

EXECUTIVE SERIES

**THE
GORILLA
GUIDE TO...[®]
EXPRESS EDITION**



Oracle Licensing

Joey D'Antoni

INSIDE THE GUIDE:

- How Oracle Spreads Fear, Uncertainty and Doubt
- 7 Ways You May Trigger an Oracle Audit
- The Importance of Having a Licensing Partner

**TAKE A QUICK WALK
THROUGH THE IT JUNGLE!**

Compliments of



THE GORILLA GUIDE TO...

Oracle Licensing

Express Edition

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Printed in the United States of America.

ACTUALTECH MEDIA

Okatie Village Ste 103-157

Bluffton, SC 29909

www.actualtechmedia.com

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INTRODUCTION

When Databases Attack!

Welcome to this Gorilla Guide Express to Oracle Licensing. Although some don't think of licensing as an overly technical topic, those who give it short shrift do so at their peril. The ramifications of getting licensing wrong when it comes to Oracle software can be crushing; even company destroying.

That's why this short book exists. Oracle's licensing policies are incredibly complex, and punitive should a company get it wrong. There are those, in fact, who would claim that Oracle's complexity is a feature rather than a bug; the less that admins and C-level executives understand, the more likely they are to make a mistake that will financially benefit Oracle.

We want to make sure that doesn't happen to you. This book will discuss the ins and outs of Oracle's licensing web, clarifying the murky points. We'll also go in-depth on the petrifying and dreaded "Oracle Audit," providing clear advice on how to prepare for it; advice that includes calling in the cavalry when needed, to protect you from Oracle's clutches.

THE CUSTOMER PROBLEM



Figure 1: Oracle relies on “FUD” as a core part of their strategy.

If all this sounds scary, you’ve got the right idea. Oracle has positioned itself that way (see Figure 1). But it doesn’t have to be a nightmare. Using the information in this book will help shield you from what’s to come, so you can properly prepare both before an audit, and after that fateful day comes.

So let’s get started, with a discussion of Oracle’s position on licensing, and why it takes such a hard line.

CHAPTER 1

All About the Benjamins

Oracle is well known across IT organizations for two things: its high price and its aggressive licensing audits. Oracle produces relational database management (RDBMS) and line-of-business software that runs the core business functions of many large organizations. However, in recent years, the growth of these businesses has been challenged by several factors.

First, many organizations have embraced open source RDBMSes such as PostgreSQL or MariaDB, which can be used for custom development projects and don't come with Oracle's high price tag. In the analytics space, other open source solutions such as a Spark and Hadoop have challenged the premise of the traditional data warehouse. Additionally, competition from cloud vendors Amazon and Microsoft has chipped away at Oracle's new license sales.

What this all adds up to is that to drive revenue growth, Oracle has looked at increasing revenue from existing customers rather than from new license sales, which have been declining as a percentage of revenue for the

company in recent years and confirmed by statements from Oracle's leadership.¹

Oracle's business model is standard in the software industry. Customers purchase software at an upfront cost (which in Oracle's case is often highly discounted), and pay an annual support fee, which covers patches and upgrades to the software, as well as vendor support.



If your support costs increase by 4% a year (average), your support costs will exceed the initial licensing costs after 4 years.

But there's a catch: Oracle has the right to increase the support costs by a few percent a year, using a technique that's known as re-pricing. If you have been using Oracle for a decade or more, your support costs may be substantially higher than what you would expect based on your discount at time of purchase. It's a good idea to calculate your support costs over a 4-5 year window. If your support costs increase by 4% a year (average), your support costs will exceed the initial licensing costs after 4 years.

¹ <https://fortune.com/2016/12/16/oracle-earnings-top-topics/>

The licensing of the Oracle RDBMS is complex and has a wide array of options that carry an additional cost. Many of these options are built-in to the product and are prone to unintentional use by an unknowing administrator.

In addition to this complexity, Oracle maintains a very aggressive audit program, which can be financially punishing to organizations who don't maintain a detailed account and understand the software and options that are in use. The main goal of this audit program, which is run by the Oracle License Management Services (LMS) team, is ultimately to drive revenue.

The LMS team is unforgiving for customers who fall outside of the scope of licensing terms. Traditionally, Oracle has done its own audits with LMS. In recent years, however, they've increasingly begun outsourcing audits to third parties, particularly in Europe.

