KPMG

INFORMATION, COMMUNICATIONS & ENTERTAINMENT

Software Asset Management

A Key to Infrastructure Optimization

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C O N T E N T S

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Executive Summary

Software asset management (SAM) is a business practice designed to reduce information technology (IT) costs, limit risks related to the ownership and use of software, and increase IT and end-user efficiencies. SAM is defined by the Information Technology Infrastructure Library[1] (ITIL®) as "All 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."[2]

SAM is critical to managing an IT environment because effectiveness is seriously compromised when an organization doesn't know what software assets it has, where they are located, how they are configured, and how they are used or by whom. The implementation of many IT processes—such as configuration, release, or change management—is dependent on the organization having accurate knowledge of its IT assets.

The pace of technology innovations will continue to present new challenges to achieving effective software management. Two current examples of these challenges are virtualization and open source.

To the many already-existing challenges of achieving effective SAM, virtualization adds a degree of separation between software and hardware, and introduces dynamically changing configurations that are arguably more difficult to track and manage from a license compliance standpoint. Another example is open-source software, which creates new challenges for effective software management.

[1] 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.
[2] *ITIL Software Asset Management*

With respect to open source, organizations may lack one of the key ingredients to achieving effective software management—specifically, the need to comply with software license agreements. Those organizations may operate under the incorrect assumption that because the base licenses are free they do not need to be managed. In fact, while open-source software still has compliance implications from maintenance and support standpoints, effective software management is also critical for IT operational reasons that have nothing to do with compliance.

License compliance is an important aspect of SAM, however. A mature software management strategy can enable organizations to gain the greatest benefit 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 vendors from a position of knowledge and often avoid paying for unneeded software. In 2007, KPMG conducted a survey[3] of software organizations to see how much revenue they might be losing due to inefficient software licensing oversight. One finding of that survey was that organizations have significant business incentives for determining if they are in compliance with their software licensing agreements. Overdeployment of software can cost organizations millions of dollars in unplanned expenditures.

[3] *Is Unlicensed Software Usage Hurting Your Bottom Line?* KPMG LLP (U.S.), September 2007

KPMG's 2008 SAM Maturity Survey

The 2008 survey results indicate that most organizations have a long way to go with respect to SAM maturity. Because SAM is a core enabling competency for IT, the study suggests that most organizations may therefore be struggling to manage their IT environment effectively and efficiently.

Key observations:

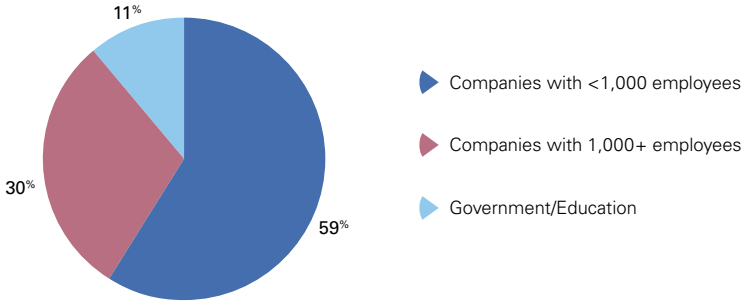
- *SAM maturity is generally lacking.* Eighty-six percent of respondents lack complete and accurate information about software deployments and entitlements. These organizations may not be protected from compliance risk and may have limited ability to manage their IT environments effectively. Of the 86 percent of respondents, 59 percent have limited control over their software assets and lack SAM business processes and tools. The remaining 27 percent of respondents in that group indicated they do have some SAM processes and tools, but the SAM information may not be reliable and typically is not used for decision making.
- *Mature SAM is consistent with achieving lower IT labor costs.* The survey indicated that as organizations gain control by proactively managing their software assets, they realize related IT labor cost reduction of as much as 50 percent. This is prevalent with the more-mature organizations, and specifically with organizations that use SAM tools and processes to manage the software asset cycle.
- *Larger organizations have a tendency to be more mature, overall,* than smaller organizations. This result is not surprising given that larger organizations are likely to have more-mature IT processes overall.
- *Certain industries are more mature than others*. The more-mature industries include automotive, aerospace, banking, insurance, and utilities.

Survey Demographics and Methodology

Demographics

KPMG conducted a Web survey of 1,013 U.S. organizations in the spring of 2008. Respondents were members of IT management responsible for SAM.

Respondent Demographics



Source: KPMG International, 2008

Respondent Industries

- Banking (depository)
- Wholesale trade
- Financial services
- Retail trade
- Insurance
- Engineering and management services
- Discrete manufacturing
- Accounting and professional services
- Process manufacturing
- Technology products or services
- Automotive and aerospace (manufacturing only)
- Other service
- Healthcare services
- Agriculture, forestry, and fishing
- Telecommunications
- Construction
- Broadcast and other communications
- Education
- Transportation
- Government
- Utilities

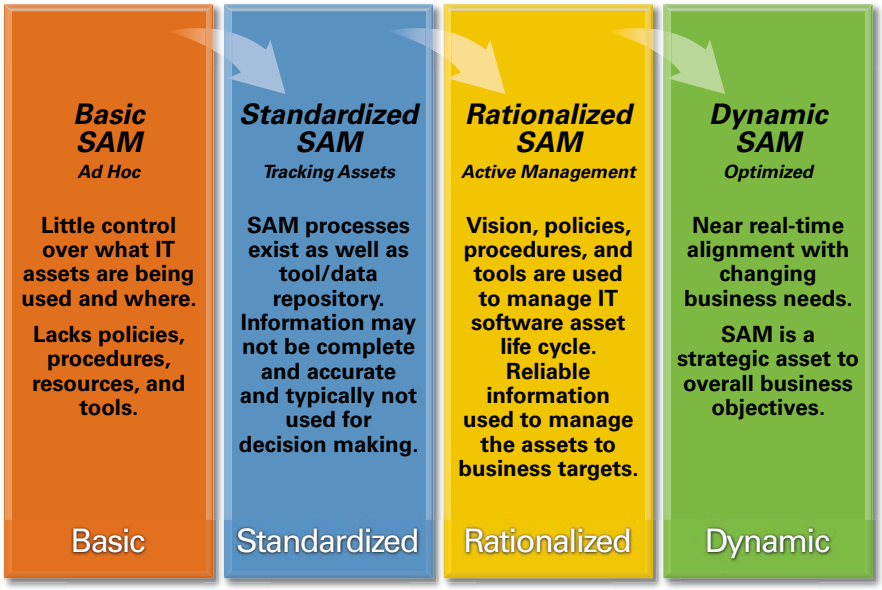
Source: KPMG International, 2008

Methodology

The SAM Optimization Model[4], which was developed together with KPMG as part of a Microsoft-sponsored initiative, provides a framework to evaluate the maturity of SAM processes, policies, and tools. The model maps to the ISO/IEC SAM standard 19770-1[5] and is based on the Infrastructure Optimization (IO) model[6]: in order to achieve each level of IO, there needs to be in place a corresponding level of SAM optimization to support it. Ultimately, it is critical for all organizations to know what IT assets (software and hardware) they own and where they exist. Without this knowledge an organization cannot effectively address challenges such as optimization, server consolidation, virtualization, information security, business continuity, and configuration management.

