Best Practices for Oracle License Management:

Optimize Usage and Minimize Audit Liability

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Best Practices for Oracle License Management

Every Oracle® customer shares a common challenge: how to avoid over- or under-licensing. In a recent survey, 53 percent of enterprises indicated that a portion of software license spend is associated with applications that are overused and therefore out of compliance.[1] At the same time, a large percentage of organizations also overspend – owning Oracle licenses that are not used or not deployed for maximum benefit.

For example, an international energy company conducted an internal assessment of Oracle license usage and identified 25 percent more database CPU's than they thought had been deployed – which was a costly liability. In another case, a large global consumer packaged goods manufacturer saved over $30 million USD in licensing costs, including $7 million on Oracle software, by analyzing the actual installation and usage of databases and database options.

These companies reduced audit liability and achieved cost savings by proactively managing their Oracle licensing processes. They integrated asset management practices and deployed tracking software to deliver value throughout the software lifecycle management process – from negotiating favorable pricing to optimizing usage, saving on unnecessary expenditures and avoiding unforeseen costs from Oracle audits.

With Oracle audits on the rise, organizations that can best align license agreements with actual database and option usage can reduce their financial risk and maximize the value of their Oracle investments. The goal is to "right-size" Oracle across the enterprise and gain control over the entire license management process – from accurate needs projections and licensing negotiations, to deployments and audit preparation.
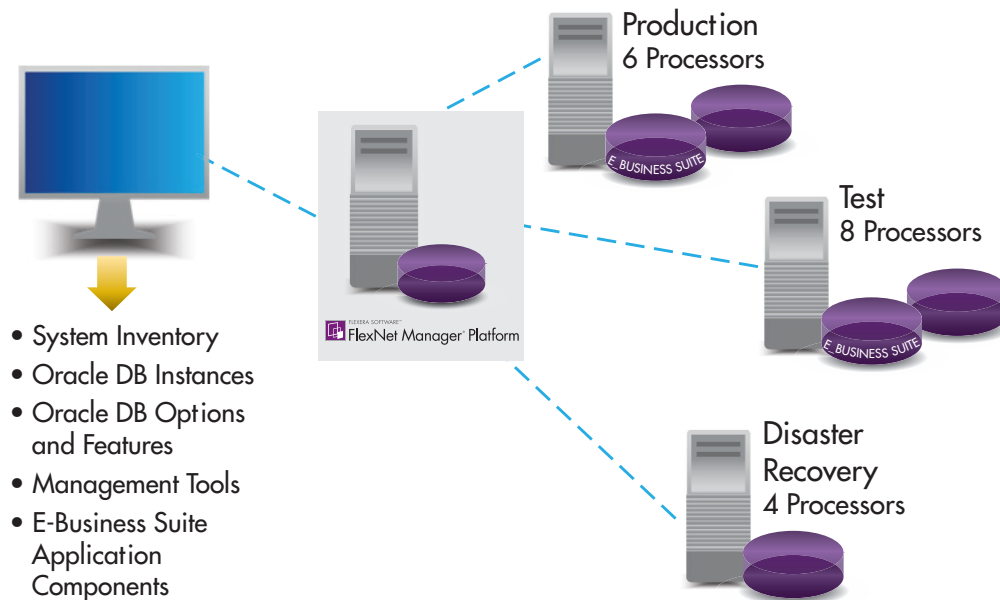
Oracle Licensing and Compliance Rules Create License Management Complexity

Any Oracle licensing strategy is a complex calculation based on current and projected usage. It's not enough to count database server CPUs, the number of users, or even installations. While these metrics are important, especially for processor-core based agreements, Oracle requires detailed accounts of what is being used – which includes editions, versions, and any options and management packs. The burden is on the organization to keep licenses aligned with actual usage.

Actual usage can often vary dramatically from the projections used when entering into an Oracle contract – particularly for growing companies. Oracle provides assistance in making usage calculations, including scripts for tracking software usage. However, the onus is on the company to maintain license compliance, and many organizations simply do not have the processes or infrastructure in place to meet the reporting requirements of Oracle contracts – so they are at high-risk of expensive over-utilization adjustments in the event of an Oracle license assessment or audit.

While usage tracking is central to managing audit risk, tracking can also address under-utilization – finding Oracle licenses that could be redeployed for maximum usage. This frequently happens when organizations buy and install large quantities of Oracle database Options, but never actually deploy these Options. The process to determine Option utilization is much more complex than simply confirming installations. The process requires detailed analysis of each individual database Option through SQL queries and applying the appropriate business rules.