Nice Little Database You Got There. Be a Shame If Something Happened to It ...

Oracle leverages this audit process to drive revenue growth with existing customers. In many cases, these audit results are inflated or even completely wrong. In the past, this would've been used to incrementally

pad license sales, and drive hardware sales of Oracle's Exadata appliance.

While Oracle's Chairman Larry Ellison once declared the notion of the public cloud as "idiocy,"² Oracle has now jumped headfirst into cloud computing. While Oracle's cloud is not as fully featured as Amazon Web Services (AWS) or Microsoft Azure, it's a key strategic initiative for the company.

Now, with Oracle's goal of getting more revenue from its cloud platform, a common proposed audit solution to customers is to buy Oracle cloud credits to make your audit go away. It has been reported that Oracle sales representatives initiate these audits in order to drive them toward sales incentives.³ Customers often feel as though they're being extorted by Oracle.

During an audit, the customer is required to fill out an Excel overview of their Oracle environment, known as the Oracle Server Worksheet (OSW). They'll likely be asked to run numerous scripts, which inventory the environment and provide information back to Oracle. The

² <https://www.cbronline.com/cloud/he-said-what-5-things-larry-ellison-actually-said-about-cloud-4563323/>

³ <https://www.businessinsider.com/oracle-customer-explains-audit-threats-2015-9>

output of these scripts is in a format that's challenging for anyone other than Oracle to review.

At the end of this process, Oracle will present you with a license-compliance report, which provides you with your status and the detail of any licenses for which you must pay. The burden of proof is on the customer to prove to Oracle that they were in compliance with their licensing agreement.

CHAPTER 2

Understanding Oracle Licensing

Unlike many other vendors, Oracle requires full licenses for all your environments. This includes development, QA, and passive disaster recovery. This can be an audit trap many customers fall into, which isn't licensing their non-production environments. Oracle licenses its software in two primary ways:

1. Per Processor Pricing
2. Named User Plus (NUP)

Each of these options offers different costs and benefits.

Per Processor Licensing

This seems like it would be the most straightforward licensing option—after all, this model is directly related to the physical server configuration. However, as processors became more powerful, Oracle instituted a core factor. If you're using an AMD- or Intel-based server, your core factor is .5, so for every two cores you have, you need one Oracle processor license. Most modern workloads run on processors that have a core factor

of .5—servers higher than that are Unix servers with RISC-based processors that aren't commonly used. See **Figure 2**.

ORACLE®

Oracle Processor Core Factor Table
Effective Date: March 16, 2009
Updated: July 29, 2019

Vendor and Processor	Core Processor Licensing Factor
Sun and Fujitsu UltraSPARC T1 processor (1.0 or 1.2 GHz) Only named servers including: Sun Fire T1000 Server, SPARC Enterprise T1000 Server*, with 6 or 8-core 1.0 GHz UltraSPARC T1 processor Sun Fire T2000 Server, SPARC Enterprise T2000 Server*, with 4, 6, or 8-core 1.0 GHz, or 8 core 1.2 GHz UltraSPARC T1 processor Sun Netra T2000, 1.0 or 1.2 GHz UltraSPARC T1 processor SPARC T3 processor	0.25
Sun and Fujitsu UltraSPARC T1 1.4 GHz Only named servers including: Sun Fire T2000 Server and SPARC Enterprise T2000 Server*, with 8-core, 1.4 GHz UltraSPARC T1 processor	0.5
Sun T6300, 1.4 GHz UltraSPARC T1 processor	0.5
AMD EPYC™ 7XX1 and AMD Opteron™ Models 13XX, 23XX, 24XX, 32XX, 41XX, 42XX, 43XX, 61XX, 62XX, 63XX, 83XX, 84XX or earlier Multicore chips	0.5
Intel® Xeon® Platinum 92XX, Intel® Xeon® Platinum 82XX, Intel® Xeon® Platinum 81XX, Intel® Xeon® Gold 62XX, Intel® Xeon® Gold 61XX, Intel® Xeon® Gold 52XX, Intel® Xeon® Gold 51XX, Intel® Xeon® Silver 42XX, Intel® Xeon® Silver 41XX, Intel® Xeon® Bronze 32XX, Intel® Xeon® Bronze 31XX, Intel Xeon Series 56XX, Series 65XX, Series 75XX, Series E7-28XX, E7-28XX v2, Series E7-48XX, E7-48XX v2, E7-48XX v3, E7-48XX v4, Series E7-88XX, E7-88XX v2, E7-88XX v3, E7-88XX v4, Series E5-24XX, E5-24XX v2, E5-24XX v3, Series E5-26XX, E5-26XX v2, E5-26XX v3, E5-26XX v4, Series E5-46XX, E5-46XX v2, E5-46XX v3, E5-46XX v4, E3-15XX v5, E3-15XX v6, Series E3-12XX, E3-12XX v2, E3-12XX v3, E3-12XX v4, E3-12XX v5, E3-12XX v6, E5-14XX v3, E5-14XX v2., E5-16XX v4, E5-16XX v3, E5-16XX v2, and E5-16XX or earlier Multicore chips	0.5

