

# Optimized License Management for the Datacenter



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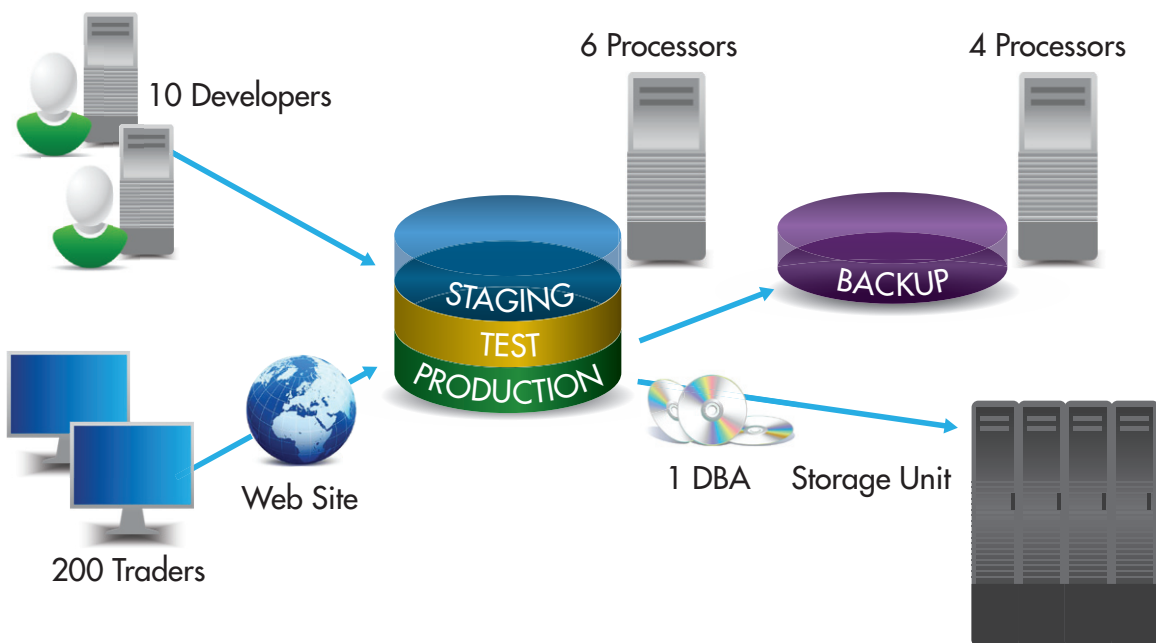
## Introduction

Optimized license management is a necessity for all licenses owned by the enterprise. While organizations are starting to understand their license position for the desktop estate, the reality is that licensing in the datacenter presents a daunting set of challenges that require a robust, automated license management solution. Compounding this, it is difficult to take the same set of processes, technologies, and remediation techniques used to manage desktop licenses and apply them to datacenter license management. Organizations need a solution to address the unique license management requirements of all enterprise IT environments including the desktop and the datacenter.

Applications in the datacenter are strategic and run the business, but they are also expensive. Optimizing

license and maintenance spend in the datacenter typically represents the greatest potential cost-savings in the software portfolio. Decreasing ongoing costs of multi-million dollar applications in the datacenter is a fundamental component of overall IT spend reduction. As organizations continue datacenter consolidation through virtualization, license optimization in the datacenter becomes even more critical to reduce the associated risk of software license noncompliance – and more difficult without an automated solution. Datacenter license management challenges include:

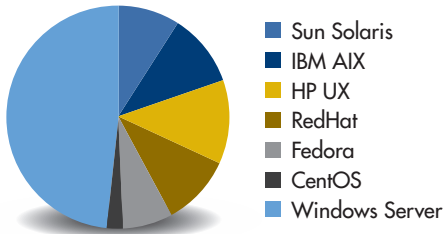
- Heterogeneous / Multi-platform environments
- Complex License Models
- Virtualization
- License Entitlements: Product Use Rights



### Heterogeneous / Multi-platform Environment

In most companies, the datacenter and server infrastructure represent the most diverse computing environment in the company. Companies typically have multiple flavors of Linux, UNIX and Windows in the estate. Effective license management within this heterogeneous environment requires a robust multi-platform solution.

