Common Oracle Licensing Pitfalls and how to avoid them!

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Melissa Cortale
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- Melissa Cortale, founder of Olitech Solutions, is a leading global expert in Oracle licensing.
- Melissa has been working with Oracle licensing for 15+ years, part of which she worked for Oracle, where she gained extensive knowledge of Oracle's licensing, support, and business practices.
- Realizing she could help her clients substantially reduce their ever-growing Oracle costs, Olitech was born, and is now a leading Oracle licensing advisory firm with clients throughout the commercial and government sectors.
- Melissa is a continued trusted advisor to her clients and has saved her clients millions of dollars in unnecessary licensing and support costs.

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So many Pitfalls... How do I choose?

So many Pitfalls... How do I choose?

YOU

The many pitfalls of Oracle licensing

Pitfall – Atari 2600 – Released 1982

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The Most Common Oracle Licensing Pitfalls

1. Virtualization
2. Database Options
3. Disaster Recovery

4. Oracle Java
5. Licensing on the Cloud
6. License Levels

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Pitfall 1 - Virtualization

Background:

Oracle has published only one document around virtualization: "*Oracle Partitioning Policy*".

Two types of Partitioning:

1. **Soft Partitioning:** Segments the operating system using OS resource managers.

   - Examples Include: Solaris 9 Resource Containers, Affinity Management, Oracle VM, and **VMware**.

   - **Important: Soft partitioning is not permitted as a means to determine or limit the number of software licenses required for any given server or cluster of servers.**

2. **Hard Partitioning:** Physically segments a server, by taking a single large server and separating it into distinct smaller systems.

   - Examples Include: Solaris Zones, LPAR, Micro-Partitions (capped partitions only). All approved hard partitioning technologies must have a capped or a maximum number of cores/processors for the given partition.

   - **Important: Oracle has deemed certain technologies, possibly modified by configuration constraints, as hard partitioning, and no other technology or configuration qualify.**

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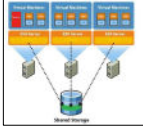May 7–9, 2024   The M Resort   Las Vegas, NV

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Pitfall 1 - Virtualization

Background (cont'd):

- Oracle's VMware position is based on an interpretation of their contracts and associated supporting documents, particularly their License Definitions and Rules. Oracle points to the following definition:

  "Processor: shall be defined as all processors where the Oracle programs are installed and/or running. Programs licensed on a processor basis may be accessed by your internal users (including agents and contractors) and by your third party users. The number of required licenses shall be determined by multiplying the total number of cores of the processor by a core processor licensing factor specified on the Oracle Processor Core Factor Table which can be accessed at http://oracle.com/contracts....."

- In an IT environment with VMware 6.0+ it is possible to use the "VMotion" feature to move virtual machines across "VCenters". The implication of this is that the Oracle products could **potentially** be run on all the physical machines that make up all the VMware clusters in the environment. Oracle views the presence of Oracle products on a VMware 6.0+ environment as requiring that all processors in the entire VMware infrastructure be licensed including those clusters not currently running Oracle.

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Pitfall 1 - Virtualization

Challenge:
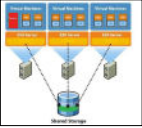
- When Oracle Programs are installed on VMware clusters, Oracle considers this a form of soft partitioning which results in extremely high processor counts and associated licensing costs.

- Oracle sales teams enforce inconsistent policies when it comes to Oracle running on non-Oracle virtualization software which confuses customers and leaves open areas of risk.

- Many IT shops use VMware extensively and want to run Oracle software on VMware the same as they do for all of their other software and applications.

- Unfortunately, Oracle MUST be deployed and handled differently on VMware than any other software or application due to its licensing policies.

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Pitfall 1 - Virtualization

Strategies to Avoid Pitfall:

➢ **There is no one size fits all for this Pitfall.**

Some approaches to virtualization and Oracle are as follows:

- Install the Oracle Programs on standalone physical servers without any virtualization technology.

- Install the Oracle Programs on an Oracle approved virtualization technology such as Oracle VM (OVM) or IBM LPARs and abide by conditions outlined in the Oracle partitioning policy documents.

- Install the Oracle Programs on an an approved cloud vendor (i.e. AWS, Azure, Oracle Cloud Infrastructure - OCI).

- Migrate off Oracle as platform.

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Pitfall 1 - Virtualization

Strategies to Avoid Pitfall (cont'd):

- Understand the risk, but choose to run Oracle on VMware and follow segregation techniques such as: storage segregation, network segregation, DRS and Affinity rules, logging.

  ➢ **Tip**: Get your entire organization (CIO, Legal, etc.) on board with VMware "segregation" plan.

- Work with Oracle on getting VMware/Virtualization "approvals" written into your contract.

  ➢ **Tip:** If a customer does come to an agreement with Oracle around VMware, get all concessions written on-record.