Figure 2: A portion of Oracle's Core Factor Table

It's important to note that Oracle can change the core factor table at any time. This means you need to document what the core factor table was when you deployed.

Named User Plus

Named User Plus licensing requires you to purchase a license for each user and every device that interacts with the data stored in the database. The obvious question asked about this licensing model is: "What if we have an application server, and that's the only 'user' who connects to the database?" Under Oracle's licensing terms, each end-user of that application would require a license for the database server.

There's also a minimum purchase requirement for Named User Plus licensing. If you're purchasing Enterprise Edition, you're required to buy a minimum of 25 Named User Plus licenses, per processor, which means you would need to buy 25 users per 2 Intel cores (by Oracle's definition). This means that, if you have an eight-core server, you need to buy a minimum of 100 Named User Plus licenses. Standard Edition has a similar requirement, but with a much lower minimum of 10 users per processor.

Named User Plus licenses are best used for internal-use applications. If you have a server that's used by an internet-facing application, it's typically difficult to identify

the number of users. But if you can clearly define and identify the users of the application (that is, a website that's secured and only used by 1,000 users), you can still purchase Named User Plus licenses. Quick rule of thumb: if your named user count is at or below the NUP minimum, you can save 50% versus processor licensing.

Enterprise Agreements

If you're in a larger organization, you may have an enterprise agreement with Oracle. Oracle offers two types of these agreements:

1. Unlimited License Agreement (ULA), including capped ULAs
2. Perpetual Unlimited License Agreement (PULA)

A ULA allows you to use all of the products defined in the agreement, which is typically two to five years. At the end of this term, you declare your usage of the software, which becomes your perpetual license. There's no true-up, a process where you purchase all of the licenses that you've consumed during the ULA time frame, in this model, but support is based on the total of the initial cost of the ULA and is an ongoing operating expense.

If your organization purchases a ULA, it's important to clearly define the scope of products covered, as non-ULA

features and products are still required to be licensed and are subject to audit. Having a ULA means it's even more important to track your Oracle software environment, as you want to have accurate usage before the declaration date for your perpetual support agreement.

One other consideration with a ULA: Even if your organization's Oracle usage goes down, your support costs won't. If you are in the position of reducing Oracle utilization in your organization, the organization isn't a good candidate for a ULA.

There are many issues you should consider when signing up for a ULA. For example, if your company is acquired, your ULA can become null and void, and you won't receive any refund. This and other pitfalls are why should seek counsel before agreeing to a ULA.

The PULA process is similar to that of the EULA, except it has no time frame. It's priced as an annual fee built on overall consumption; Oracle claims that it minimizes the risk of audits or demands for additional payments in subsequent years of the agreement.

Virtualization and Cloud Computing

One of the biggest points of contention of Oracle licensing is around its treatment of virtual server platforms, whether it be on-premises or in the public cloud. Simply running Oracle on VMware is often enough to trigger an audit from LMS. Oracle has always been prickly about both support and licensing on virtual platforms: Its support policy states that, *“Oracle will only provide support for issues that either are known to occur on the native OS, or can be demonstrated not to be as a result of running on VMware.”*⁴

This complicates the support picture, but support is actually the easier part of this equation—licensing Oracle on VMware is even more problematic. **Figure 3** shows a comparison of various Oracle licenses and how each type compares to the others for numerous factors.