The corresponding levels of SAM maturity that enable overall IO maturity are shown in the graphic below.

SAM Optimization Model



Source: Microsoft Corporation

The survey was based on ten component questions, which are part of the SAM Optimization Model, and designed to measure an organization's overall level of SAM maturity. KPMG developed additional contextual questions to measure specific areas related to or affected by SAM activities.

[4] The SAM Optimization Model, © Microsoft Corporation
[5] International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 19770-1 was released in 2006; it establishes a baseline for an integrated set of processes for software asset management.
[6] The Infrastructure Optimization (IO) Model, © Microsoft Corporation

KPMG applied weights to each component question, then totaled the points and placed each organization in one of four optimization levels based on its score. These are referred to throughout this paper as *Basic, Standardized, Rationalized,* and *Dynamic*.

- ***Basic.*** Organizations have little control over what software assets are being used and where. They also lack policies, procedures, resources, and tools.
- ***Standardized.*** SAM processes exist as well as a tool/data repository, but information may not be complete and accurate and is typically not used for decision-making purposes.
- ***Rationalized.*** Organizations use vision, policies, procedures, and tools to manage the software asset life cycle. Reliable information is used to manage software assets according to business objectives.
- ***Dynamic.*** Organizations have near real-time alignment with changing business needs. SAM is a strategic organizational competency for achieving overall business objectives.

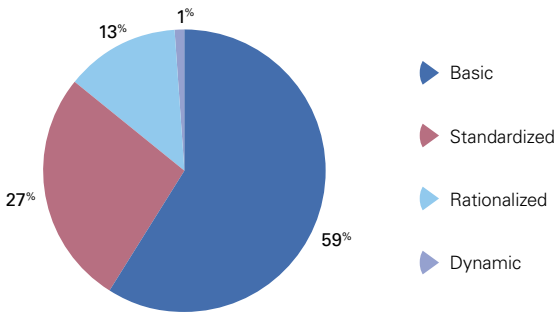
Survey Results

SAM Maturity Is Lacking

The survey results revealed that 86 percent of respondents are *Basic* or *Standardized*, which implies they do not have complete and accurate information to effectively manage their IT environment. Organizations in the *Basic* or *Standardized* levels need to implement business practices to ensure their software assets are proactively managed and their enterprises are protected from license compliance risk.

More than half of the respondents, 59 percent, were *Basic*, while 27 percent were *Standardized*, 13 percent were *Rationalized*, and only 1 percent were *Dynamic*.

Optimization Levels of Survey Respondents



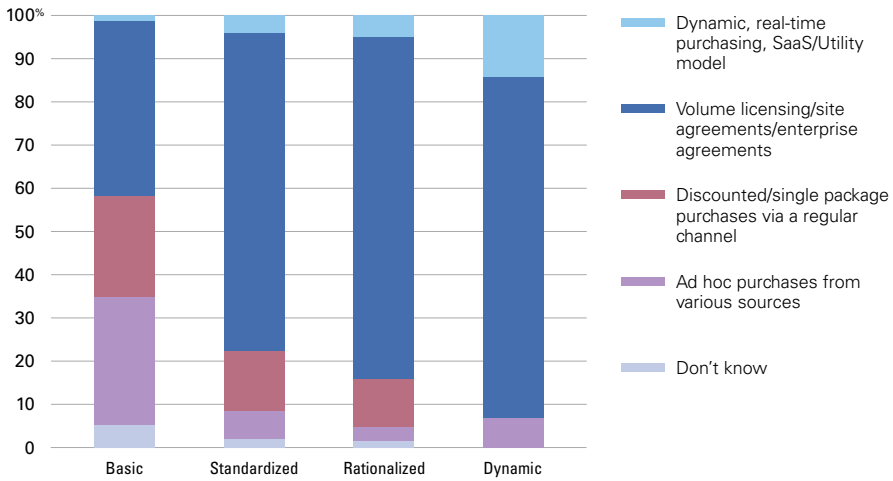
Source: KPMG International, 2008

The following are observations related to the aggregate organizational maturity results discussed previously:

- *SAM is a moving target.* Based on KPMG's experience, a successful SAM program must include a continuous monitoring function to be truly effective in managing software assets—knowing "what you have and where you have it" is not a static, point-in-time exercise. In fact, the speed of IT changes makes it even more important to be able to get this information on a near real-time basis to ensure accuracy of software tracking.
- *Organizations procure software under a variety of procurement models and agreements.* The most common among these are volume licensing or enterprise agreements. Indeed, nearly all of those rated *Dynamic* overall said they procured software under volume licensing agreements or enterprise agreements.
- *Software as a service (SaaS) and Utility models are becoming more significant.* Of those organizations that were rated *Dynamic*, more than 14 percent said that they are using the SaaS or Utility (pay by usage/as you go) model to procure software. This is an indicator of yet another paradigm shift in IT. An increasing number of software companies are making their products available through the SaaS or Utility models. The possibility of finding a program offered over the Internet in a hosted environment is increasing rapidly, including office productivity software, engineering design software, or an elaborate enterprise resource planning application.

"Demand for SaaS Business Applications Segmented by U.S. Vertical Market," a June 2008 report by the high tech market research firm In-Stat, says that demand for SaaS business applications in the U.S. business market is growing at a steady pace across businesses of all sizes and vertical markets. In-Stat expects U.S.-hosted application revenue to increase from US$8 billion in 2008 to US$16 billion by 2012.