1. 2010 Key Trends in Software Pricing and Licensing Survey

- System Inventory
- Oracle DB Instances
- Oracle DB Options and Features
- Management Tools
- E-Business Suite Application Components

Five Reasons Your Oracle Licensing Requirements May Evolve

Even in well-managed and predictable environments, Oracle software licensing can quickly become out of balance. Something as simple as changing the server configuration can increase license costs because Oracle licenses are, in many cases, based on the number of processor cores in the physical servers.

During the term of an Oracle licensing agreement, many factors can lead to over- or under-licensing:

1. **Emerging Technologies.** The complex task of usage tracking has become increasingly complicated with virtualization, multiplexing, and cloud computing, which can expand access for a larger number of users – internal and external – and drive up installations and use of Oracle databases and options. Changes in the hardware environment can also throw organizations into non-compliance, such as adding additional servers and/or processors. For example, if a license has a minimum requirement of users per CPU (processor-core), and a hardware refresh adds to the number of CPUs, then minimum requirements may no longer be met.

2. **Business Requirements.** Many business improvement processes impact usage of Oracle databases. For example, the expanded use of a front-end application that requires an Oracle database under the hood may increase license requirements. Also, where decision-making is being empowered at lower levels within an organization, the need to expand or build reporting capability can mean more processing power, and more processor-cores, driving up Oracle licensing requirements.

3. **Vendor Consolidation.** Architectural simplification or consolidation of vendors, including relational database vendors, can change licensing requirements. Oracle may even offer "replacement" incentives to move Sybase, Informix, or SQL Server customers to their platform. These incentives can save money, both operationally and with Oracle, but they also change the license need.

4. **Technical Needs.** As companies become more proactive in managing their Oracle estate, they may expand their use of Management Packs. For example, they may implement Tuning and Diagnostics Packs to pinpoint technical problems or improve efficiencies. These Packs are additions to the Oracle infrastructure, and the licensing requirement is not only for the machines where these Options are installed, but also on any database they are used to manage remotely – something a simple inventory scan cannot detect.

5. **Organizational Changes.** Software and licensing needs can evolve in response to acquisitions, mergers and divestitures, reorganizations, and changing chargeback issues. Whether these organizational changes require system integration, consolidation, or expansion, they often lead to changes in the Oracle infrastructure.

ORACLE LICENSE COMPLEXITY

Types of Oracle Licenses:

Oracle database license metrics have changed many times over the past 10 years, but currently are licensed on a named user or per processor basis. Each has its advantages, and requires compliance to be verified based on different metrics.

Processor based license (CPU) Processor licensing is based on server processor-core counts where Oracle programs are installed. Even if the programs aren't running, the processors need to be counted. Processor licenses are easier to track and maintain than user licenses, and are more cost effective when the user count is high. The processor based license metric must also be used when the user count is not available, such as externally facing Internet applications where the user population is unknown.

Oracle defines the processor-core count based on a core factor table. The number of physical cores is multiplied by the core factor for the given processor vendor and model in the server to determine the number of licenses required. In some cases, even the speed of the processor (or processor model number) is required to determine the correct core factor value.

Named User Plus license (NUP) Named users are not just human users, but include devices accessing an Oracle program, such as a stock market tracker that is updating a database. Each user must have their own NUP license, but that user may then access multiple Oracle database systems. The NUP model is based on users or devices that connect either directly or indirectly to the database. This type of license does not accommodate sharing or concurrent usage.

To complicate matters, for the Enterprise Edition of the database, there is a NUP minimum per processor-core of 25. This means that you must have at least 25 user licenses for each processor-core on the server where the database is installed. And different User Minimums apply to other editions of the database.

Continued

Five Best Practices for Oracle License Management

Best practices for Oracle license management encompass administrative, reporting, and operational practices that allow for proactively managing the entire Oracle software estate. The goal is developing and maintaining a "right-size" solution across the entire estate – while empowering departments or business units to proactively manage their Oracle licenses.

1. **Define Oracle software "needs" and negotiate better terms** – Best practices begin by shifting the central question from "what software do we own?" or "what are we using?" to "what do we need?"

   Companies that can define their software needs over a two or three year period – and anticipate changes to hardware and deployment models – will be in a strong position to negotiate pricing and terms, optimize investment over the life of the contract, and increase productivity by fully utilizing each license.

   For example, if the organization expects significant growth in Oracle usage, an Unlimited License Agreement (ULA) may provide the greatest cost-benefit over a two or three year period.