VMware is part of Oracle’s “soft partitioning” policy. This means that, per Oracle policy⁵ (defined as “for educational purposes only” and which “may not be

⁴ https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/whitepaper/solutions/oracle/understanding_oracle_certification_support_licensing_vmware_environments-white-paper.pdf

⁵ <http://www.oracle.com/us/corporate/pricing/partitioning-070609.pdf>

COMPARISONS

Level of Licensing	Manageability	Functionality	Cost	Risk
Galaxy Licensing	Easiest	✓✓✓✓	\$\$\$\$	Low
VMware Cluster	Easy	✓✓✓	\$\$\$	Low
ESXi Host / Sub-cluster	Hard	✓✓✓	\$\$	Medium
ESXi Processor / Socket	Hardest	✓	\$	High

Figure 3: A comparison of various Oracle licenses and related factors.

incorporated into a contract” in the document footnotes), you have to fully license your VMware hosts for Oracle, even if you aren’t running Oracle software on all of the hosts. LMS uses these policies to drive audits—and they are subject to change at any time.

Some of these general Oracle policies are used improperly by Oracle LMS as guiding principles in an audit but are in fact non-contractual. Make sure you have a license expert guide you through what is contractual—and what isn’t.

This has significant practical implications. For example, customers have to provide logs from VMware to indicate which physical host on which the customer's Oracle virtual machines (VMs) were running. These complications mean that companies that don't engage the services of an Oracle licensing specialist are at a disadvantage in the outcome of their audit, a disadvantage that can add up to millions of dollars of unnecessary costs.

If you have a four-node VMware ESX cluster with eight cores per node, and you're running Oracle on a one-vCPU VM, Oracle could require you to license all 32 cores in the ESX cluster. This is a contentious position and has been challenged legally by many customers. There are a couple of important factors to consider before deploying Oracle on VMware, including the use of VMware's Distributed Resource Scheduler (DRS) to move VMs around the cluster, considering the use of CPU affinity, and retention of VMware logs to support your case in the event of an audit.

Second-Class Citizens

Much like its virtualization terms, Oracle treats public cloud computing on AWS and Azure as second-class citizens when compared to its own cloud. If you're running Oracle on AWS or Azure and using non-hyperthreaded

VMs, you're required to purchase one Oracle license per vCPU.

Hyperthreaded VMs get a slight benefit with one Oracle license per two vCPUs; however, most estimates put hyperthreading at a 20%-30% improvement. In most cases, therefore, you're paying double compared to your costs for on-premises servers.

Much like the story around VMWare, this cloud policy is not contractual and can change overnight without warning. Oracle issued this policy in January 2017 without alerting customers.



Oracle treats public cloud computing on AWS and Azure as second-class citizens when compared to its own cloud.

The issue with cloud platforms is that most of the VM types that deliver high amounts of RAM and storage performance (I/O operations per second, or IOPs) are running on multiple-core machines, so moving to AWS or Azure can effectively double your licensing requirements.

There is also a risk in other hosted environments that you don't directly manage. If your hosting provider moves your VM into a larger host machine than you'd originally agreed to, you the customer are liable for the licensing—not the hosting provider.

Beware the 'Optional Features'

Most organizations are forthright in their licensing—they want to license all the servers that they need to become compliant. The fear and concern around Oracle audits is largely driven by Oracle's implementation of optional features in its software.

Oracle implements many features—compression, table partitioning, and encryption, among many others—in the database as options to Enterprise Edition, as well as Management Packs, which are licensed separately from the database.

Depending on the version of Oracle, many of these options and features are enabled automatically—without informing the user. In the event of an audit, Oracle will charge the customer not just for the cost for support and licensing the option, but also potential penalty charges, even if the features in question aren't being used within the database.

The Diagnostic and Tuning packs are also licensed separately from the database. This poses a two-fold problem: If DBAs are configuring Oracle Enterprise Manager Database Control or Cloud Control to manage their environments, it can be easy to accidentally enable features that rely on these management packs.



Oracle implements many features—compression, table partitioning, and encryption, among many others—in the database as options to Enterprise Edition, as well as Management Packs, which are licensed separately from the database.

These management packs cost \$12,500 per processor license, so the cost of years of support plus the base pricing is not inconsequential. In Oracle 10g, for instance, Enterprise Manager (EM) switched from using the legacy STATSPACK utility data (a free utility shipped with Oracle) to using Automatic Workload Repository (AWR) data. Oracle didn't publicize this well, but it will not absolve customers from following the rules. Thus, you need to be aware of the steps you need to take to remove links in EM that could trigger a license event.