Typical DataCenter Platform Diversity



The license optimization solution should also leverage existing IT investments by integrating with common inventory tools used in the datacenter, such as BMC/Tideway, IBM Tivoli, CA, etc. Another advantage of this approach is that yet another agent doesn't need to be deployed. Once the hardware and software inventory data is collected, it must be processed and normalized to quickly identify and categorize server-based applications, including publisher, title, version and edition.

### Agent and Agentless Inventory

For organizations that do not have a standard inventory solution for the server estate the datacenter license management solution should provide a multi-platform agent-less and agent-based inventory capability. Particularly for datacenter server environments, an agentless inventory capability is often required for server performance and security reasons—an agent is not allowed to be installed on many of these systems. As shown in the pie chart above, the typical datacenter has a mix UNIX, Linux and Windows operating systems that may include: Sun Solaris, HP UX, IBM AIX, RedHat Linux, CentOS, SuSE Linux, Fedora, Windows Server, and other OS platforms.

In some cases, specialized multi-platform, agent-less discovery and inventory tools are needed. This is true

for Oracle and Microsoft SQL Server database software, for example. These applications require the collection of important option, component, version, and edition information not available in most standard inventory tools.

### Virtual Machine Discovery & Inventory

With the growing deployment of server virtualization technologies from vendors such as VMware (ESX/vSphere) and Microsoft (Hyper-V), organizations must also collect inventory for virtual machines across the network. In these environments, it's necessary to not only bring back inventory of software on each virtual machine, but also identify the relationship between virtual machines and physical host servers. The hardware details— number and type of processors and cores, memory size, etc., are important, as is the allocation of hardware resources to virtual machines. This data is often required to perform license management in virtual environments, particularly where the license model is based on server and/or processor characteristics. Examples of vendors that use processor based licensing for enterprise server software abound: IBM, Oracle, and Symantec, to name just a few.

### Complex License Models

License metrics in the datacenter are becoming increasingly complex. More publishers are moving to capacity-based licensing models which make it difficult to calculate an accurate license position without automation. Organizations must be able to determine how many licenses are consumed based on the license models in effect and the capacity characteristics of installed machines (e.g. processors, cores, and memory). As a simple example, the organization must calculate processor-based license consumption based on the number of processors in each (physical or virtual) server to determine whether the appropriate number of licenses have been purchased and allocated in the most optimal way.

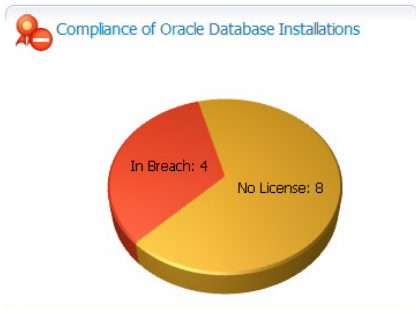
Some examples of datacenter/server license models include:

- **IBM Processor Value Unit (PVU)** – license position is calculated based on cores, sockets, and processor type. IBM provides PVU tables that define the number of points assigned to each type of processor (*as well as based on the other parameters, as shown in the example chart below*), and publishes PVU license rules.

Processor Type	Computer Model No	Points	Min Sockets	Max Sockets	Min Cores per	Max Cores per	Max Cores	Max Proces...
IBM POWER7	(770 780 795)	120	5	Any Number	4	8	Any Number	Any Number
IBM POWER7	(750 755)	100	Any Number	4	6	8	Any Number	Any Number
IBM POWER7	(P570 012 ]71...	70	Any Number	2	4	8	Any Number	Any Number
IBM POWER6	(550 560 570 ...	120	Any Number	Any Number	2	2	Any Number	Any Number
IBM POWER6	(520 J512 J52...	80	Any Number	Any Number	2	2	Any Number	Any Number
IBM (POWER5 P...	*	100	Any Number	Any Number	2	2	Any Number	Any Number
IBM POWER5 QCM	*	50	Any Number	Any Number	4	4	Any Number	Any Number
IBM z196	*	120	Any Number	Any Number	Any Number	Any Number	Any Number	Any Number
IBM System z10	*	120	Any Number	Any Number	Any Number	Any Number	Any Number	Any Number
IBM System z9	*	100	Any Number	Any Number	Any Number	Any Number	Any Number	Any Number
IBM (z990 S 390)	*	100	Any Number	Any Number	Any Number	Any Number	Any Number	Any Number
IBM PowerPC 970	*	50	Any Number	Any Number	2	2	Any Number	Any Number