  ➢ **Tip:** Get concessions while negotiating **before** a large purchase, not after!

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Pitfall 2 – Database Options

Database Feature:

- Free - Included in the database license price

- Different database editions, have access to different features

Examples:

- Dataguard - EE only

- Flashback Query

- Oracle SQL Developer

- Application Express

- Spatial (recently added)

Database Option:

- Additional cost to the database license price

- Only available for Enterprise Edition.

- Metric of Option, must match metric of Database

Examples:

- Real Application Cluster (RAC)

- Partitioning

- Active Dataguard

- Enterprise Manager Packs (i.e. Diagnostics Pack, Tuning Pack, etc.)

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Pitfall 2 – Database Options

Challenge:

- Oracle has no license keys.

- Database Administrators can easily deploy options inadvertently.

- Some Options get installed with the database and can't be removed.

- Database Options like management packs can be easily triggered by command line using AWR Reports or SQL Tuning.

- Database Options can be costly and can cost more than the database itself in some instances.

- Database Options use is one of the biggest "gotcha's" that come up in an Oracle audit.

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Pitfall 2 – Database Options

Strategies to avoid Pitfall:

- Database Administrators should closely monitor their Oracle database usage to ensure they are only using the features and functionality in which they have licenses.

- This monitoring should become part of standard DBA process and any new DBA's coming into the organization should be aware of license constraints.

- Database Administrators should look into disabling management packs in which they know they do not have entitlements to further prevent inadvertent usage.

- Each organization should perform an annual check of their Oracle Database Options usage either internally or bringing in an external firm to do a 3rd party compliance check. The cost of doing this check often outweighs the potential costs of getting hit with a compliance bill from Oracle.

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Pitfall 3 – Disaster Recovery

Background:

Four Types of Database Recovery:

1. Backup (i.e. RMAN) – No License Required

2. Failover– No License Required IF <10 days/year
   - Examples - Oracle Failsafe, Veritas Clusterware
   - Not 240 hours.
   - All nodes have to be clustered, and storage has to be shared via Storage Area Network (SAN) or Network Attached Storage (NAS).
   - Only 2 clustered node is "free", if additional nodes are on the cluster they must be licensed.

3. Standby (i.e. Dataguard) – License Required (source & target)

4. Remote Mirroring (i.e. EMC SRDF) – License Required once installed and/or running. (if/*once you test!*)

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Pitfall 3 – Disaster Recovery

Challenge:

- Customers HATE paying for software on a server that sits idle for 361 days out of a year.

- For Remote Mirroring, Oracle wants you to pay for those 4 days that you test your remote DR site as they believe you must pay if you want to run their software in 2 places (even if it is only 4 days/year).

- Customers believe they fall into the failover "10-day rule" when they don't.

- Some customers don't even realize they need to pay anything for Disaster Recovery!

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Pitfall 3 – Disaster Recovery

Strategies to avoid pitfall:

- Know your contracts. Customers "might" have gotten concessions from Oracle around Disaster Recovery, so check your language!

- Don't ignore Disaster Recovery – you must decide on a license strategy around DR or you could face compliance risks.

- Which bucket do you fall into? Failover, Standby, Remote Mirroring? Get clear on it.

- Be careful what you share... remember "*anything you say may be held against you in a court of Oracle*".

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Pitfall 4 – Oracle Java

Background:

- Java is a programming language and computing platform first released in 1995 and now owned by Oracle because of its 2009 acquisition of Sun Microsystems.

- Java is available from several different vendors, but Oracle's implementation of Java includes several components that are widely used across enterprise environments including laptops, workstations, servers, VMs and in the Cloud.

- In January 2019, Oracle stopped providing free patches and upgrades to Java 8 and 11. Organizations wanting to continue receiving patches for Oracle's version of Java had to purchase support. Use of any of Oracle's commercial versions of Java released after January 2019 potentially opened an organization to license compliance risk and audit by LMS.

- **As of January 2023, for those Java deployments that do require the purchase of licenses, Oracle has changed the metric by which the cost is measured from Named User Plus and/or Processor to Employee. This has the potential for much larger licensing costs... organizations with 10s of thousands of employees could face costs of multi-millions of dollars/year!**

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Pitfall 4 – Oracle Java

Challenges:

- Over the years, Oracle has made substantial and costly changes to how it licenses its implementation of Java, to the frustration and confusion of many of its customers.

- With the employee metric, a customer with 28,000 employees, could owe Oracle $2.2 Million per year, even if only a fraction of those users actually use Oracle Java.

- In Oracle Java audits, Oracle often times charges multiple years of back support (or forward purchase), costing clients millions of unbudgeted dollars.

- Oracle Java deployments are often rampant throughout organizations, often unknown to executive and senior managements.