(Quick Tip: You can set the startup parameter `CONTROL_MANAGEMENT_PACK_ACCESS` to `NONE` to prevent this accidental use of the management packs.)

To add to the confusion, Oracle does allow an exception for the repository database if you're using Cloud Control. Here's what the company says:

*“A separate single instance Oracle Database can be installed and used as an infrastructure repository for RMAN, Oracle Enterprise Manager Cloud Control, Automatic Workload Repository (AWR) Warehouse, Global Data Services Catalog, Sharding Catalog, and Grid Infrastructure Management Repository without additional license requirements, provided that all the targets are correctly licensed. It may not be used or deployed for other uses.”*⁶

And there's more! Querying some—but not all—of the views associated with AWR triggers the `dba_feature_usage_statistics` view, which is used by Oracle to determine the features in use at audit time. If you aren't licensed for these features, you'll want to ensure that the startup parameter is part of your build standard for your Oracle servers, to prevent their accidental use.

⁶ <https://docs.oracle.com/database/121/DBLIC/editions.htm#DBLIC-GUID-B6113390-9586-46D7-9008-DCC9EDA45AB4>

You should also consider other features that carry costs like spatial data and table partitioning and evaluate your needs. In most cases, you'd be well served to disable or uninstall these features that can be accidentally turned on by an unknowing administrator or third-party vendor script.

CHAPTER 3

The Dreaded Audit

If your organization uses Oracle's software, it is just a matter of time before it will try to audit you. Too often, customers get audited after not wanting increase their spend with Oracle, even when they were fully licensed.

When audited, you have the burden of proof to show that you're in compliance with your Oracle agreement. It's important to know two things at this point. First: What Oracle's going to find in your environment. Second: Proof (via system logs) of what Oracle software you're running in your environment at all times, and how you're running it.

The 7 Oracle Audit Triggers

There are seven factors that LicenseFortress has identified as triggers for Oracle audits:

1. **Oracle running on VMware.** Because of the confusing terms around the partitioning policy, Oracle LMS frequently targets customers running on VMware. Because of DRS and vSphere's predictive scheduling,

Oracle frequently targets Oracle VMs running on unlicensed hosts.

- 2. Dismissal of Oracle sales recommendations.** As mentioned earlier, not increasing your spend, or purchasing a competitive product, can lead to your sales representative referring you for an audit.
- 3. Merger and acquisition, or high growth.** Oracle does pay attention to financial news, so if your organization is rapidly growing or buys another firm, Oracle automatically assumes that you need more Oracle licenses in your organization. If you hear a statement to the effect of, “We’d expect a company of your size to own more Oracle licenses,” you could be headed for an audit.
- 4. Customer hardware refresh cycle.** Oracle knows that when you refresh your hardware, there’s a high likelihood that you’re increasing your core count. It’s important to understand your core factor when moving from one platform to another. You should keep this in mind, for example, if you move from a legacy Unix platform to an x86-based Linux model.
- 5. Customer under a ULA.** As you get close to the end of the ULA, Oracle will frequently audit you to ensure your feature usage is aligned with your ULA. Any features that aren’t covered by the ULA will be subject

to licenses and penalties. This tends to happen more when customers are certifying the products in their ULA as opposed to when they renew the ULA.

- 6. Displacing an Oracle product.** If you've removed a major Oracle product from your environment during the last two years, frequently this will trigger a retaliatory audit, even though you're likely using less Oracle software.
- 7. Being an Oracle customer.** Much like jury duty, everyone who signs an agreement with Oracle will likely eventually be the subject of an audit. Obviously, if you have one server running Oracle, the requirements of this are trivial, but Oracle is seeking to regain revenue, so this is a constant process.

Understanding these audit triggers can help you better understand your audit risk and prepare you and your organization for the process. Given the short time frames involved with an audit, it's important to always be prepared.

The Oracle Audit Process: Don't Bring a Knife to a Gunfight

Oracle has to give you 45 days notice of an audit, and this request will come from either Oracle LMS itself, an Oracle Account Manager, or an Oracle partner. It's

important to engage either your internal legal team or your outside counsel at this time and have them review any documents before they're sent to Oracle.