   Tracking current installations and usage is a valuable starting point in determining need. Most Oracle customers have a mixture of single server, multi-server, concurrent user, CPU, Universal Power Unit (UPU), and Named User licensing – some of which are no longer offered. This mix of agreements can often be simplified or restructured to better match licensing options in current Oracle pricing structures.

   It's also helpful to keep in mind that Oracle may change its agreement structures. If the past is any indication, organizations can expect Oracle to change their licensing metrics every three years or so, which can present opportunities for beneficial licensing changes, if you have the facts regarding usage in hand before making changes.

2. **Empower proactive management with centralized controls** – The most effective license compliance strategies are based on a centralized IT management structure actively managing assets to know the location, configuration, and usage history of every software application. This can provide procurement the detailed and accurate information it needs to negotiate flexible, cost-effective contracts, and form the basis for cost-reduction projects such as platform standardization, volume bundling, securing longer-term agreements, and vendor or hardware consolidation.

Companies with a decentralized IT Asset Management (ITAM) structure task various departments or business units with defining software needs, negotiating agreements, and maintaining compliance. But a decentralized system can create a disconnect between procurement, IT, and end users, making it is easy to violate contract terms and/or over spend on licenses and maintenance. For example, it is commonplace for systems to be installed without understanding the licensing implications, which can trigger additional license requirements and re-pricing of support fees for a specified license set – calculated at 22 percent of net license fees. Conversely, decommissioned licenses can significantly reduce support costs if contracts are negotiated with this in mind up-front, or they can be used to offset additional demand for that license in the future.

In addition, decentralization reduces the incentives to negotiate best pricing for usage across the enterprise and discourages redeployment or reallocation of underutilized licenses. Gartner estimates that as much as 20 percent of software licensing and hardware maintenance charges are incurred for assets that are no longer in use.[2] Having the information available to retire, redeploy, or reallocate assets across an organization can result in significant cost savings. Companies can enable sharing of licenses between groups and better allocate software costs through charge-back accounting.

3. **Use automation for real-time tracking and actionable intelligence**
   – To meet compliance requirements, Oracle customers need to track and verify usage and compare this to entitlements in the Oracle license agreement. This is best accomplished by automated processes for discovery, usage analysis, compliance, and cost reduction throughout the licensing period – not just in response to an audit. Software-based discovery, inventory and usage tracking solutions verified by Oracle can accurately map software usage to company specific contracts and entitlements. Some of these software solutions integrate Oracle internal audit scripts and can manage the complexity of any licensing agreement, including number of users, CPUs, mixed support, software editions, and installed options and management packs, such as the Tuning and Diagnostics Pack. Because database options can easily double or triple the cost of a single database, being able to track and manage database option usage provides the opportunity to greatly reduce the cost of the database/option package.
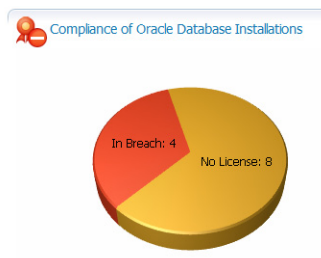
   Automation also enables companies to identify and correct non-compliance issues. Even ULAs can be subject to non-compliance based on geographic parameters, options installed, and other factors.

General
- Oracle Database Installations
- Oracle Database Instances
- Oracle Inventory
- Oracle Components
- Oracle Server Worksheet

Problems
- Unlicensed Oracle Instances
- Oracle License Breaches
- Oracle Licenses Where User Minimums Have Not Been Met

Compliance of Oracle Database Installations

In Breach: 4
No License: 8

Unlimited License Agreement (ULA) A time-based (usually 2 to 3 year) license for "unlimited" use of a subset of Oracle technology or applications. Price is based on known and expected growth. At the end of the term, there are no license or support adjustment costs, but customers must count and declare usage to Oracle.

Terms of Oracle Licenses:
Under a licensing agreement, the term of each license can be specified. A specific period of time can be defined, such as 2 years or 3 years, or the term can be perpetual. Perpetual is less costly over the long-term, but if the organization has a short-term need for a license, then a limited term may be more beneficial. For example, if an organization requires licenses for contract employees for a two-year period – term licensing is the better choice. However, if those licenses may have use beyond the two-year term, a perpetual license could be more effective to cut down on the overall licensing costs.