Types of Software License Agreements Used by Respondents



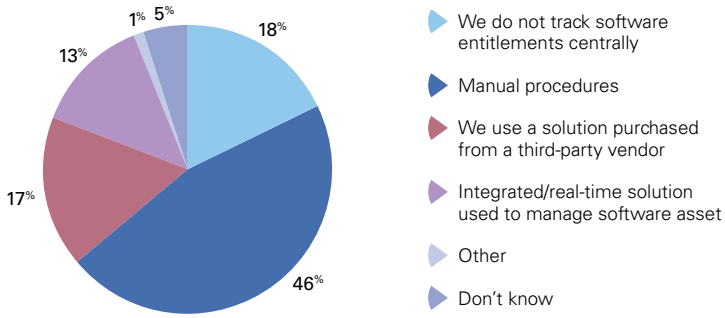
Source: KPMG International, 2008

- *Software license entitlement: Can we ever get it right?* "What do we own?" is a question on the minds of chief information officers. The complexities around software licensing, contractual fine print, disconnects between software buyers and users, mergers and acquisitions at both the software vendors and their customers, and changes in technology (virtualization, multicore processors) all contribute to confusion around software entitlement. Understanding software entitlements is a critical part of determining whether an organization is in compliance with its licensing agreements. If software entitlements are known and can be compared with actual software deployments, shortfalls in licenses can be identified and managed. The actual licensing position also can reveal unused licenses or "shelf-ware" licenses that can be either reused in IT environments or discontinued from a maintenance coverage standpoint.

Methods Used to Track Software Entitlements

(Owned/Previously Acquired Software Licenses)

Almost two thirds (64 percent) of the respondents either do not track software entitlements or do so manually. Only 13 percent of the respondents said they manage software entitlements on a near real-time basis with their vendors by interfacing with their vendors' systems.

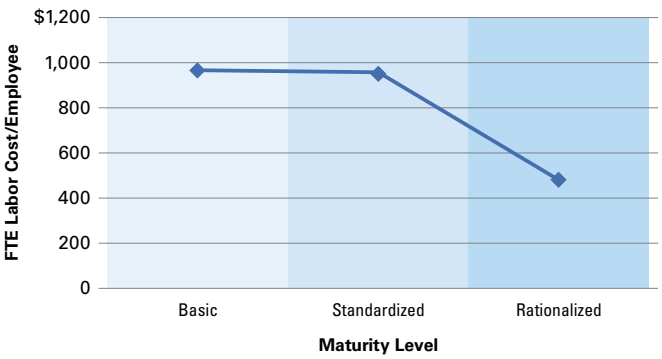


Source: KPMG International, 2008

Mature SAM Enables IT Labor Cost Reduction

The survey results indicate that as organizations gain control by proactively managing their software assets, they also realize related IT labor cost reduction per personal computer (PC) by as much as 50 percent. This is prevalent with the more-mature organizations and specifically with organizations moving into the *Rationalized* level.

Total SAM Labor Cost per PC

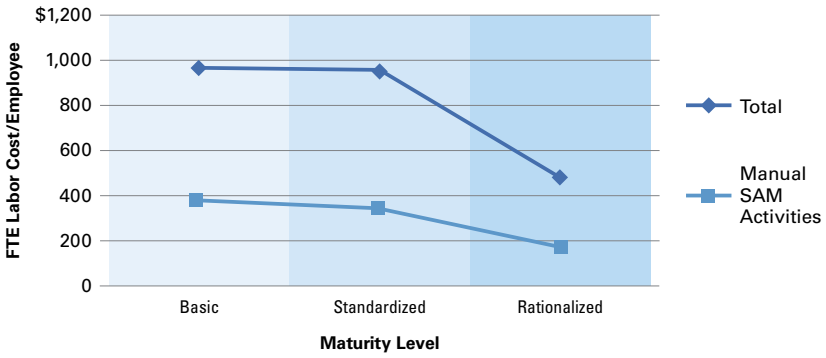


Source: KPMG International, 2008

The survey results and our experience indicate that SAM is an enabling competency to drive down IT labor costs:

- The survey revealed that as organizations go from *Basic* to *Standardized*, there is a limited reduction in SAM IT labor costs. However, as organizations move from *Standardized* to *Rationalized*, their IT labor cost for SAM-specific components drops by half.
- Beyond any direct savings related to SAM IT labor costs, more-mature SAM allows for more efficient and effective operations of IT environments (e.g., help-desk operations or configuration management) that drive additional IT labor cost savings.

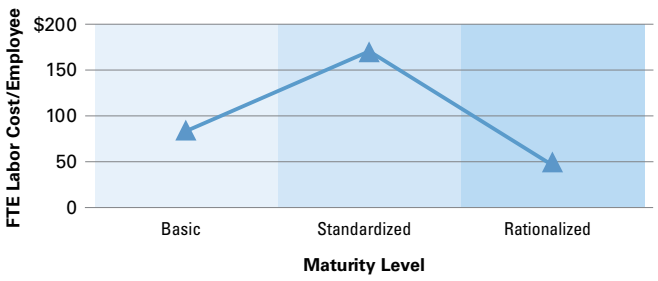
Labor Cost: Manual SAM Activities



Source: KPMG International, 2008

- The overall IT labor cost for SAM components comes from various SAM-related activities that include the following manual processes:
  - Verifying compliance with license agreements
  - Retiring licenses
  - Reallocating licenses
  - Improving the license tracking process
  - Other

Labor Cost: Creating and Deploying Standard Images



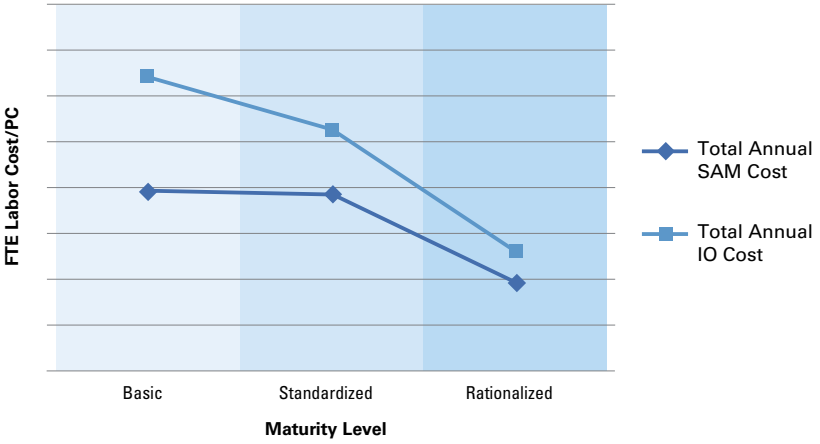
Source: KPMG International, 2008

- One component of total SAM IT labor cost is creating and deploying standard images, the cost of which is depicted in the graph on page 9. Generally, the survey showed that as organizations implement new technologies to get better visibility and control over their environment, IT labor costs for those same components increase initially. However, *Rationalized* organizations managed to reduce the IT labor costs for these components when compared with the original cost before their implementation.