- Senior management is often unaware of Oracle's Java licensing policies until they are hearing from Oracle Java Sales/Audit team.

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Pitfall 4 – Oracle Java

Strategies to avoid Pitfall:

1.Review Oracle Contracts:

- Review your Oracle license agreements with your contract specialist and your corporate legal if needed.
- Do you have any Java contracts in place with Oracle already?

2.Review Java Usage:

- Review how you use Java throughout your enterprise.
- What versions are you using? Are you using Oracle OpenJDK or Oracle JDK? Are you using another vendor's Java software?
- Are you using Oracle Java only for Oracle applications?
- Existing software asset management (SAM) tools may be used to help gather this information or scripts can be used to extract the relevant information for analysis and review.

3.Create a Java Strategy moving forward:

- Determine the best go-forward strategy for your organization based on current Java Usage, current Oracle contracts, and future Java needs.

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Pitfall 5 – Licensing on the Cloud

Background:

- Oracle has a cloud policy published: "*Licensing Oracle Software in the Cloud Computing Environment*"

- Two Authorized Cloud Environments outside Oracle cloud:

  - **Amazon Web Services-EC2 and RDS** - count two vCPUs as equivalent to one Oracle Processor license if hyper-threading is enabled, and one vCPU as equivalent to one Oracle Processor license if hyper-threading is not enabled.

  - **Microsoft Azure** – count two vCPUs as equivalent to one Oracle Processor license if hyper- threading is enabled, and one vCPU as equivalent to one Oracle Processor license if hyper- threading is not enabled.

- The Core Factor Table is not applicable.

- Licenses acquired under unlimited license agreements (ULAs) may be used in Authorized Cloud Environments, but customers may not include those licenses in the certification at the end of the ULA term.

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Pitfall 5 – Licensing on the Cloud

Challenges:

- Migration process (running Oracle in two places).

- It costs more to Bring Your Own License (BYOL) to a non-Oracle cloud, than Oracle's cloud. Sometimes double the cost!

- Cloud Compute Configurations - Does you core count need to increase?

- Server/Instance Sprawl - Going from a consolidated architecture (multiple instances on one server) to a non-consolidated architecture (i.e test/dev).

- With RAC removed, do you need additional instances to get the failover you need?

- Oracle has NOT authorized other cloud vendors, such as Google Cloud Platform.

- You cannot certify on your cloud deployments at the end of a ULA (without contractual concession).

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Pitfall 5 – Licensing on the Cloud

Strategies to avoid Pitfall:

- Discuss the license repercussions of moving Oracle to cloud WAY BEFORE you plan to move Oracle to cloud.

- Plan out the cloud architecture as much as possible prior to making a cloud vendor decision. In some cases, Oracle licenses requirements can more than double which may alter your cloud vendor decision.

- Determine technical viability of running Oracle in the cloud.

- Oracle only has 2 authorized cloud providers, AWS & Azure, in addition to their own cloud offering (Oracle Cloud Infrastructure). If you are looking at other cloud providers, you may face additional challenges.

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Pitfall 6 – License Levels

Background:

Oracle offers different license levels:

1. **Full Use**
   Least restricted license offered by Oracle. Customer can use for internal or external systems.

2. **Limited Use**
   Restricts license to be used only in certain instances (i.e. DR, test/dev, or specific applications). Typically, lower cost than Full Use Licenses.

3. **Application Specific Full Use (ASFU)**
   Restricted license specific to a given ISV application. Typically distributed and supported by ISV partner.

4. **Embedded Software License (ESL)**
   Most restricted license offered by Oracle to OEMs. Handled by Oracle ISV/Embedded Team. Oracle is embedded in ISVs applications.

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Pitfall 6 – License Levels

Challenges:

- Customers don't actually track their License Levels.

- Customers often times have no idea what the Limited Use restriction actually is!

- Customers use "Limited Use" licenses in a "Full Use" fashion.

- If/when an audit occurs, Oracle will not allow "Limited Use" licenses to be used for anything outside the limitation.

- To migrate a "Limited Use" license to "Full Use" can be costly, often times it can cost the same as buying brand new Full Use licenses, making your investment in "Limited Use" licenses obsolete, particularly in an audit scenario.

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Pitfall 6 – License Levels

Strategies to avoid Pitfall:

- Review Oracle Support Agreements in detail, capture and detail any Limited Use Licenses.

- Find Original Ordering Documents to identify the exact Limited Use limitation.

- Discuss with IT and Technical teams to ensure deployment is matching the license levels.

- Continue over time to monitor licenses are being applied correctly.

- When making a new purchase – be wary of Limited Use licenses and ALWAYS keep your ordering documents for future reference of the limitations.

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The Most Common Oracle Licensing Pitfalls RECAP

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"Top 10 Most Common Oracle Pitfalls and how to avoid them!"

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QUESTIONS?

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