10 MINUTE GUIDE
MANAGING YOUR
ORACLE DATABASE LICENSES

EXECUTIVE SUMMARY

There’s no such thing as a ‘cheap’ Oracle installation. With licenses costing upwards of $40,000 per processor for an Enterprise database, Oracle quickly accounts for a large portion of the organization’s overall software spend. Unfortunately, it’s incredibly easy to either end up spending more than necessary on Oracle databases. Or worse, find yourself on the receiving end of a huge demand following an Oracle audit.

This document introduces the basic principles of managing and optimizing the licensing of Oracle databases across the enterprise. It will help you understand the key components of a successful Oracle Software Asset Management (SAM) strategy and provide tips for using the intelligence provided by SAM technologies to reduce both the likelihood and cost of an Oracle audit.
1.0 INTRODUCTION

If you run Oracle databases, you probably already know all-too-well just how big a chunk of your overall software spend goes towards Oracle licensing. But Oracle isn't just expensive; it's also difficult to manage effectively as often the right people in the organization don't have visibility of database have been installed on what hardware, how it is configured and what 'extras' like Management Packs and Options have been enabled.

In other words, it's very easy to run up a huge bill without realizing it. Without realizing, that is, until Oracle comes to audit you. Which it will.

Oracle is renowned as a 'Top Five' auditor in the software world, with a reputation for being uncompromising when it comes to ensuring that customers pay for all the software and options they install.

1.1 EASY TO MAKE MISTAKES

A simple case of unintentionally having a Option activated on an Oracle database can cost your organization in the region of $10,000. To be clear, that's the potential cost for ONE Option (such as partitioning) activated on ONE single-processor database (it gets even more complicated when you activate options that have inter-dependencies with other extra-cost features, such as Fine Tuning, which also requires Diagnostics!). Similarly, having ONE instance of an Enterprise edition database installed when a Standard version would have sufficed could cost in excess of $40,000 per processor. If your organization uses 100 or more Oracle database, you can start to get a feel for the potential costs.

It's not just a hypothetical cost, either. Because of the nature of Oracle installs, it is quite common for multiple stakeholders to be involved in the deployment, configuration and ongoing maintenance of Oracle databases. Because Oracle does not provide any tools to give all these different users a common view of the database instances and configuration, it is quite possible for changes to be made without anyone else (most importantly, the stakeholder charged with managing the cost of the database) being aware.

1.2 UNDER THE MICROSCOPE

This means that, when it does come to an audit, the customer can be at a distinct disadvantage to Oracle's auditors from the 'License Management Services' (LMS) team, who will have specialist tools (and a large back office specialized in analyzing the output of these tools) they use to assess the state of Oracle installations across the network.

Oracle's LMS team is also going to look into how you are licensed. For example, if you have Named User Plus licensing but the application the database is serving is open to the internet, then you will need to have processor based licensing, generally doubling the cost. When you are using versions under Enterprise Edition you have to be very careful of the servers you install on. If they have the capability of more processors than an individual database installation allows, it means you have to license the higher version, even if they processor slots are empty.

Combine these factors – expensive software, complex licensing, lack of visibility and control, high risk of being audited – and it becomes clear to see why it is so important that organizations gain full visibility of their Oracle installs.

2.0 THE ESSENTIAL OF MANAGING ORACLE DATABASE LICENSING

Effectively managing the Oracle database licensing across your organization comes down to xx elements. Collecting this information will give you the visibility you need to first eliminate any potential compliance issues and then move towards an optimized license position.

2.1 FIRST COMES DISCOVERY

It might sound obvious, but many organizations do not have a single-source view of all their Oracle database installs. As such, the first step towards taking control of Oracle licensing is to use an inventory solution (sometimes referred to as a Discovery tool) that is capable of auditing Oracle installs across all the relevant platforms.

The inventory solution must be able to not only detect the installation of a database, but determine the correct version and edition (there is a huge price difference between the licenses for a Standard versus Enterprise install, for example).

