
Basic Oracle Database Licensing



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Introduction

Oracle offers a vast range of products. To cover licensing of all the products in this document would be too lengthy.

This document will cover only the most commonly sold Oracle software and that is their **Database Software**.

Oracle offers a number of '**Editions**' of their database software, each designed to suite a specific market segment.

Each database edition has it's own set of deployment rules, licensing rules and available database '**Features**'.

A range of extra '**Options**' are also available, but only with certain database editions. These options are purchased separately to the database license.

Oracle Database Editions

There are five Oracle database editions namely Standard Edition One, Standard Edition, Enterprise Edition, Personal Edition and Lite Mobile Server.

The three most commonly used editions are explained below:

➤ **Standard Edition One (SE1)**

- ✓ The “no frills” server edition of the Oracle database

➤ **Standard Edition (SE)**

- ✓ The same “no frills” edition as SE1.
- ✓ Comes bundled with Real Application Clusters (RAC) at no additional cost.
- ✓ Very limited database Features.

➤ **Enterprise Edition (EE)**

- ✓ The powerful unrestricted Enterprise server database edition.
- ✓ EE has many powerful **Features**.
- ✓ Additional **Options** available for EE only.

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Enterprise Edition **Features**

Feature	Standard Edition One	Standard Edition	Enterprise Edition
Oracle Data Guard	No	No	Yes
Rolling Upgrades	No	No	Yes
Online DDL	No	No	Yes
Parallel DDL, DML, backup	No	No	Yes
Flashback Technology	No	No	Yes
RAC	No	Yes – no cost	Yes – extra cost
Support for Exadata	No	No	Yes
Bit mapped indexing	No	No	Yes
Transportable tablespaces	No	No	Yes
Advanced Replication	No	No	Yes

For a comprehensive list of EE features please visit http://www.mydba.co.za/tips/week37_2009.pdf

Enterprise Edition Options

These options are only available with EE and are purchased separately.

- **Real Application Clusters**
HA database clustering for two or more servers.
- **Real Application Clusters One Node**
HA database clustering except with only one active database cluster.
- **Active Data Guard**
Perpetual Data Guard database recovery while database is open for 'READ' activity
- **Partitioning**
The splitting up of large tables into smaller more manageable components.
- **Real Application Testing**
Workload capture and replay feature with performance analyzer.

Enterprise Edition **Options** Continued

➤ **Advanced Compression**

Real-time data block compression and backup compression.

➤ **Total Recall**

Long term storage and auditing of historical data for compliance and auditor requirements.

➤ **Advanced Security**

Transparent data encryption, strong user authentication, Single Sign-on.

➤ **Label Security**

Row level security implementation option.

➤ **Database Vault**

Secures data from privileged users, SoD, fully SOX/King III compliant.

➤ **OLAP**

Multi-dimensional built in analytical engine.

Enterprise Edition **Options** Continued

- **Data Mining**
Powerful Next-Generation predictive application development and deployment.
- **Spatial**
GIS and LBS features and functionality.
- **In-Memory Database Cache**
Real-time in-memory updateable high performance caching.
- **Retail Data Model**
Retail applications knowledge data model optimized for DW and BI platforms.
- **Communications Data Model**
Data Model for addressing the needs of multiple communications industry segments.

Management Packs

- The Oracle Management Packs can only be purchased with Enterprise Edition.
- Must be licensed based on the same licensing metric and quantity as the associated EE Oracle Database.
- Available Oracle Management Packs
 - ✓ Diagnostics Pack
 - ✓ Tuning Pack
 - ✓ Change Management Pack
 - ✓ Configuration Management Pack
 - ✓ Provisioning and Patch Automation Pack
 - ✓ Data Masking Pack

Licensing Types

➤ Full Use license (FU)

- ✓ Standard license type and most common license sale.
- ✓ End User may deploy and use the licenses in any manner required for any Application.
- ✓ Oracle Software can be used in multiple environments such as DEV, UAT, PROD, DR etc.