As shown in the results below, overall IT labor cost savings generally correlate to SAM IT labor cost savings.

IT labor cost for components of SAM reduces consistently with the reduction of IT labor costs for overall IO[7] costs between *Standardized* and *Rationalized*.

Total Annual Cost: SAM vs. Infrastructure Optimization (IO)



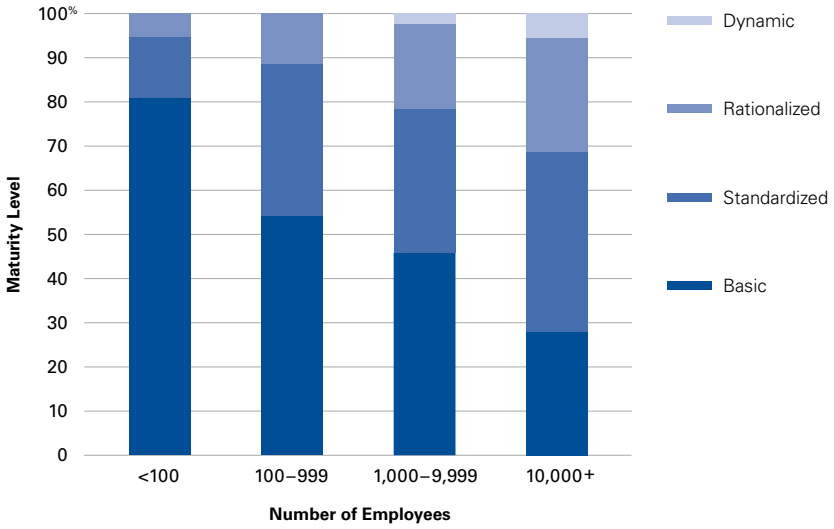
Source: KPMG International, 2008

Greater Maturity among Larger Organizations

The survey results suggest that larger organizations tend to be more mature than smaller organizations. This result is expected since larger organizations are more likely to have more-mature IT processes in general due to the scale of managed operations, increased regulatory requirements, and availability of resources. By contrast, it appears that smaller organizations may not have the means to invest as much in IT in terms of people, process, and technology because they typically have fewer people trying to do more things.

[7] *"Optimizing Infrastructure: The Relationship between IT Labor Costs and Best Practices for Managing the Windows Desktop,"* IDC, 2006

Maturity Level for All Organizations



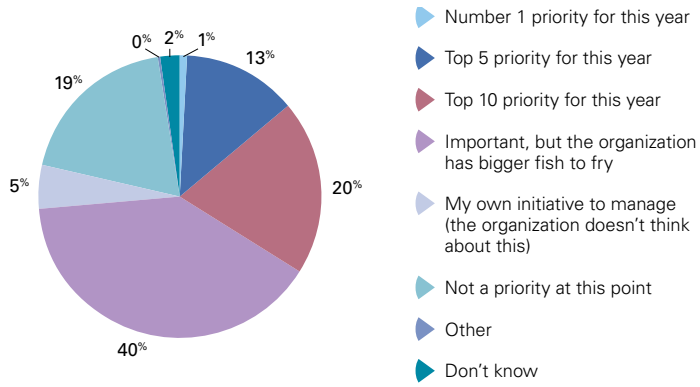
Source: KPMG International, 2008

Software vendors are more likely to audit their larger customers, those with higher spend and more-complex IT environments, as part of their license compliance programs. This may be one of several explanations why larger organizations appear to be more proactive in reducing software license compliance risks and in making software management a priority.

SAM Is Becoming a Top Priority for Many Organizations

Over the past few years, KPMG has observed that SAM is becoming a higher priority for larger organizations that routinely spend millions of dollars on procuring software from a variety of vendors. Concurrently, we have observed software vendors investing more to help their customers understand SAM best practices.

Priority of SAM within Organizations



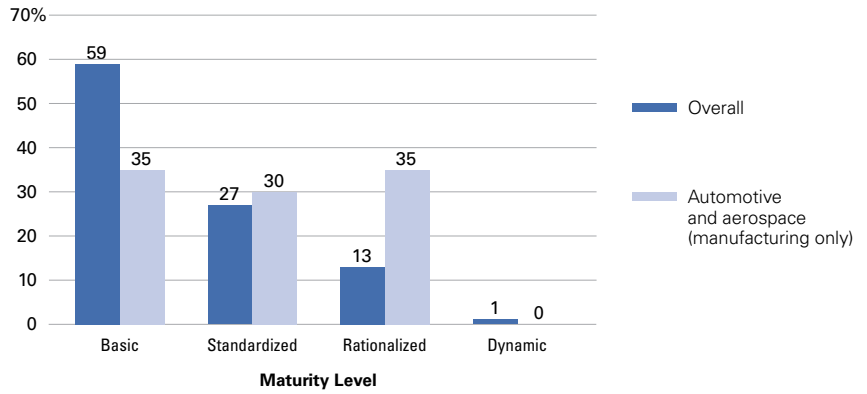
Source: KPMG International, 2008

As an organizational priority, 13 percent of survey respondents said that SAM is among the top five priorities, 20 percent rated SAM as one of the top ten priorities, and 19 percent said that it is not a priority.

Industry Observations

When looking at SAM across all industries, we observed that certain industries are more mature than others. The more-mature industries include automotive and aerospace, banking, insurance, and utilities, as detailed in the following charts and key observations.

Automotive and Aerospace Maturity Level vs. Overall Results

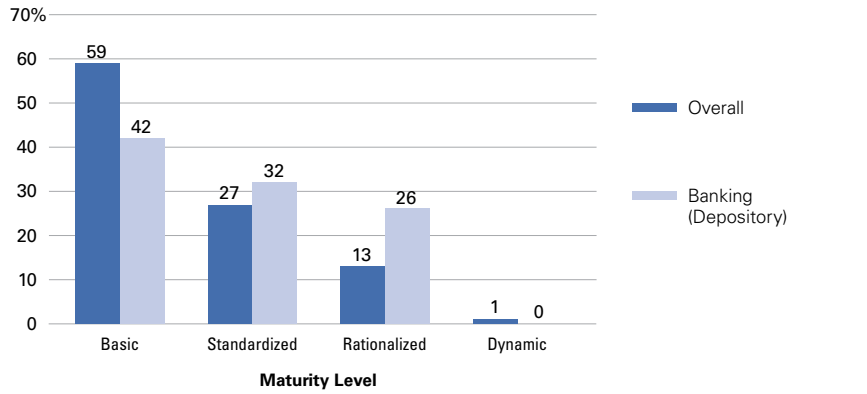


Source: KPMG International, 2008

Key Observations

- The automotive and aerospace manufacturing industry had the lowest number of organizations rated *Basic* and the highest number rated *Rationalized*.
- Many organizations in the automotive and aerospace manufacturing industry have already implemented ITIL processes and as a result, their ability to manage their IT environment appears to be more mature.

