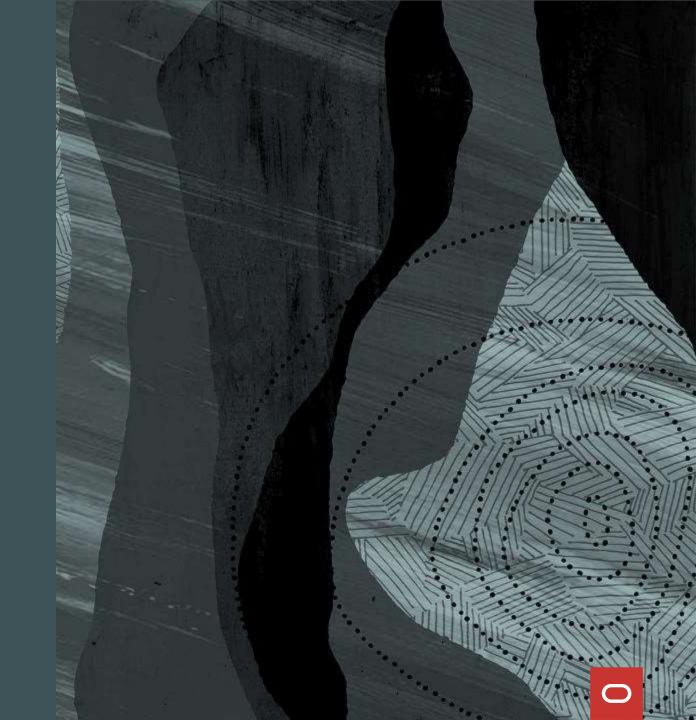
Oracle Licensing Management Services

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# Thank you

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