➤ Application Specific Full Use license (ASFU)

- ✓ License is sold in conjunction with a single, defined commercially available application package.
- ✓ End User may only use the Oracle Software in conjunction with the package.
- ✓ Oracle Software can be deployed in multiple environments such as DEV, UAT, PROD, provided it is solely in conjunction with the specific application package it was sold with.
- ✓ May not use the Oracle Software with any other Application or for any other purpose.

➤ Embedded Software license (ESL)

- ✓ Restricted license sold embedded in the solution providers application package.
- ✓ May not be used with any other package or application.
- ✓ May only be used by the End User to execute the single, defined, commercially available application program.

Licensing Metrics

➤ Named User Plus (NUP) Metric

- ✓ Used in environments where users and/or devices can be identified and counted.
- ✓ Unsuitable for environments where user base is unidentifiable or innumerable.
- ✓ Includes all humans, human operated devices and non-human operated devices.
- ✓ Calculations are **not** based on concurrent program access, but are based on the total user community that has access to the program, irrespective if they are active or not.
- ✓ Where multiplexing is used, the NUP license requirement must be calculated at the multiplexing front-end.
- ✓ NUP licenses can access any number of servers and databases provided the minimum licensing requirement is met on each server i.e. the actual users accessing the program are licensed rather than the hardware where the programs are deployed on.

➤ Processor Metric

- ✓ Used in environments where user base is indeterminable or innumerable, or when the NUP metric is no longer cost-effective.
- ✓ Licensing is per Processor where the Oracle Software is installed and/or running on.
- ✓ For multi-core processors, each core has a core processor licensing factor applied to it.
- ✓ Easiest and most recommended licensing metric.

Licensing Minimums and Restrictions

➤ Standard Edition One (SE1)

- ✓ May only be deployed on a single server with a maximum configurability of 2 Processor sockets.
- ✓ If licensed by Named User Plus, the minimum is 5, irrespective of the number of occupied sockets.
- ✓ If licensed by Processor, the calculations are based on processor sockets only, irrespective of the number of cores per processor.

➤ Standard Edition (SE)

- ✓ May only be deployed on servers that have a maximum capacity of 4 Processor sockets.
- ✓ If RAC is being used with the SE deployment then the maximum configuration of the clustered environment may not exceed 4 Processor sockets.
- ✓ If licensed by Named User Plus, the minimum is 5, irrespective of the number of occupied sockets.
- ✓ If licensed by Processor, the calculations are based on processor sockets only, irrespective of the number of cores per processor.

Licensing Minimums and Restrictions continued

➤ Enterprise Edition (EE)

- ✓ No deployment restrictions.
- ✓ If licensed by Named User Plus, the minimum is 25 per Processor.
- ✓ EE Options licenses must match the licenses of the parent product.
- ✓ On multicore processors, calculations are based on the total number of cores multiplied by a core processor licensing factor, to determine the total Processor count that requires licensing.

Sockets and Processor Core Factors

➤ Sockets

- ✓ A Processor is counted equivalent to an occupied socket.
- ✓ In multi-chip modules, each chip in the multi-chip module is counted as one occupied socket.

➤ Processor Core Factors

- ✓ On multicore processors each core needs to be included when determining the processor count.
- ✓ Cores are multiplied by a Core Factor to determine the total processor count.
- ✓ Fractions are rounded up to the next whole number.

Processor Core Factor Table	
Processor	Factor
UltraSparc T1	0.25
SPARC T3	0.25
AMD/Intel	0.5
SPARC64 VII+	0.5
IBM Power5	0.75
HP PA-RISC	0.75
Sun UltraSPARC T2	0.75
All other Multi-core Servers	0.75
IBM Power6 and Power7	1
Single Core Servers	1

For a full list of Oracle's Processor Core Factor Table go to:

<http://www.oracle.com/us/corporate/contracts/processor-core-factor-table-070634.pdf>



Processor Core Factor Examples

Formula: Processors x Cores/Processor x Core Factor = Total Processors to license*