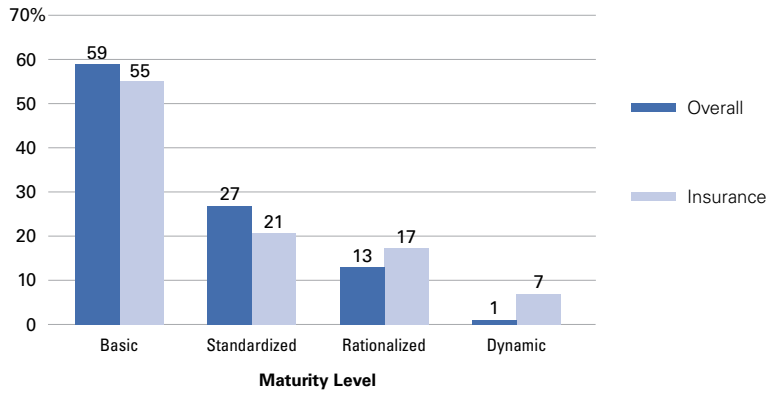
Banking Maturity Level vs. Overall Results



Source: KPMG International, 2008

- Banking appears to have higher overall SAM maturity compared with the average, which may be a function of the nature of the business and related regulatory requirements.

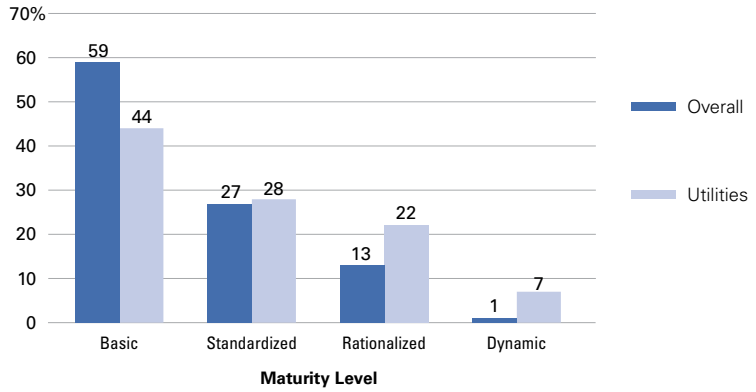
Insurance Maturity Level vs. Overall Results



Source: KPMG International, 2008

- Of the few organizations that were *Dynamic*, many were from the insurance industry. It appears that insurance organizations have made significant investments in SAM to better manage their own risk through better control of their assets.

Utilities Maturity Level vs. Overall Results



Source: KPMG International, 2008

- The utilities sector is another example of an industry demonstrating higher-than-average maturity.

SAM Optimization Model and Organizations' Performance Findings

The survey was based on the following competency questions (part of the SAM Optimization Model) designed to measure an organization's overall level of SAM maturity.

ISO 19770-1	Key Competency	Competency Question
Organizational Management	SAM throughout the organization	How has software asset management (with documented procedures, roles, responsibilities, and executive sponsorship) been implemented in each infrastructure group?
	SAM self-improvement plan	Does your organization have an approved SAM self-improvement plan?
SAM Core: Inventory	Hardware and software inventory	What percentage of user PCs and servers is included in a centralized software inventory/CMDB (configuration management data base) that is populated by a software tracking tool?
	Accuracy of inventory	How often do you reconcile software inventories with other sources to verify accuracy of assumed license metrics (e.g., user counts based on HR employee records)?
Sam Core: Verification	License entitlement records	What percentage of procured software licenses is recorded in a license entitlement inventory (a central repository/ tracking of all licenses owned and/or previously acquired)?
	Periodic self-evaluation	How often do you reconcile software deployments (usage) to software entitlements (purchases)? Software entitlements are software licenses owned or previously acquired.
SAM Core: Operations Management and Interfaces	Operations management records and interfaces	How do the various operations management functions (contracts, financial fixed assets, service support, security, networking) use software and hardware inventories in their daily roles?
Life Cycle Process Interfaces	Acquisition process	What percentage of total software purchases in your organization is made through or is controlled and tracked by centralized procurement?
	Deployment process	What percentage of total software deployed across the organization's PCs and servers (considering all operating systems) is installed through centralized sources or through a controlled distribution environment?
	Retirement process	What percentage of retired hardware assets is tracked in a way that enables the resident software to be reused?

Source: Microsoft Corporation

With respect to each of the key competencies, the SAM Optimization Model identifies different expectations for each of the four levels—*Basic*, *Standardized*, *Rationalized*, and *Dynamic*.

Performance against Individual Competencies and Overall Results

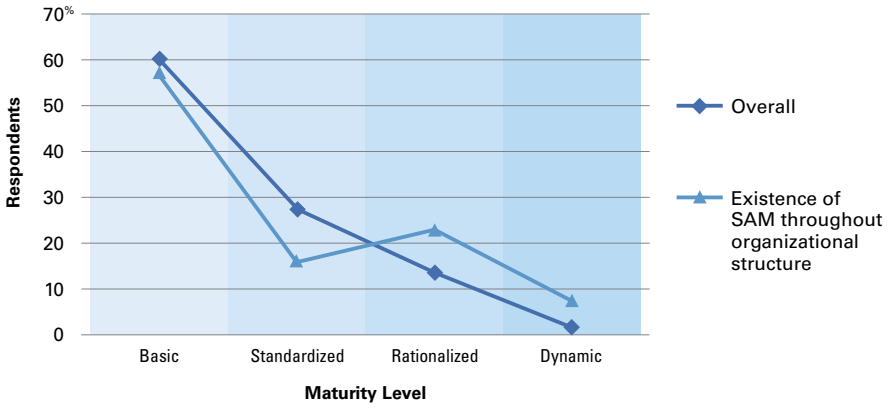
1. SAM Throughout the Organization

How has software asset management (with documented procedures, roles, responsibilities, and executive sponsorship) been implemented in each infrastructure group?

Key Observations

- *Competency 1 against Overall:* Generally, organizations that have made an effort related to SAM appear to have started with this first competency by assigning SAM roles and responsibilities throughout the organization.