All Oracle installs should be reported in a single view and this information should be easily exported into an Oracle Server Worksheet (essentially a huge spreadsheet that is required as part of any Oracle audit).
2.2 DISCOVERING THE ‘HIDDEN’ INFORMATION

Inventorying the databases is essential, but just as important from a license management point of view is understanding additional information such as the configuration of the hardware on which the database is installed as well as being able to determine which Management Packs and Options have been activated (which can easily be done by mistake without anyone ever knowing).

As such, the chosen inventory solution needs to be even cleverer than you first thought – it needs to not only discover the database, but actively query it for additional information.

2.3 TRACKING ORACLE ORDERS

Knowing which installs are covered by which licenses is key for any Oracle user. If a database is used only by your development team, then a Named User Plus license would be the most cost effective license. But if a database is potentially accessed by all your customers via a web portal, then you would be better to assign a Processor license to this environment.

Tracking which licenses are mapped to which environments is therefore essential and should be revisited if there are any changes in the environment. This can also be used to the customer’s advantage. For example, Oracle may accommodate discounted licenses in limited use test/development environments or even sometimes allow for lower metrics (e.g. 10NUP per processor instead of the standard 25 for test/dev), which can provide significant savings.

Conversely, Limited Use (L/U) environments need to be monitored closely. If you put an instance of a database on a L/U licensed server that does not conform, you will have to pay for a full use Full Use license. Having the ability to compare what’s in use (inventory) against the Oracle orders is essential to managing this process effectively.

2.4 ORACLE LICENSE INVENTORY

It may sound obvious, but any organization that has licensed Oracle should take care to ensure that it has a clear overview of the products it has licensed, on what metrics and in what numbers – preferably all in a single view.

Instant access to other metrics such as which licenses are currently under support and whether there are any non-standard terms in the agreement are also important to track. Ideally this knowledge should not reside with one individual, but should be accessible to a ‘team’ across the enterprise.

Another reason to build a single Oracle license repository is to understand which products are tied together. If an organization purchased products together on the same order, then they have to all remain supported or the customer will face stiff penalties. Even if an organization stopped the support on just one of 100 ‘tied’ products, the cost of support for the remaining 99 products would jump to 22% of list price, rather than the discounted price. It’s easy for larger organizations to cost themselves millions of dollars by failing to manage this properly.

To check that the organization’s records are in good order, it is best practice to request an Oracle license inventory from the publisher from time to time.

2.5 ORACLE SERVER WORKSHEET

Although it can look complex and cumbersome, an Oracle Server Worksheet (OSW) can be both one of the best ways to get a single view of a lot of information. The problem with the OSW is that it can take a long time to create and keep up-to-date – without an automated tool to collect all the required data it can easily take more than 60 minutes per server. Having a solution that can automatically populate the majority of required fields in an OSW is therefore a distinct advantage.

3.0 TIPS FROM AN ORACLE EXPERT

We talked to a former licensing specialist from Oracle’s License Management Services (LMS) auditing team, now working with end user organizations to minimize their Oracle licensing spend. He shared his top tips for managing Oracle database licensing:

3.1 Check the hardware running Oracle!

During my time at Oracle, a large number of customers had failed to reassess their license requirements after a hardware refresh. Most Oracle licensing metrics are linked to hardware, so any change in hardware can have licensing implications. In addition, core factors may have changed since the time the license was original purchased. So even if new hardware has the same processor, a different core factor may need to be applied (Oracle will look at the moment the new server was acquired, and will calculate the new core factor for that server). An example was the IBM P6, which had a core factor of .75 which was changed to 1. If a customer had a P6 server before the change, they could apply a .75 core factor. However, if the server was refreshed after the core factor change, but still had a P6, the customer now had to apply a core factor of 1 and as a result require more licenses. This allows you to resize your underlying hardware to fall within your license entitlements.
3.2 Virtual environments.
Ensure that only an Oracle-accepted hard partitioning method is used. This allows a customer to only license the allocated hardware, for instance an IBM LPAR or Solaris Container/Zone. Where soft partitioning is used (for example: Oracle considers any kind of virtualization using VMware to be ‘soft partitioning’), you must make sure that all the underlying hardware running the virtual environment has a license. A common situation I came across was a VMware cluster consisting of multiple physical servers which was only licensed for a subset of those servers. Note that this not only applies to a Database Enterprise Edition, but also for any used Options or Enterprise Managers. Limiting the number of physical servers, for instance by splitting off a separate Oracle Cluster, can dramatically reduce the required number of licenses.