- Oracle Named User Plus** – Oracle currently uses two different license models for their database software—Named User Plus and Processor based. Named User Plus is a user based license where named users can access multiple database instances on multiple servers. There is a 25 NUP license minimum per processor in the server (which means that organizations must still know the hardware details of the Oracle servers).
- Oracle Processor** – The Oracle Processor license is based on the type and number of processor cores in the server. The number of cores is multiplied by the Oracle Core Factor value for that processor type to come up with the number of licenses needed for that server. Note that Oracle software running on a virtual machine will still require that same number of licenses as the full physical server—there is no sub-capacity licensing here.

The Processor license is attractive when there are large numbers of users accessing the database. The Oracle pricing ratio is 50 to 1 for processor licenses compared to user licenses, so an organization would need to have more than 50 times the number of users relative to processors on Oracle servers to make the processor model more cost effective.



- Tiered Device** – A license that is tiered according to a processor or server type. Symantec is an example of a publisher that utilizes this license model for their popular Storage Foundation, Netbackup, and other enterprise server products.

A screenshot of a software identification window. The "Identification" tab is active, showing the following details: Name: Veritas Netbackup Enterprise Client; Version: 7.0; Edition: ; Publisher: Symantec; Duration: Perpetual; Expiry date: ; Purchase type: Volume; Type: Tiered Device; Status: Active; Tier type: Symantec Server; Tier code: 2A.

- Per Processor** – Collect hardware inventory including the number of processors running on each machine where the application is installed and calculate the number of processor licenses required. Microsoft SQL Server is a common example of this license type.

A screenshot of a "Licensing" window. It shows "Compliance status: Compliant" and "Number of Processors: 2" with a small up/down arrow icon next to the number.

- Processor Points** – Count processors based on different processor types. This is a points-based license that consumes different numbers of points according to the type of processors in the computers.

A screenshot of a "Licensing" window. It shows "Compliance status: Compliant" and "Number of Cores: 4" with a small up/down arrow icon next to the number.

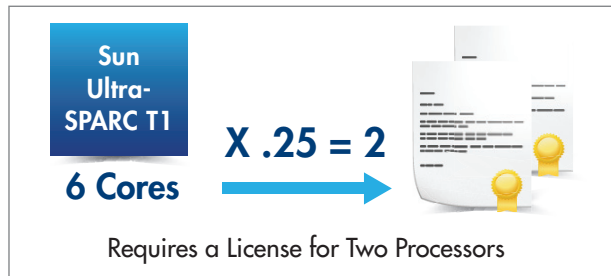
- Processor Core** – A license priced according to the number of processor cores in the computer(s) on which the software will run. VMware is an example of a publisher that utilizes this license model.

Computers related to this license

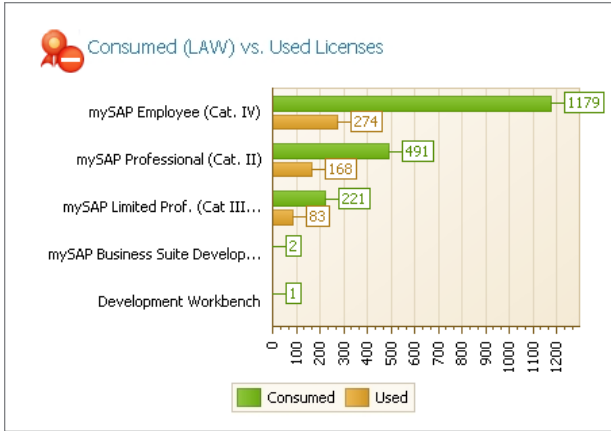
Allocation:

Computer	Cores	Installed	Allocated	Used
mgs210	4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mgs211	4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mgs212	4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mgs213	4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mgs214	4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mgs215	4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mgs216	4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Core Points** - Counts cores differently for different processor types. This is a points-based license that assigns different numbers of points according to the type of processors on the computers.



