Cost-Effective Alternatives to Software Asset Management
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Executive Summary

Powerful cloud applications and advances in information technology are helping companies become more efficient, leading to lowering costs of IT investment. At the same time, companies are continuing to spend more on IT. According to a recent forecast\(^1\), the previous uncertainties surrounding global economic growth are giving way to accelerated IT spending. In fact, the global growth in 2013 has been revised to 4.2 percent in constant US dollars, compared with a projection of 1.2 percent in 2012.

That may be good news for IT and software asset managers. The current slow-growth economic environment has forced companies to be judicious about how they budget their IT costs, particularly on software and the attendant licensing requirements. Software asset management (SAM) could potentially be the largest component of IT asset management when considering the impact on compliance risk costs and how companies manage their IT assets while meeting software publishers’ license compliance requirements. Asset management can also be expensive, costing well into the millions of dollars for large companies to do a comprehensive analysis and implement a compliance program.

As a result, some companies are taking a tactical approach to SAM, sidestepping comprehensive programs in favor of a project-by-project approach, or more cost-effective projects, such as making sure the company is in compliance with licensing agreements for its most significant software publishers. Some companies are even willing to pay periodically for overdeployments that are identified by software auditors, justifying the business cost as being less than a full scale SAM program. The best way for an organization to fully maximize and manage its software asset investment and not deal with the unplanned expenditures from software audits is to implement a functional SAM program. But to work properly, SAM programs take time, money and require change at the organizational, process, and data levels. The result is that some organizations are opting for the most cost-effective current solutions as a short-term building block or evolutionary approach to a long-term desired end state.

This paper examines how companies can approach SAM with a focus on the biggest risks in a budget-conscious environment by taking a more cost-effective approach to keep costs in line with corporate budgets and strategy. At the same time, SAM should also be a component of an organization’s larger enterprise risk management (ERM) initiative, so the underlying issues can be linked to other risk issues the organization may be managing. This is part of the evolutionary approach that can lead to the desired end state: a functional SAM program that allows an organization to effectively manage its largest and most strategic software vendors.

\(^1\) Forecast Alert: IT Spending, Worldwide, 4Q12 Update, Gartner, January 2, 2013
SAM is a business practice designed to help effectively manage information technology (IT) costs, limit risks related to the ownership and use of software, and increase IT and end-user efficiencies. As defined by the Information Technology Infrastructure Library (ITIL®), SAM is “All of the infrastructure and processes necessary for the effective management, control, and protection of the software assets within an organization, throughout all stages of their life cycle.”

Recognizing the potential value of SAM to an organization, the converse is also true. If organizations are not managing their software assets, then they are effectively compromised. Specific risks arise if companies do not know:

- What software assets they are entitled to
- What software applications are deployed in their environment
- Where software is deployed
- How software is configured
- What software licenses are required to run the software in their environment
- Who is using the software
- What applications are being supported by software applications and are the annual maintenance amounts that are being expended are necessary?

A mature SAM strategy can help enable organizations to gain greater benefits from software license agreements, which are taking an ever-increasing share of IT budgets. An accurate understanding of license entitlements and deployments allows companies to negotiate with software publishers from a position of knowledge and often avoid paying for unneeded software (i.e., getting stuck with lots of software on the shelf) or continuing to pay for maintenance on software that is not used.

Your company can avoid waste and reduce costs by improving management of the software asset life cycle. This may involve reviewing people, process, and technology areas against the ISO 19770-1 and ITIL standards, or providing specific publisher/brand licensing assistance services to help reduce a particular area of software-related spending.

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2 Information Technology Infrastructure Library is a widely accepted framework of IT governance published by the Office of Government Commerce in the United Kingdom. ITIL is a registered trademark of the U.K. Government’s Office of Government Commerce.

3 ITIL Software Asset Management
Common software management errors

There are several oversights that may result in customers either purchasing too much unneeded software or not purchasing enough software licenses to cover software usage exposures. These include:

- **Keeping track of software deployment.** Companies tend to overlook undefined processes and unenforced policies that govern how software is acquired, utilized, and uninstalled and removed. Experience suggests that this is one of the least understood and most complex parts of the SAM process.