3.3 License the correct number of NUP.
All authorized persons AND non-human operated devices need to be licensed. Problems arise when a customer has not taken into account multiplexors (which must always be counted at the multiplexing front end), non-human operated devices or users of other databases that have a direct link to an Oracle database. Perhaps an organization has grown since acquiring the original licenses and now has more authorized individuals than before. As such, it is important to revisit your Named User Plus (NUP) licenses periodically. Another common problem is related to hardware, because you always need to license the higher number of either authorized Individuals or minimum NUPs. The minimum can change because of hardware refreshes (minimum of 25 NUP per Processor).

3.4 Optimize by grouping instances with similar options/pack usage on same servers.
Only those options and packs that are actually in use need to be licensed. Grouping these together allows you to only license just one option per server instead of three. When you know what to look for, this is something which can be viewed quite easily on an Oracle Server Worksheet (OSW – see section 2.x).

3.5 Disaster Recovery.
It is important to periodically review whether Disaster Recovery methods have changed since you initially purchased your Oracle license. Check that remotely-mirrored or standby environments are fully licensed (and according to the same metric as the production environment they are supporting).

3.6 Is Enterprise Edition necessary?
Given the cost implications, it is always important to scrutinize whether an Enterprise version of Oracle necessary. If there is no need for Options or Management Packs, Standard Edition/Standard Edition One are much cheaper versions to use and license than Enterprise Edition.

3.7 Don’t rely on Unlimited License Agreements (ULAs).
Also something around the ULAs the importance to keep track of what is included within your ULA, what volumes have been negotiated and when does my ULA expire. Maybe also something clarifying the ULA, that it is an “unlimited” license but certainly limited to a number of products, and nowadays often also limited with a capped number that is included within the ULA’s customer pays extra for install outside the ULA.

A lot of customers today think they are “in the clear” by entering a ULA, but often that is not the case and they end up in a situation where they spend more than they should exiting the ULA for not understanding the details of the ULA.

4.0 IS IT REALLY POSSIBLE TO AVOID AN ORACLE AUDIT?

Although there’s no such thing as a guarantee against being audited by any software publisher, it is possible to dramatically reduce the chance of Oracle conducting a full audit. According to an Oracle expert:

“The first step in the Oracle audit process is usually to ask the customer to provide an Oracle Server Worksheet (OWS – see above). How long it takes the customer to respond to this request is a good indication of how well they are managing their Oracle estate. If the customer takes weeks to respond, it’s a good bet that they’re out of control and thus it will be profitable for us to undertake a more in-depth review of their software usage and entitlement. If, however, the customer can respond to such a request instantly, we would generally assume that they have good processes and controls in place, which would make continuing the audit much less likely to generate a significant return.”

The advice appears to be clear cut: maintain an up-to-date Oracle Server Worksheet and be prepared to deliver this to Oracle at short notice. As our insider concludes:

“Oracle doesn’t audit customers for punitive reasons or to cause disruption; it wants to protect its intellectual property and ensure it is not missing any revenues owed. If a customer can exhibit good governance of their Oracle estate, there’s little point in forcing an audit.”

5.0 WHY USE SNOW TO OPTIMIZE ORACLE LICENSING?

So the advice is clear: it is not only good governance to establish and maintain full visibility and control over Oracle database licensing; it’s also very likely to deliver cost savings as well as avoiding the disruption caused by an audit.