- SAP Named User** – SAP defines a number of different user based license types—Professional, Limited Professional, Developer, Employee, etc. Different SAP software usage characteristics are defined for each type, and each has a different price point. Organizations must optimize the mix of SAP license types across the organization based on actual usage to ensure appropriate licensing and usage-based spending on an ongoing basis.



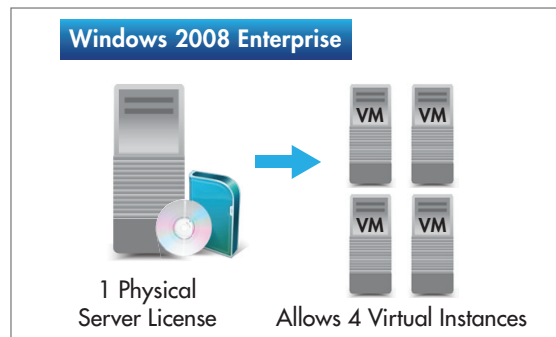
**Virtualization**

Virtualization adds yet another twist in the quest for license optimization in the datacenter. Organizations are increasingly deploying virtualization technologies, such as datacenter server virtualization from vendors including VMware and Microsoft. Many software publishers have grappled with how to handle virtualization from a licensing perspective and have created unique product use rights around virtualization, making it even harder to calculate an accurate license position. In addition, the dynamic nature of virtual environments, due to VM mobility and the speed with which VMs can be created further complicates license management.

Organizations need an agent-less discovery tool which finds virtual machines in the environment, reads the capacity dedicated to the virtual machine for capacity-based license calculations, and maps virtual machines to their physical hosts. For example, software that uses a per-processor license is installed on a virtual machine that has two processors assigned to it while the physical host has 32 processors. Typical inventory tools would report 32 processors on each virtual machine—greatly increasing the license requirements for per-processor based licenses. An optimized solution will accurately count the licenses required in the virtual environment, minimizing license consumption and reducing costs accordingly.

Publishers often have specific product use rights associated with virtual machine (VM) installations. For example, one Windows Server 2008 Enterprise license can cover installations on one physical machine and up to 4 virtual machines on the same physical host. The installation of Windows Server 2008 on a fifth virtual machine on the same host would consume another license.

Similarly, Symantec Storage Foundation running on Windows Server uses the Symantec Tiered OS license model which has the same rights and restrictions on number of VMs as the Windows OS edition in use—e.g. 4 VMs for Enterprise Edition, unlimited VMs for Datacenter Edition. An optimized license management solution must have this licensing knowledge built-in. This allows organizations to find machines with “free” license slots to save licensing costs. Most importantly, it allows enterprises to accurately count the number of licenses required, taking into account virtual product use rights.



Other virtual and thin-app solutions, such as Citrix Server, may also be deployed, and the license management tools should provide comprehensive license reconciliation across multiple virtualization technologies.

**Product Use Rights**

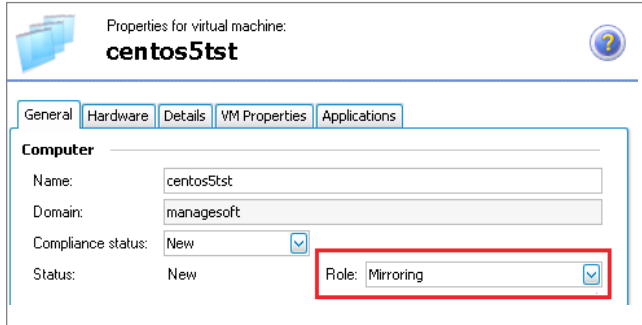
Datacenter licenses have complex product use rights that govern how organizations can use the software and determine the number of licenses consumed in the process.