- **Incomplete reporting by existing SAM tools.** A prime example is when too little deployment information is captured to count license deployments (e.g., virtualized environments) accurately, or SAM tools are not able to identify the product that is deployed.

- **Discovery tools lack of coverage.** Companies depend too much on discovery information and not the underlying processes. Discovery tools cannot find all assets, whether due to a lack of coverage or discovery limitations (fingerprints, metrics, etc.).

- **Inaccurate hardware information.** When a complete and detailed hardware inventory is not available (i.e., including number of cores, processors and chips), then efficiently and accurately counting software deployments is often a challenge. Providing data to support software licensed on hardware metrics in a highly virtualized data center is complex – very few discovery and inventory tools provide the necessary information.

- **Incomplete software entitlement records.** Rarely do companies have an accurate picture of the software they are entitled to. As a result, companies frequently buy software they already own.

- **Underestimating what it takes to implement a SAM tool successfully.** This includes the extent of specific software product knowledge (i.e., including licensing), business rules configuration, integration with other systems and business processes (e.g., procurement, tax, and finance).

- **Not recognizing interconnections between IT, Procurement, Legal and Operations.** Not incorporating all stakeholders will likely result in a partial understanding of the entire process (i.e., not understanding what software has been procured, how it was licensed, how it is being used, and how those transactions are accounted for.)

- **Excluding software deployments.** If scan agents are not installed, or if agents are not deployed, the software inventories will be inaccurate. Also, some secure areas of your company’s network may not be identified and counted.
Organizations are often prone to making critical oversights (see sidebar Common software management errors) when dealing with SAM-related challenges. In addition, they face several key SAM issues when dealing with software publishers, including:

- **SAM tool capabilities and expectations:** An efficient and effective SAM process can help organizations make more informed business decisions, reduce IT budgets by recycling/reharvesting licenses, and allow insight into the current environment. SAM tools can help identify potential waste and noncompliance, but they are not necessarily able to prevent it. Discovery tools have limitations, such as the fact that they are physically installed across the environment and there may be issues with software recognition. Companies need to understand these limitations and how effective they may be in their environment.

- **SAM tool limitations:** Discovery and inventory tools cannot capture the necessary data for identifying all software. The issues can arise from hardware, operating system and virtualization, or even combinations of those. Further complicating the issue is the inability of discovery tools to bundle software products. In most cases, bundling is a contract-specific aspect, outside of the tool capabilities.

- **Virtualization:** As more organizations virtualize their environments to increase server utilization, there are specific licensing ramifications that are not fully understood and lead to over-deployments and potentially significant payments to publishers. Environments such as VMware and Citrix can greatly affect user-based licensing, since many organizations tend not to track or use appropriate licenses for the environment. Many software publishers have not laid out clear and consistent rules for virtualization, and they may be constantly changing these rules as real world issues are brought to their attention.

- **Compliance Audits:** Companies with effective SAM capabilities understand what products they need and budget and procure them as part of their regular business cycle. If a company is audited by a software publisher and found to be in noncompliance with licensing rules, it will incur substantial unplanned costs that have detrimental effects on the broader IT budget and ultimately, the company’s bottom line.

- **The Cloud Effect:** As organizations increasingly buy access to IT assets rather than the assets themselves, according to recent Gartner research, spending on the direct procurement of IT hardware and software assets will fall. However, this does not reduce asset management responsibility; rather, deploying and using software in a cloud environment increases the need for IT and software asset management. Existing software licenses may not necessarily allow clients to drag and drop applications into private or public clouds. Licenses may act as a complicating factor that could force both internal and external cloud providers to behave more like traditional outsourcers.

"As more organizations virtualize their environments to increase server utilization, there are specific licensing ramifications that are not fully understood and lead to over-deployments and potentially significant payments to publishers."