Competency 1 against Overall

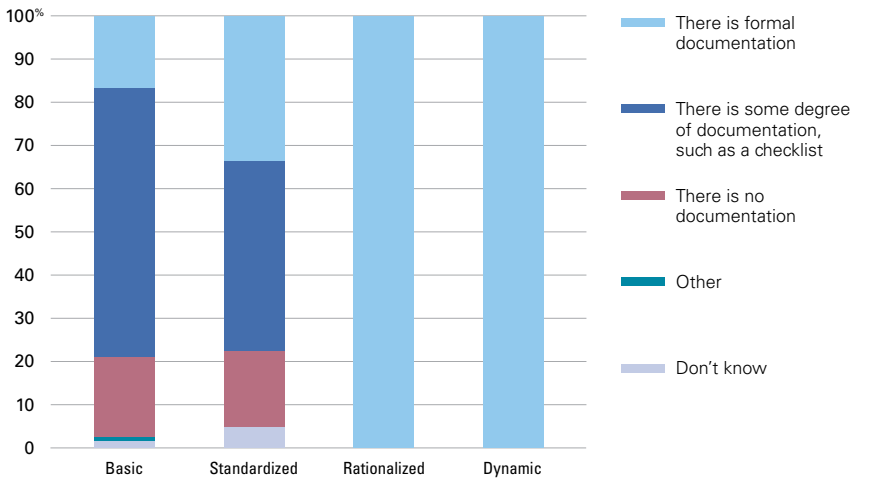


Source: KPMG International, 2008

- *Well-Documented SAM Policies and Procedures:* Documentation is critical to an effective SAM program. Having recently gone through documenting business processes as a first step toward establishing controls over the financial reporting process for Sarbanes-Oxley compliance, organizations generally understand the need to have formally documented SAM processes to be successful in running a SAM program. Our survey indicated that almost 17 percent of *Basic* organizations, 34 percent of *Standardized* organizations, and 100 percent of *Rationalized* organizations have formal documentation of SAM processes.

  More than half of all respondents reported the existence of some kind of documentation or checklist specifically addressing software assets, and about 11 percent reported the absence of any SAM documentation. In KPMG's experience, only those SAM programs that are embraced by upper management are successful. An increasing number of executives are taking steps to extend their sponsorship to SAM programs.

Level of Documentation within the Organization

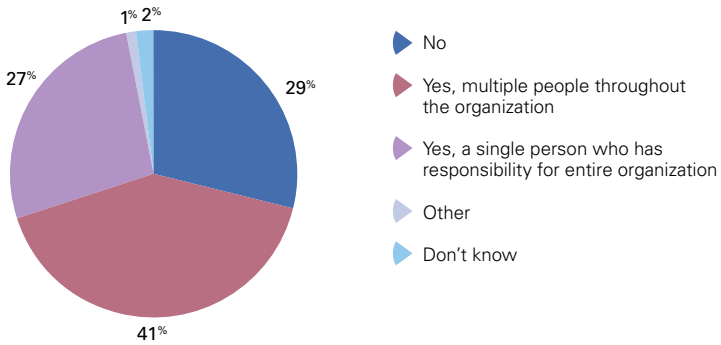


Source: KPMG International, 2008

- *SAM Head Count:* One of the prerequisites for a SAM program is SAM head count. KPMG's survey revealed that 29 percent of organizations do not have anyone assigned specifically to carry out SAM responsibilities and about the same number reported that they have a single person assigned to a SAM function. However, about 41 percent reported they have multiple individuals assigned to their SAM program, demonstrating a higher degree of commitment to the management of software assets.

  Of those that had multiple people assigned to SAM initiatives, almost 76 percent were rated *Rationalized* on overall SAM maturity.

Personnel Assigned to SAM

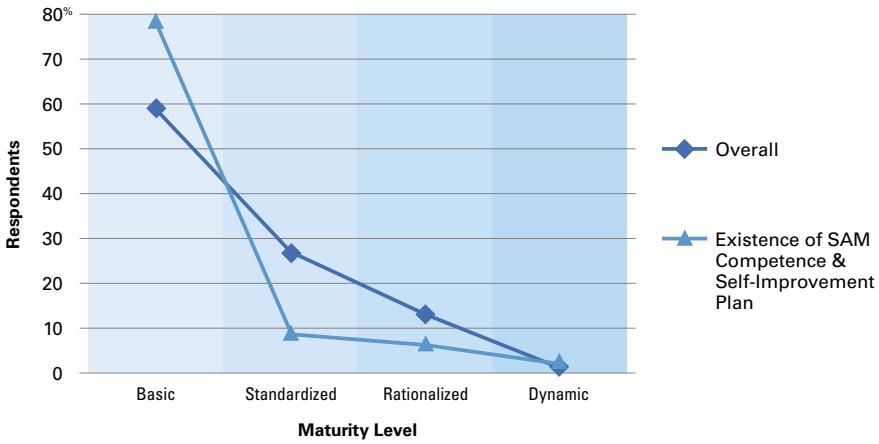


Source: KPMG International, 2008

2. SAM Self-Improvement Plan

Does your organization have an approved SAM self-improvement plan?

Competency 2 against Overall



Source: KPMG International, 2008

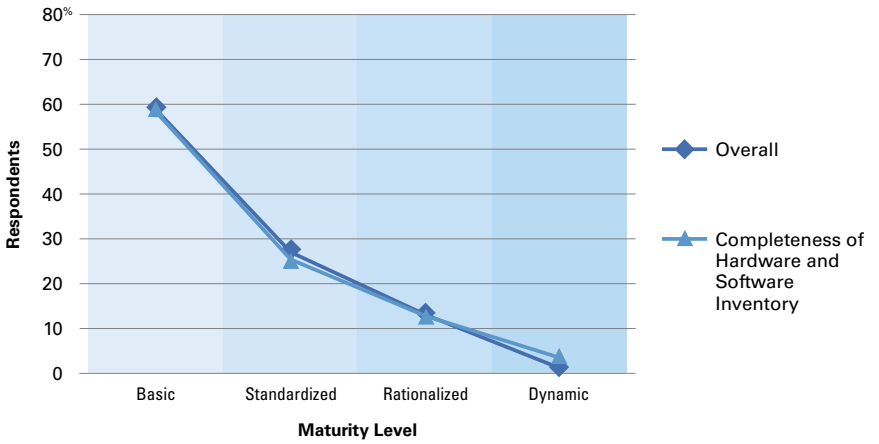
Key Observations

Competency 2 against Overall: Having a SAM improvement plan does not appear to be a priority for the organizations that are *Standardized* and *Rationalized*. Organizations that have enough cumulative maturity to be at these levels overall may benefit from developing a formalized strategy and SAM improvement plan.