The next challenge is to establish “how” to achieve this visibility. As has already been discussed, Oracle does not provide customer-facing tools to track database installs and licenses. So the customer has to take charge of this themselves.

Proven Software Asset Management (SAM) technologies like Snow Software offer end user organizations access to the same information usually only visible to Oracle LMS auditors. Snow’s License Manager, combined with the Oracle Management Option (Snow OMO) enables Oracle administrators and license owners to easily track, manage and optimize the configuration of Oracle databases. With the ability to create on-demand Oracle Server Worksheets, administrators can avoid compliance risks, unnecessary costs and save time.
Snow OMO gives organizations control of their Oracle estate thanks to the ability to collect data and report on all server hardware and configuration, database products and editions, database Options and associated usage, Management Packs and associated usage, feature usage and named users.

**KEY BENEFITS**

**5.1 AVOID OVERSPEND ON OPTIONS AND MANAGEMENT PACKS**
View at-a-glance reports on precise data on all the metrics that affect Oracle licensing, including database Options, Management Packs, feature usage and database settings. Reduce risk by removing unused database options and management packs.

**5.2 MINIMIZE THE RISK OF OVER-INSTALLATION IN CLUSTER ENVIRONMENTS**
Virtualization makes the deployment of servers easy and fast, without considering the cost implications for Oracle licensing. Snow OMO automatically reports and visualizes when an Oracle Server is added to a cluster. This gives the SAM owner the ability to manage changes and avoid costs associated with their Out-of-the-box functionality.

**5.3 OUT-OF-THE-BOX FUNCTIONALITY**
Snow OMO is live from day one, no matter the size or complexity of the IT environment. The system offers extensive platform support, including IBM AIX, Sun Solaris, Linux, Windows and HP-UX.

**5.4 SAVE TIME AND RESOURCES WITH AUTOMATED OSW REPORTING TOOL**
Get an accurate and transparent view of an organization’s investment in Oracle databases without complicated and time consuming work. The Oracle Server Worksheet (OSW) Report is automatically populated with the required information, including hardware details, partitioning technology, database products, options, management packs and users. The OSW is one of several built-in standard reports available within Snow OMO.

**6.0 NEXT STEPS**
To help you better understand and demonstrate the benefits of managing your Oracle database licensing more closely, Snow Software has developed a quick-start Oracle ‘Proof of Concept’ program.

The Snow Oracle Database Proof of Concept will help you achieve an understanding of your entire Oracle Database environment in a very short period of time. It will identify opportunities to fix both over-spend and compliance risks as well as reducing the time it takes for in-house staff or external consultants to determine the actual deployment of Oracle databases.

For more information about Snow’s Proof of Concept options, contact your local Snow SAM team today: [http://www.snowsoftware.com/int/contact](http://www.snowsoftware.com/int/contact)

**ABOUT SNOW SOFTWARE**
Snow Software ([www.snowsoftware.com](http://www.snowsoftware.com)) is a global leader in the delivery of on-premise and cloud-based Software Asset Management solutions, including multi-platform inventory and advanced software license management technologies. Every day, organizations ranging from small businesses to multinational corporations and governments use Snow solutions to analyze and manage more than 1.7 billion software records.

Since 1997, Snow Software has sold over 9 million licenses to thousands of end user organizations and service providers worldwide who rely on Snow’s SAM expertise to manage compliance, optimize software availability and drive cost savings.

Privately-funded, Snow Software is headquartered in Stockholm, Sweden, with international offices located in the United States, United Kingdom, Germany, China, The Netherlands, Norway, Denmark and Brazil.

Follow us:
- [http://blog.snowsoftware.com/](http://blog.snowsoftware.com/)
- [https://www.linkedin.com/company/snow-software-ab](https://www.linkedin.com/company/snow-software-ab)
- [https://twitter.com/SnowSoftware](https://twitter.com/SnowSoftware)