License Management Processes Often Exclude Oracle
Oracle customers use a variety of systems to manage software licenses – from resource-intensive, manual, spreadsheet-based processes to using advanced software to monitor installations and other key metrics. Manual audits often lack the level of detail required by Oracle, and manual processes can vary within an enterprise – different methodologies for different departments. Also, spreadsheet-based systems can't maintain accuracy in dynamic IT environments, particularly in a virtualized environment, and often don't account for under-utilized assets. Unless an enterprise has tools that can collect usage data across all network topologies – including highly secured areas – and accurately track usage against Oracle's licensing metrics, the system will be insufficient to mitigate audit risk and minimize costs.

Monitoring Oracle software installations and usage across the enterprise provides actionable intelligence that can inform a range of management decisions, including IT budgeting and resource allocation. For example, with real-time centralized reporting of databases, database options, and e-business suite installation and usage across the enterprise, organizations can quickly identify efficiencies that may defer additional expenditures.

This was the case for a large telephone and mobile telecommunications company, which deployed a software solution to determine their current Oracle Database and Option compliance position and discovered they had over-licensed their core Oracle Database Enterprise Edition software by approximately $1.4 million USD.

4. **Manage Oracle licensing in complex environments: virtualization, multiplexing, and cloud computing** – The increasing use of virtualization technologies, front-end user multiplexing, and cloud computing have changed the license management landscape – creating additional challenges for organizations tracking users, CPUs, or other metrics for Oracle compliance. For example, in a virtualized environment, a single physical machine can host 5, 10, or 20 virtual machines and multiple virtual machines can potentially handle 1,000's of users.
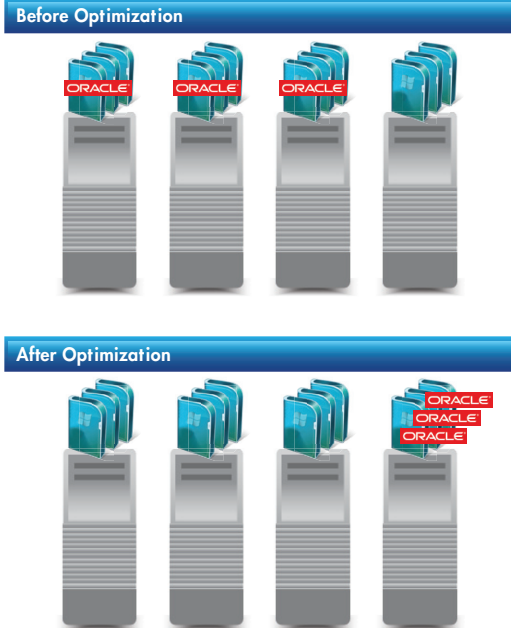
At the end of 2009, Gartner reported that 18 percent of all server workloads were running on virtualized servers,[3] and the research indicates that by 2012 half of all workloads will be virtualized.

In these environments, both CPU and NUP licenses have merits. Generally, CPU licenses are easier to track and manage, and are more cost effective when the user count is high. The processor based license metric must also be used when the user count is not available, such as externally facing Internet applications where the user population is unknown. Enterprise NUP licenses are more cost effective when organizations want to cover a large percentage of their user population (usually approaching 100 percent), and these users use multiple databases for multiple applications on multiple servers. Or NUP may be preferred when user counts are low, which is often the case in testing, development, Q&A, and staging deployments.

When using Oracle in a virtualized environment, companies must be able to collect inventory of virtual machines and correlate these machines to a physical host. In addition, it's critical to ascertain the type and number of processor-cores in the physical host to determine license compliance for the virtual machines running Oracle. Each virtual machine has the same number of cores as the full physical server, from an Oracle licensing perspective.

3. Gartner: Server virtualization now at 18% of server workload - Ellen Messmer, Network World, October 20, 2009

An accurate inventory can enable companies to consolidate Oracle databases to a minimum number of physical hosts and save money. For example: as the diagram illustrates, if there are four ESX servers each with three virtual machines, but only three (total) virtual machines are running Oracle, by moving the three virtual machines running Oracle onto one ESX host, Oracle processor-core based license costs would be significantly reduced (assuming Oracle processor count on the one physical machine is much less than processor count of the three original physical servers).

Before Optimization

After Optimization

5. **Know when to use Unlimited License Agreements** – For companies considering ULAs, license management automation is almost essential. Despite their name, a ULA is not unlimited. A ULA can define a specified set of products, options, management packs, and geographic parameters – and with seven different Oracle Enterprise Management Packs and 11 Oracle Database Options, there are many possible ULA configurations. Non-compliance costs include fines and backdated support revenue claims from Oracle.