➤ Example 1

Server is configured with 4X IBM Power5 dual core processors

$4 \times 2 \times 0.75 = 6$ Processors require licensing

Processor metric minimum = 6 Processors licenses

NUP metric minimum is $6 \times 25 = 150$ NUP licenses

➤ Example 2

Server is configured with 1X UltraSPARC T1 processor with 8 cores

$1 \times 8 \times 0.25 = 2$ Processors require licensing

Processor metric minimum = 2 Processors licenses

NUP metric minimum is $2 \times 25 = 50$ NUP licenses

➤ Example 3

Server is configured with 1X HP PA-RISC dual core processor

$1 \times 2 \times 0.75 = 1.5$ rounded up to 2 Processors require licensing

Processor metric minimum = 2 Processors licenses

NUP metric minimum is $2 \times 25 = 50$ NUP licenses

* Excludes SE1 and SE programs

Licensing Policies

➤ Automated Batching

- ✓ Included in the Processor/NUP licensing metrics.

➤ Multiplexing

- ✓ Users must be counted at the multiplexing front end.
- ✓ The same multiplexing rule applies to Application servers in a 3-tier architecture.

➤ Flat Files

- ✓ Any process, server or User doing the Import, Export, Load or Extraction must be counted as an actual user when licensing using the NUP metric
- ✓ Not applicable when licensing using the Processor metric, provided minimums are met.

➤ Backup

- ✓ Storing of program binary backups and/or database backups on storage devices does not require licensing.

Licensing Policies Continued

➤ Failover: Active-Active

- ✓ All nodes in the cluster must be fully licenced.

➤ Failover: Active-Idle

- ✓ Only the primary node requires to be licensed.
- ✓ Includes the right to run Oracle on the unlicensed spare/failover node for a total of 10 separate days in any given calendar year.
- ✓ If the failover node acts as the primary node for a period of more than 10 days, then both nodes require full licensing.

➤ Standby/Data Guard Server

- ✓ All Standby/Data Guard servers require to be fully licensed.
- ✓ Must be licensed using the same licensing metric as the primary server.
- ✓ EE Options must also be fully licensed with the same metric as the primary server.

Licensing Policies Continued

➤ Remote Mirroring

- ✓ Does not require licensing if the database is not installed on the mirrored disk array.
- ✓ Both servers need to be fully licensed if the database is installed but not running (idle) on the mirrored disk array.
- ✓ Both servers need to be fully licensed if the database is installed and running (active) on the mirrored disk array.

➤ Real Application Clusters (RAC)

- ✓ All nodes of a RAC cluster must be fully licensed.
- ✓ When used with EE, RAC must also be licensed for all nodes in the cluster and the RAC licenses must match the EE database license i.e. same metric and quantity.
- ✓ EE Options must also be fully licensed for all nodes in the RAC cluster and the EE Options licenses must match the EE database license i.e. same metric and quantity.

Support Fees

- **Calculated at 22% of List Price**
- **Annual charge**
 - ✓ First Year Support fees sold by VAR/VAD with the licenses purchased.
 - ✓ **Second Year Support fees payable directly to Oracle by licensee.**
- **Entitles licensee to Support, Software Updates and New Releases**
 - ✓ CSI number (Customer Support Identifier).
 - ✓ Access to My Oracle Support website and database (Metalink).
 - ✓ Raise Service Requests (SR's).
 - ✓ 24x7 Technical Support.
 - ✓ Software updates and patches with email notification.
 - ✓ New releases of Software i.e. Oracle Database 9i, 10G, 11G.
- **Purchasing of Support Fees is optional**
 - ✓ If Support is not purchased then the licensee is not entitlement to any Support, Software Updates or New Releases.
 - ✓ Not recommended unless licensing for a very short term.

Term Licenses

Typically Oracle licenses are purchased on a 'Perpetual' basis, but 'Term' licenses from 1 up to 5 years are also available and reduce purchase cost.

- **1 Year Term - 20% of List Price**
- **2 Year Term - 35% of List Price**
- **3 Year Term - 50% of List Price**
- **4 Year Term - 60% of List Price**
- **5 Year Term - 70% of List Price**
- **Perpetual - Full List Price**

Support fees for all Term licenses is 22% of net Perpetual license fee.