Feeling 'Extorted'

““I felt like we were being extorted into buying a nonrelated [cloud] product to make the audit go away,” the customer told us.”



According to the article, from a “Business Insider” story by Julie Bort,¹ an Oracle rep offered to make the audit disappear if the company bought additional products from Oracle, like:

- A new Oracle database license that was four times more expensive
- Oracle Virtualization, a replacement for VMware
- Expensive specialized servers to run its Oracle database
- Cloud services for products that had nothing to do with the database, such as software hosting services

¹ <https://www.businessinsider.com/oracle-customer-explains-audit-threats-2015-9>

This is also a great time to talk to an Oracle licensing expert, to ensure you're getting the best advice on handling this traumatic event.

You should also minimize communications with Oracle outside of your audit point of contact—this may be challenging to implement in a larger organization, so ensure that you have executive support in order to lock down. Potential sales opportunities may be used as leverage on your side in an audit negotiation.



Your Oracle License and Services Agreement is the key document for your audit.

It's also important to self-audit and stay up-to-date on your Oracle utilization. In the case of large customers, using enterprise software asset management tools may give you a partial picture of what software you're running, but you need to get into your Oracle systems to understand what features and packs are installed on your systems. If you don't have a software asset management tool, you should consider purchasing a tool like LicenseFortress Discovery to help you inventory what you have.

Your Oracle License and Services Agreement is the key document for your audit. It serves as your contract with Oracle and is based on the Oracle Master Agreement. Oracle's contracts do reference some of its policy documents, but they don't reference the partitioning document, which affects the virtualization rights of the software.⁷

Even though Oracle's policy around licensing Oracle on the VMWare platform isn't stated in the Oracle Master Agreement, LMS typically insists on the interpretation as stated in the partitioning guidance, potentially upon pain of removing a customer's licenses or suing the customer for the additional cores in the VMware cluster that weren't licensed for Oracle.

Licensing Services

The complexity of Oracle licensing and the money involved has created a cottage industry of consultancies providing services in the license and audit management space. Many of these organizations are led by former Oracle employees. And, while these ex-employees may be well versed in audits, their opinions on audit defense are too closely aligned with that of Oracle LMS.

⁷ <https://scottandscottllp.com/how-to-contend-with-oracles-many-licensing-policies/>

Frequently, they also lack deep technical depth on services like VMware or cloud computing. That means they may not suggest solutions such as instance consolidation or re-platforming, which can help reduce costs without sacrificing the performance of your applications.

Software Asset Management Tools

There are many software asset management (SAM) tools aimed at the enterprise market. In my experience at large enterprises, there are frequently multiple SAMs deployed within the organization. As SAMs relate to Oracle, there are two primary factors to consider:

1. Data quality
2. Interaction with Oracle, VMware, and other cloud systems

Data quality is a challenge, especially in a very large organization with multiple data centers, multiple branches, and potential multiple tools. Getting all of that data aligned, not missing any segments of your network, and ensuring that you've captured everything is important to get the value out of these SAM tools.

Additionally, you need a SAM tool that interacts with both Oracle and VMware—and preferably together, so you have a record of your VMs running Oracle and what

features you have in use in your Oracle environment. If you're in a cloud environment like Azure or AWS, it's also important to have a tool that's cloud-aware and can accurately track your utilization in those environments.

CHAPTER 4

The LicenseFortress Advantage

Wouldn't it be great to have someone on your side, a partner to help you maintain license compliance and take the hurt out of audits? Well, LicenseFortress offers a comprehensive set of solutions that both prepare you for, and protect you during, an audit. LicenseFortress does real-time license compliance monitoring and alerting of your Oracle environment. When an Oracle feature is turned on you didn't pay for, you get notified immediately.

The LicenseFortress Discovery tool, for example, can generate your OSW, which helps you gain a better understanding of what you're submitting to Oracle, lightening your audit burden. See **Figure 4**.

LicenseFortress works with many customers in the space and identifies common areas where Oracle unfairly pressures customers into believing they have a higher degree of license liability than the customer actually has. Having a trusted advisor who can review your environment and help you classify any audit risks



Figure 4: The LicenseFortress discovery tool UI.

you have—and isolate where you need to address those issues—is huge. Having this expertise can be the difference between spending thousands of dollars versus millions of dollars after your audit.