3. Hardware and Software Inventory

What percentage of user PCs and servers is included in a centralized software inventory/CMDB (configuration management data base) that is populated by a software tracking tool?

Competency 3 against Overall



Source: KPMG International, 2008

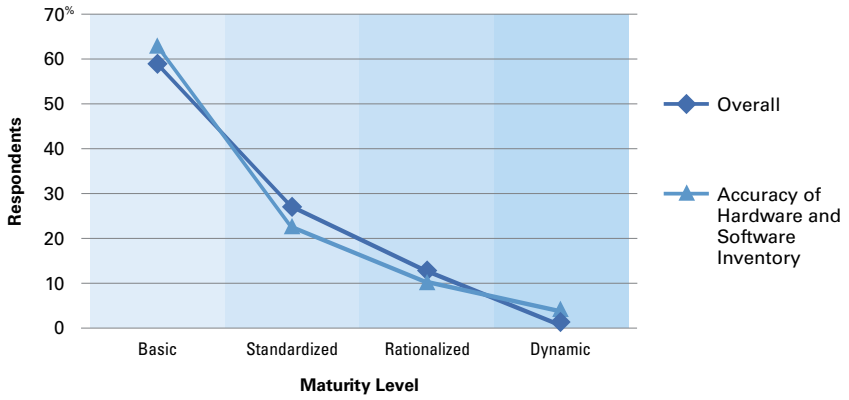
Key Observations

Competency 3 against Overall: The trends for this component appear to map to the overall maturity trend very well. This component should therefore be considered a key indicator of overall maturity.

4. Accuracy of Inventory

How often do you reconcile software inventories with other sources to verify accuracy of assumed license metrics (e.g., user counts based on HR employee records)?

Competency 4 against Overall



Source: KPMG International, 2008

Key Observations

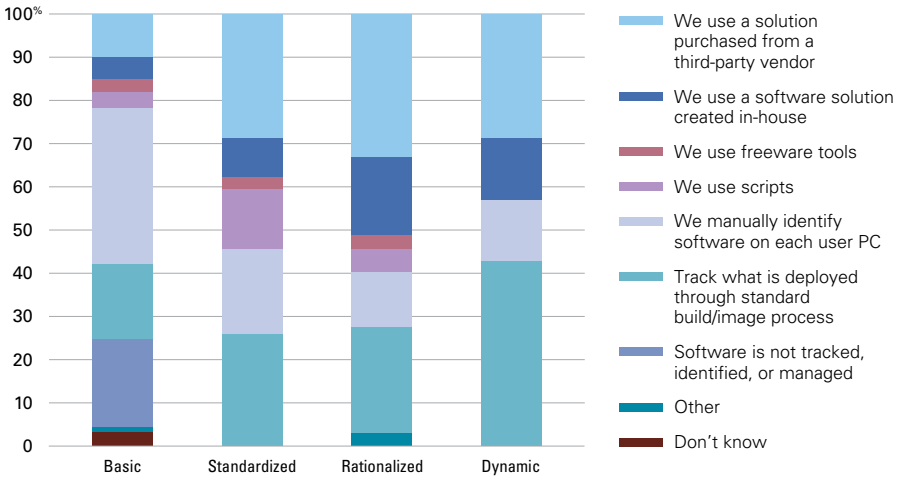
- *Competency 4 against Overall:* Accuracy of inventory is a good predictor of overall maturity. This component appears to be slightly more difficult to achieve because 63 percent of the respondents are *Basic* when considering accuracy, compared with 58 percent when considering completeness. This indicates that more organizations believe they have complete inventories rather than accurate inventories. Organizations that have made sure their inventories are complete should also test to verify that they are accurate.
- *SAM Tools:* It is interesting to note that more than 14 percent of organizations that have *Dynamic* overall SAM maturity use homegrown software solutions as the primary means to track, identify, and manage software deployed within their PC and server environments. Use of manual methods is also preferred to the same extent, while about double that number use a third-party software SAM solution.

  In sharp contrast, less than 10 percent of those rated *Basic* overall are using SAM tools of any sort. These organizations are primarily resorting to manual methods to track and manage software.

  A total of 26 percent of respondents said they are using a third-party SAM tool or a homegrown software solution as their primary method of managing software assets. This number is surprisingly low and suggests there is a tremendous opportunity for organizations to take advantage of the multitude of SAM tools available in the market today to better manage their software assets and reduce costs.

The remaining 74 percent indicated they use tedious manual or semi-manual methods to manage their software assets. They may therefore lack the ability to make better management decisions to get the most out of their software and infuse cost efficiencies into the entire software life cycle from procurement to retirement.

Primary Method Used to Track, Identify, and Manage Software

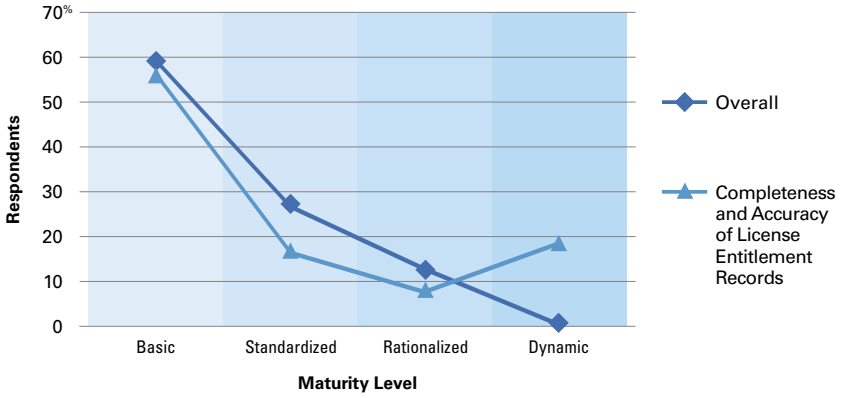


Source: KPMG International, 2008

5. License Entitlement Records

What percentage of procured software licenses is recorded in a license entitlement inventory (a central repository/tracking of all licenses owned and/or previously acquired)?