- **Doing too much, too quickly:** Companies may try to track every software license requirement and subsequently get lost in the vast amount of data available. As a result, companies need to prioritize their SAM efforts based on publisher spend, audit risk, deployment counts, and complexity of license metrics, among other issues. Companies can focus on managing a subset of prioritized software publishers that may allow them to develop processes and capabilities. Companies may then extend these processes and capabilities to the broader group of publishers over time. The latest revision of ISO 197770-1 focuses on managing software as a strategic asset by implementing SAM in increments (see sidebar ISO/IEC 19770-1:2012).
• **Contract Negotiations:** Effectively negotiating new software licenses or maintenance contracts with software publishers is very difficult when the company is not aware of its actual deployment position or usage in. Companies may buy a portfolio of software they might not need in an effort to meet software compliance standards or simply because their provider tells them that they should to get a big discount. Effectively they end up buying an insurance policy rather than the software they need.

• **Inadequate outsourcer information:** Companies that have outsourced part of their IT infrastructure to a third party provider are reliant on the information from the outsourcer for their SAM reporting. In most outsource contracts, the definition for the provision of SAM information is poorly defined. It is often unclear who is accountable for compliance with the software publisher. The complexity of licensing and the required metrics to measure usage and compliance can also mean that capturing relevant data is a moving target, requiring constant interaction and change control.

ISO 197770-1:2012

ISO/IEC 19770-1:2012 establishes a baseline for an integrated set of processes for SAM, divided into tiers to allow for incremental implementation, assessment and recognition.
An end-to-end SAM program is clearly the best choice for full compliance and the effective use of IT budgets. However, such programs require dedicated headcount, system implementations, and data integrations that may cost organizations well into the millions of dollars. During these budget-conscious times, many companies have declined to invest in full blown SAM programs. In a previous survey, KPMG found that 86 percent of respondents did not have complete and accurate information to manage their IT environment effectively. This may have been due to the fact that many of these companies calculated that the penalties associated with noncompliance outweighed the cost of full compliance. Still, most companies want some level of understanding of what assets they own and what compliance issues they face before they weigh the cost of compliance vs. noncompliance. Implementing a full SAM program that may cost more than the risks it’s avoiding is typically not good business.

To protect themselves and manage costs, some companies may decide to focus their efforts on investment software rather than ad hoc software. The first category is software typically sold by major global software companies in which a company invests and upon which the company relies for critical business operations. Replacing or no longer using these products/publishers could actually harm business operations as well as be so costly and disruptive that companies would not even consider doing so. An example would be the underlying software on which a company’s primary website is built, which would be difficult, time consuming, and expensive to replace. A typical example of the second category – ad hoc – is productivity enhancement software sold by smaller software publishers. Companies are likely to spend significant amounts of money on new licenses and maintenance for investment software, which significantly increases the risk of noncompliance findings. This helps firms prioritize the “investment” in software publishers for ongoing management and compliance risk.

For example, if a company were to gauge the impact and likelihood of the cost of noncompliance with a global software publisher, it would probably fall in the “Key Business Risks” area of the heat map graphic on this page. Similarly, if it were to gauge the impact and likelihood of noncompliance with a small software publisher, it would probably fall into the “Watch List” area of the heat map.

What this means is that companies may treat the risk of noncompliance with global software publishers likely having a major impact, i.e. from $5 million to $20+ million, on profitability, while the risk of noncompliance with a smaller software publisher will likely result in a minor impact. As a result, some organizations prioritize what they absolutely must do to maintain critical software assets without incurring costly noncompliance penalties.

This compliance vs. noncompliance approach starts by prioritizing software publishers and software products for the publisher and applying factors such as cost, compliance risk, prevalence, ease of deployment, complexity of license metrics, and timing of contract renewals in order to focus efforts. Once projects are prioritized, organizations often use specific project teams to help identify deployments and compare against entitlements in preparation for upcoming audits or negotiations for EAs, ULAs, etc. This is similar to what occurs when a publisher conducts an audit. The outcome of this project provides a snapshot of compliance at a point in time that can be used to assess compliance risk and provide insightful data for more effective contract negotiations with publishers.

Some organizations plan projects of this type prior to the scheduled negotiation of a significant software publisher agreement. This approach can use outside resources to supplement internal resources to minimize required internal headcount. Although not as effective as a fully deployed, robust SAM program, a rolling program of projects of this nature can help mitigate the risk of compliance and provide powerful information for contract negotiation at a significantly lower cost.