LicenseFortress offers Oracle-specific license management software that analyzes your architecture and shows how Oracle is used in your environment. This can help highlight opportunities for license reduction via consolidation, and help you identify scenarios for high availability and disaster recovery.

You'll also receive a high-level report comparing the licenses in your Oracle License and Service Agreement

with what you currently have running in your environment, which will highlight any license issues and your compliance status. LicenseFortress software even performs cross-verification, ensuring the data quality of your compliance report.

Audit Defense

When the sweaty-palm day comes, and you receive the notice for an audit, consider engaging LicenseFortress' full-service offering. LicenseFortress will respond to all audit correspondence on your behalf, including which data should—and *should not*—be provided to Oracle.

LicenseFortress Service Offerings

LicenseFortress offers a number of services that can help your organization mitigate its Oracle licensing risks. They have considerable experience working with Oracle and VMware, along with a significant technical understanding of the space. But it's not just the tech—they also have a deep knowledge of the key business needs around licensing.

Licensing Health Check

As you should understand by now, Oracle audits are a fact of life for anyone using Oracle software. Because of that, LicenseFortress offers a detailed review of your

environment, which will verify your compliance with your Oracle agreement, assess opportunities for license reduction, and reduce the financial risk of an audit to your organization. This service also includes a review of your high availability and disaster recovery needs, and how this aligns with your licenses.

Licensing Optimization

Oracle licensing is intentionally quite confusing, and it can be very easy to spend way more than needed to meet your Oracle requirements. One of the largest items on most IT organizations' budgets is the Oracle support agreement, which is 22 percent of the license cost. Keep this fact in mind: *Oracle earns more from support and maintenance than it does in new license sales.* If you own more licenses than you're using, you're paying too much in support.



It's not always clear whether your organization is better served by using named user plus or processor-based licensing; LicenseFortress can help you analyze your options and choose the right licenses.

It's also important to choose the right license type for your environment. It's not always clear whether your

organization is better served by using named user plus or processor-based licensing; LicenseFortress can help you analyze your options and choose the right licenses.

This service includes real-time license monitoring, which can highlight license usage with on-demand reporting. There's also alerting around expiring licenses, which will prevent you from having to repurchase expiring licenses. If you miss your support renewal with Oracle, in order to regain support, you have to pay a fee of a 150% of last year's support cost, in addition the cost of your current year's support.

ULA Services

Oracle ULAs are very expensive to begin with; on top of that, Oracle's contract language is drafted in its favor, increasing the expense. Additionally, Oracle frequently includes LMS as part of the ULA certification process, because even though the ULA is an "all you can eat" option, it only includes the features that are in the agreement.

Because Oracle ULAs are signed for a multi-year period, many organizations don't address the software until six months before agreement expiration. This leaves them limited time to address licensing issues with architectural changes. In addition to audit preparation, LicenseFortress can help you understand if it's in your

organizations' interest to purchase a ULA and can help you define a ULA exit strategy.

LicenseFortress Software

The LicenseFortress Discovery software (Figure 4) will help you maintain constant compliance with built-in alerting, so you'll be notified in the event of changes in licensing or feature use. This connectivity also investigates your Oracle environments and can identify anything that would bring you out of compliance.

The software provides quarterly reports that detail your environment's compliance and highlights any license expirations. It's purpose-built for virtual and cloud infrastructure and provides a customer portal where you can review your entire environment in a single view.



How confident is LicenseFortress in its product? Consider that it stands behind its offerings with a guarantee. If the company's recommended software deployment is found non-compliant in court proceedings, LicenseFortress will pay for any additional licenses that would be required for your environment.

The Advantages of a Trusted Partner

Oracle is one of the biggest line items in any IT organization's budget; and as you've seen, the company is very aggressive with its use of software audits to increase revenue. There are a lot of areas of vulnerability for Oracle to audit, both in terms of optional features that can be turned on unintentionally, and its extremely complex view of VMware-based operations.

Because these are critical applications in your business, it's important to ensure compliance with Oracle's licensing terms, and be prepared for an audit. Having the right tools in place like LicenseFortress' software and services can reduce the stress of this process and leave you in a position to save potentially millions of dollars of unnecessary spend.

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It all adds up to a company you can trust, and a partner who will be in your corner when Oracle goes on the attack with an audit. Isn't it worth your peace of mind to have LicenseFortress on your side when Oracle comes calling?