Listed below are a few examples:

Name	Version	Publisher	Type
esx01a			
vmra02			
Symantec Storage Foundation 5.1 WIN OS Tiel L3 Datacenter	5.1	Symantec	Tiered Device
vmra04b			
Symantec Backup Exec 2010 13.0 Server win	2010 13.0	Symantec	Device
vmrs03a			
Symantec Storage Foundation 5.1 WIN OS Tiel L3 Datacenter	5.1	Symantec	Tiered Device
vmrs04			
Business Objects 11 Enterprise	11	SAP AG	Device
Symantec Storage Foundation 5.1 WIN OS Tiel L3 Datacenter	5.1	Symantec	Tiered Device

- Unlimited virtual machines except when running on IBM zSeries
- Clustering with two active/passive servers on a single license
- Cold disaster recovery machines do not consume a license
- Failover machines consume a license if used during the year
- Hot Disaster Recovery machines consume a license
- Four QA and development machines allowed with no license charge

Ideally, the license management solution will automatically apply these license entitlements to minimize license consumption and maintain license compliance. For example, server roles (disaster recovery, failover, production, test, etc.) commonly confer a set of use rights and/or restrictions. By understanding the role of the server in the IT environment and taking full advantage of the associated rights, it is possible to exclude certain machines from license consumption in many cases.



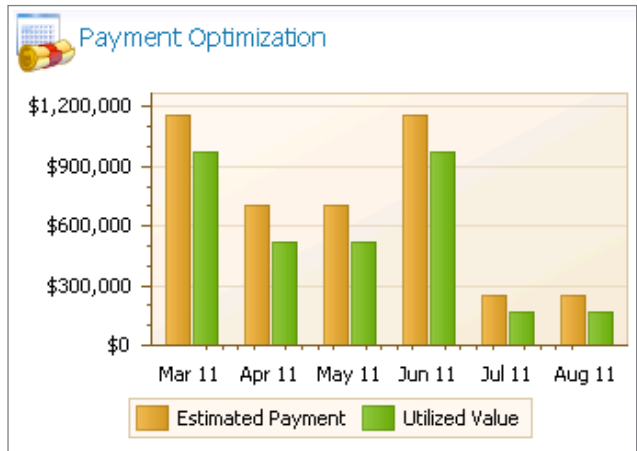
Other product use rights such as upgrade rights, downgrade rights, virtual machine rights (as discussed above), etc. also come into play in the datacenter and must be applied to correctly calculate a license position. This allows enterprises to maintain continuous license compliance and minimize ongoing software license and maintenance costs.

### FlexNet Manager Suite for Enterprises

Flexera Software’s FlexNet Manager Suite for Enterprises solution uniquely meets all of these requirements for optimized license management in the datacenter. FlexNet Manager Suite delivers unprecedented levels of automation for management of datacenter software assets, producing the highest possible return on investment (ROI). With FlexNet Manager Suite, organizations can eliminate over-spending and under-spending on licenses, and reduce ongoing maintenance costs associated with server-based software. The FlexNet Manager Suite solution offers a range of benefits for datacenter software asset and license management including:

- **Improved negotiations with vendors** — Knowledge of your license position, application usage and payments enables you to plan your purchases and upgrades to maximize discounts.
- **Reduced license costs** — Apply product use rights to minimize license consumption and reduce true-up costs. Automatically recycle licenses in the environment to defer new license purchases. Buy only the datacenter licenses that you need.
- **Reduced maintenance costs** — Datacenter licenses have hefty ongoing maintenance streams. FlexNet Manager Suite suggests optimal maintenance payments based on the optimized license position. This ensures the organization is not over-spending on the multi-million dollar maintenance contracts that are associated with high-value datacenter licenses.

- **Reduced risks** — Minimize the risk of a software audit and the associated risks of unbudgeted true-up fees, penalties, litigation and brand damage, by ensuring proper licensing of all software in use. Protect the relationship with your most strategic software vendors.
- **Rapid ROI** — Leverage existing IT systems as part of a total FlexNet Manager Suite solution, rather than replacing them. FlexNet Manager Suite provides rapid time to value by quickly finding software cost savings in the datacenter.



FlexNet Manager Suite is the only solution that automates license optimization for key software vendors, offers support for the broadest array of license models and manages licenses in complex virtual environments. With FlexNet Manager Suite, organizations have achieved multi-million dollar savings with their highest-spend publishers such as SAP, Oracle, IBM, Microsoft, and Symantec.

### 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: <http://www.flexerasoftware.com>

#### Next Steps:

For more information visit [www.flexerasoftware.com/products/flexnet-manager-suite-enterprises.htm](http://www.flexerasoftware.com/products/flexnet-manager-suite-enterprises.htm)



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