Hard and Soft Partitioning

➤ Hard Partitioning

Physical segmentation of a server into smaller, independent, self contained servers with separate boot area, RAM, Processors, I/O subsystems and network resources. There is no sharing of resources between segmented servers.

➤ Soft Partitioning

Logical segmentation of a server into smaller virtual servers where the physical resources are logically and dynamically allocated between each logical virtual server.

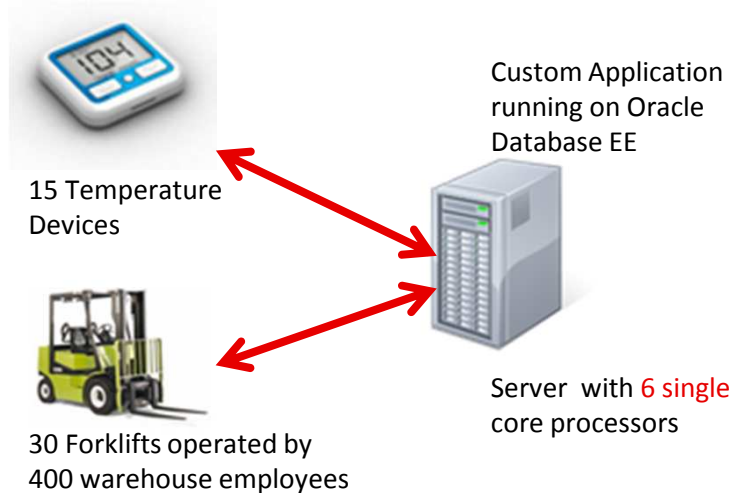
➤ Licensing Obligations

Oracle only recognizes hard partitioning as a means to determine or limit the number of software licenses required for any given partition or segmented server.

For more info on partitioning see <http://www.oracle.com/us/corporate/pricing/partitioning-070609.pdf>

Licensing Examples

➤ Example 1 - NUP

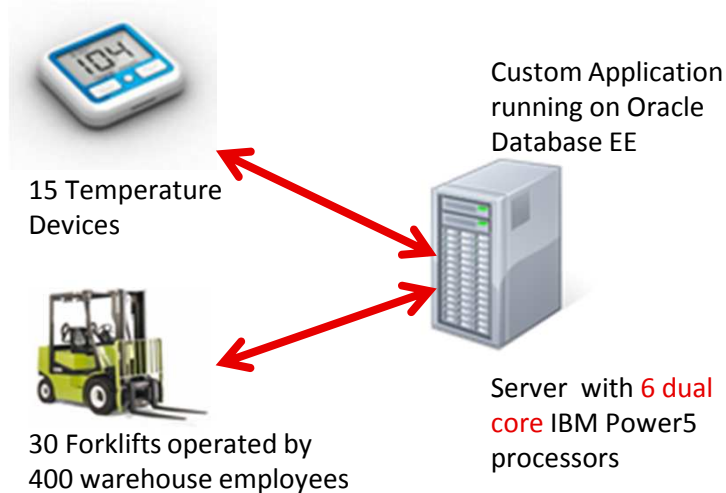


- A manufacturing company has 15 temperature devices to control the temperature in the warehouse. The devices connect to the database.
- 30 forklifts are used by 400 warehouse employees. The forklifts have built in transponders that connect to the database.

Minimum Licenses Required	Actual Users
25 NUP/Processor, 6 Processors 26 * 6 = 150 NUP licenses	Non-human operated devices plus individuals accessing the database 15 Temp devices + 400 Users = 415 NUP licenses
Whichever is the greater of the minimum and actual requirement, therefore 415 NUP licenses required	

Licensing Examples

➤ Example 2 - Processor



- A manufacturing company has 15 temperature devices to control the temperature in the warehouse. The devices connect to the database.
- 30 forklifts are used by 400 warehouse employees. The forklifts have built in transponders that connect to the database.

Licenses Required

Formula: Processors x Cores/Processor x Core Factor = Total Processors to license
 $6 \times 2 \times 0.75 = 9$ Processors require licensing

The number of Database EE Processor licences is therefore **9 Processors**

Basic Oracle Database Licensing



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