In order to make such projects more effective and to move towards a more robust SAM solution, organizations can begin by building competencies in the following items:

- **Identifying actual usage** – Assuming installed software is equal to software being used may lead an organization to unnecessarily increase its licensing needs. Tracking actual usage of software allows an organization to re-harvest licenses that are deployed but not used. Since many software licenses

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6 Software Asset Management: A Key to Infrastructure Optimization, KPMG International, 2010

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allow software to be transferred between machines, an organization can reduce its need to continually buy new licenses by reharvesting unused ones. There is existing technology that supports reporting this information through automated means, but organizations can also take a less technical route by simply asking users to confirm their needs for the software that is currently installed. Utilizing a mix of these methods can help provide a more accurate depiction of what software is actually required and in use within the organization.

- **Accurate hardware tracking** – Hardware tracking is essential to calculate compliance with software licensing. Hardware tracking includes information not just about the hardware characteristics, but physical location as well as end users. Without this knowledge of the hardware assets, and the changes that occur to the hardware characteristics while in use, it is nearly impossible to be accurately licensed. This may result in being under-licensed or over-licensed, each of which presents financial implications to the organization.

  "Hardware tracking is essential to calculate compliance with software licensing. Hardware tracking includes information not just about the hardware characteristics, but physical location as well as end users. Without this knowledge ... it is nearly impossible to be accurately licensed."

- **Understanding licensing metrics** – Software licensing rules revolve around multiple metrics including, among others:
  - Users
  - Name users
  - Seat licenses
  - Site licenses
  - Installations
  - Cores
  - Processors
  - Usage
  - Transactions processed
  - Instructions processed
  - Clustering/High Availability/Disaster Recovery
  - Storage amount
  - Systems backed up

Publishers have different methods for calculating deployed licenses as well as different definitions for “license.” They also have unique rules around who is licensed to execute the software, and where it can be physically installed. Having a specialist maintain how to calculate compliance, how to maximize the licenses that have been granted, how to best plan for new environments, and what licensing changes are taking place under an agreement is critical for knowing the rights to which an organization is entitled to and what documentation is required should the entitlement be questioned at a later date.

- **Tracking software requests** – Tracking software requests is important during both the request and later on in the lifecycle of a software asset to:
  - Validate that the software meets the requirements;
  - Document specific information about the software.

Later in the software lifecycle, the request information can be used to contact the appropriate person if there are questions about the particular software installation. Understanding why software is being used within an organization allows management to evaluate alternatives prior to initiating contact with the end users, which could number in the thousands in a large organization.

- **Tracking software procurement/purchases** – Knowing what is installed on computers is not enough to accurately support license compliance. Without being able to relate those software installations to an actual purchase a company cannot justify the interpretation of how their license counts have been calculated. Should a publisher question the number of license entitlements held by an organization, the organization should be able to point to its internal documentation to show the derivation of its entitlement figures. This is essential for software licensing, as software publishers are often bought or merged into other entities, resulting in records that are difficult to navigate and may lead to reporting fewer licenses than a company actually acquired.

- **Tracking installations** – Software inventory technology is not perfect and often misses some installed software, or identifies inactive software. Tracking software inventory alone does not indicate whether the software is installed appropriately. Instead, tracking software installation allows an organization to use software inventory technology to reconcile approved deployments and assist in detecting when an installation was not performed appropriately. Using inventorying technology as a validation helps to ensure that installations were complete and accurate and thus assists in reducing the overall licenses required in an organization.
Organizations have enjoyed multiple benefits by adhering to comprehensive SAM processes, including risk mitigation, financial performance, and operational effectiveness (see sidebar SAM Benefits). But there are additional benefits that can be obtained from implementing individual projects. A sampling includes:

**Better control of IT footprint**
- Companies can deploy the right software in the right places.
- Software is an asset and like any asset, needs to be controlled and safeguarded.
- By continuously evaluating, updating and adjusting/improving software deployment processes, companies can potentially optimize both software and hardware spending.
- Better management of IT assets can also lead to labor cost savings and/or reduced application complexity and maintenance and support costs.

**Better negotiating position**
- Companies can work from a position of strength negotiating discounts on products they actually need instead of buying a whole portfolio of products that represent an insurance policy. They are also in a stronger position to evaluate service offerings and negotiate price, by knowing how much software is deployed within their environment, and what it is supporting.
- Companies can deploy software more cost-effectively through tools such as volume purchase agreements or bundled services.