By one recent report, the majority of ULAs have not ended up being in the customers favor. This is in part due to the economy over the past couple of years, which reduced projected usage. But a more systemic factor is that companies enter into these agreements without a careful analysis of their actual product, option, and usage needs. The ULA can seem like a way around the complexity of licensing and compliance uncertainty, but the management requirements are as challenging as non-ULA contracts. Any organization with a ULA must be in compliance with the terms of the agreement at all times – and

automated processes are the only way to achieving the level of real-time accuracy required.

Proactive license management not only ensures contract compliance, it delivers maximized benefits during the term of the ULA. For example, from the midpoint to the end of the ULA, usage data can indicate underutilization – which may lead to adjustments in deployment or enable managers to better plan for the next licensing period.

Despite these caveats, if a company can determine the value of a ULA based on projected needs, **this license can provide a substantial cost savings, particularly for companies that expect high growth in Oracle usage over the term of the agreement.** An automated software asset management solution can also help companies quantify these savings and provide an accurate ROI for the original ULA investment at the end of the term.

**An optimized license management solution that meets Oracle reporting requirements**
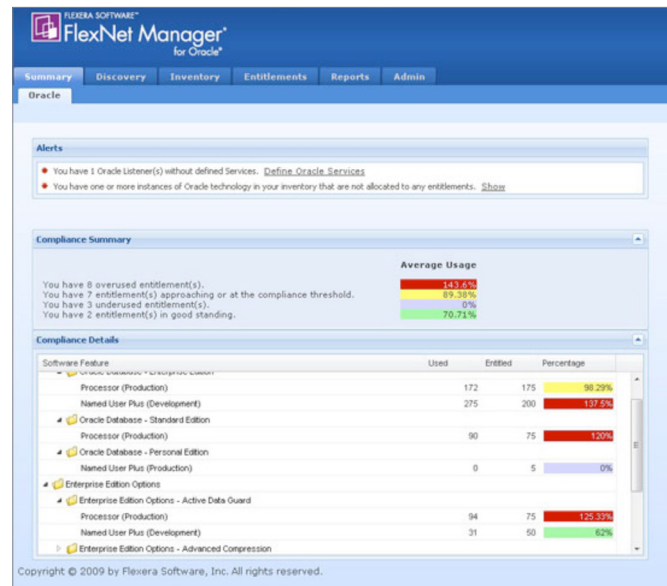
As companies evaluate options for independent enterprise license optimization solutions to manage their Oracle estate, they should consider only those verified by Oracle, such as **FlexNet® Manager Platform, part of the FlexNet Manager Suite for Enterprises**. The Flexera Software Oracle discovery, inventory and license management capability in FlexNet Manager Platform has been verified by Oracle License Management Services (LMS) as being "detailed and accurate." Oracle **database and options** deployment and usage reports provided by the Platform will be accepted by Oracle LMS, and customers no longer need to rely solely on Oracle scripts to provide the data for a license audit.

In addition to these industry leading Oracle optimization capabilities, FlexNet Manager Platform supports a central governance framework and chargeback mechanisms. The Platform also provides asset discovery, asset inventory, and application recognition for over 100,000 applications from more than 11,000 publishers. The platform offers robust contract management and an executive dashboard that provides visibility and software license optimization insights across the entire software estate.

Reports provided by FlexNet Manager clarify actual licensing needs, support fact-based contract negotiations, avoid the excess costs of over-licensing and help organizations make informed decisions regarding maintenance renewals.

Conclusion

The risk of an Oracle audit – and the unanticipated and high costs that can result from non-compliance – compel

The FlexNet Manager Platform dashboard presents Alerts, Compliance Summary and Compliance Details, all designed to provide actionable information for Oracle license management, and compliance resolution, including: Overused entitlements; Entitlements approaching compliance threshold; Under-used entitlements; and Entitlements in good standing.

many organizations to seek more effective software management processes, but the ability to also discover under-utilized assets is equally compelling.

Through centralization, automation, and proactive management, companies will be in an excellent position to optimize their Oracle estate. They can regain control of the licensing processes, be in a strong position to define licensing needs, and secure the most cost-effective agreements with Oracle.

About Flexera Software

Flexera Software is the leading provider of strategic solutions for Application Usage Management; solutions delivering continuous compliance, optimized usage and maximized value to application producers and their customers. Flexera Software is trusted by more than 80,000 customers that depend on our comprehensive solutions-from installation and licensing, entitlement and compliance management to application readiness and enterprise license optimization – to strategically manage application usage and achieve breakthrough results realized only through the systems-level approach we provide. Flexera Software is a privately-held company and an investment of private equity firm Thoma Bravo, LLC. For more information, please go to: www.flexerasoftware.com

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