**Enhanced licensing compliance**
- Companies tend to overestimate their ability to track licenses. SAM capabilities enable companies to only deploy authorized software.
- Companies are able to respond more quickly and efficiently to software compliance audits.

**Clearer understanding of needs, usage, and effectiveness**
- Ability to monitor software usage can generate not only savings, but also efficiency gains, by making sure the right users have access to the right applications.
- Ensure IT managers know what software is running and who is using it.
- Assists in more efficient use of financial resources so that the company is only paying for software actually used.

**Better software lifecycle management**
- SAM is key to configuration management, which in turn is key to technical and end-user support.
- More efficient SAM leads to faster disaster recovery.

**Process improvements**
- SOX and Internal Audit both emphasize the need for adequate documentation of processes and through that exercise, improvements, control weaknesses and other opportunities may become apparent.

**SAM Benefits**

**Risk Mitigation**
- Limit exposure to unexpected costs as a result of publisher audit
- Better control against fraud
- Better financial accounting of fixed assets
- Reputation/marketing/social goals
- Legal exposure from software over-deployment
- Financial exposure from software over-deployment

**Financial Benefits**
- Negotiate from a position of knowledge
- Cost avoidance through controlled purchases
- Lower support costs (Help Desk, IMAC)
- Facilitate standardization, stability, and indirect savings
- Track costs and enable charge-backs

**Operational Benefits**
- Allow to optimize and re-deploy assets
- Enables information security and business continuity
- Enables change management
- IT aligns to business: predictable business impact
- Enables a higher level of IT optimization
Conclusion – An Evolutionary Approach to SAM

Higher costs and the current slow-growth economic environment are forcing companies to focus on their IT spend, particularly on software licensing requirements. Although SAM can be integral to how companies manage IT assets and meet the compliance licensing requirement with software publishers, it can also be an expensive process, causing some companies to focus on more cost-effective projects. Some organizations are successfully using this more cost-effective approach to keep costs in line with corporate budgets and strategy.

However, in anticipation of a longer term approach, some companies are taking an evolutionary path that uses SAM capabilities to:

- Prioritize software titles and publishers for focus based on investment and importance to the overall business
- Develop and deploy project teams to prepare for contract renegotiations
- Utilize specific discovery/inventory tools to track software that is of higher risk for compliance audits
- Gain visibility into the asset base by integrating with IT operational processes

Using this approach, SAM can be introduced gradually through a series of steady-state “plateaus” and expand into integration efforts that offer enhanced functions by leveraging authoritative reference data sources. As each of these plateaus are attained, they can be used as building blocks to eventually develop a more robust SAM program that allows organizations to effectively manage the investment in SW, as well as avoid audit fines.

Although every organization is different, each plateau can be defined by a steady state depicting the functionality it will be offering, the benefits an organization can expect by reaching this plateau, the entry criteria, or pre-requisite conditions for the plateau to be stable, and the actions necessary in order to arrive at the subsequent plateau.

To achieve the end-state vision, SAM-related activities may need to occur in parallel with activities that prepare upstream/downstream reference data sources (e.g. the contract/license database, procurement system, etc.) for integration with the core SAM platform. The two parallel sets of activities eventually converge, allowing SAM to leverage the authoritative reference data sources.

In conclusion, as cloud applications and advances in information technology continue to help companies become more efficient, this approach may help companies lower their SAM-related costs even as they increase their investment in IT.
About KPMG’s SAM Services
KPMG professionals can help organizations control their software license and maintenance costs by addressing software asset management and IT asset management issues. By improving management of the software asset lifecycle, we help companies potentially avoid and reduce costs, whether by reviewing people, process, and technology areas consistent with the ISO 19770-1 and ITIL standards, or by providing specific publisher/brand licensing assistance services to help optimize a particular area of software-related spend.

“KPMG educated us on leading practices and associated value proposition for managing an end-to-end SAM lifecycle, and helped us develop a SAM strategy and implementation plan that was relevant to our environment, practical in its approach, and aligned well with our organizational goals, capabilities, and level of process maturity.”

Vice President of Contract Management for a global entertainment firm.

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