Competency 5 against Overall



Source: KPMG International, 2008

Key Observations

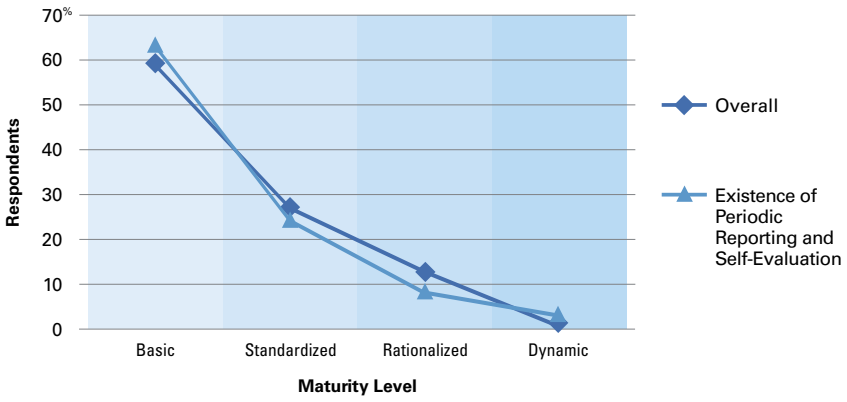
Competency 5 against Overall: More organizations for this component are *Dynamic* than the overall trend for all components. Some organizations may have more complete entitlement records than anticipated because the license entitlement inventory is managed as a separate process (e.g., by procurement), even if IT operations processes are not implemented in a mature way.

Sixty percent of organizations are *Basic*, which means they have a software license inventory that is substantially incomplete. Such companies would likely struggle to effectively reconcile entitlement with deployment to mitigate the risk of paying either too much or too little for the software they are using.

6. Periodic Self-Evaluation

How often do you reconcile software deployments (usage) to software entitlements (purchases)? Software entitlements are the software licenses owned or previously acquired.

Competency 6 against Overall



Source: KPMG International, 2008

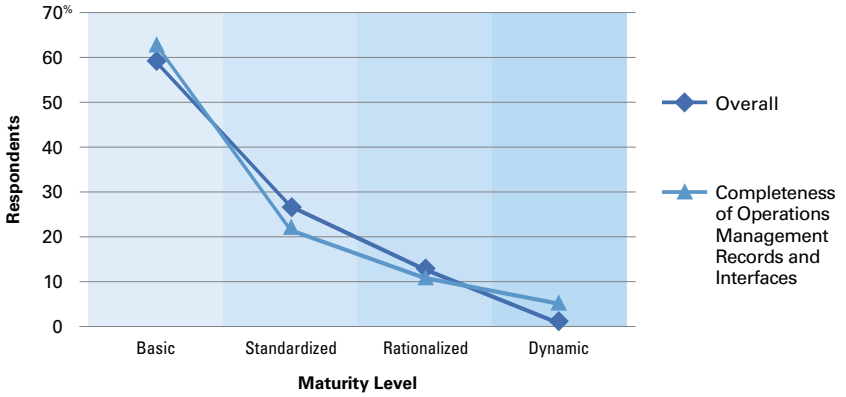
Key Observations

Competency 6 against Overall: Overall this component maps well to the general trend and is consistent with the trends observed for hardware, software, and entitlement inventory completeness and accuracy. As expected, those organizations that collect and maintain inventory records for deployment and entitlement are likely to perform periodic reconciliations of such records.

7. Operations Management Records and Interfaces

How do the various operations management functions (contracts, financial fixed assets, service support, security, networking) use software and hardware inventories in their daily roles?

Competency 7 against Overall

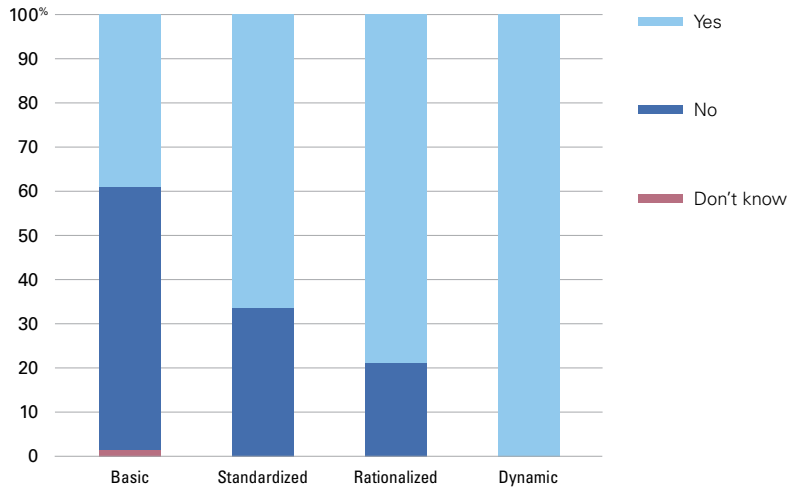


Source: KPMG International, 2008

Key Observations

- *Competency 7 against Overall:* The survey results suggest that operations groups are not leveraging software inventories to manage and support their functions.
- *Lockdown of User PCs:* Almost half (47 percent) of respondents said that PCs in their environment are not locked down to prevent downloading unauthorized software. KPMG believes that this can expose an organization to issues related to license noncompliance. It is interesting to note that more than 21 percent of the organizations that do not have their PC environment locked down were still rated *Rationalized* in their overall SAM maturity. This suggests the existence of other effective controls implemented by these organizations to ensure that only authorized and properly licensed software resides within their PC environment.

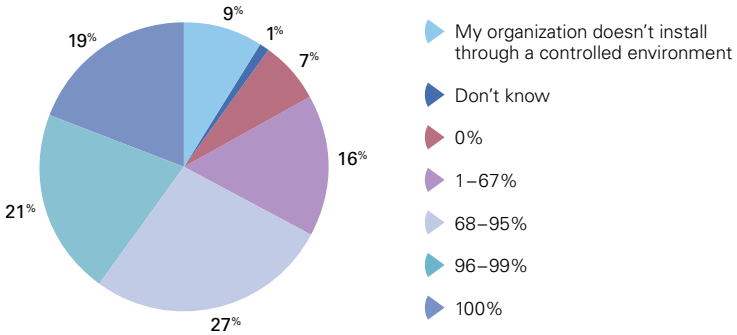
PCs Locked Down to Prevent Installation of Unauthorized Software



Source: KPMG International, 2008

- *Centralized Software Distribution:* Slightly more than one fifth (21 percent) of respondents said that 96–99 percent of software in their IT environments is installed through centralized sources or through a controlled distribution environment. Slightly less than one fifth (19 percent) said that 100 percent of the software is deployed through a central distribution environment. These results correspond to highly mature organizations. However, approximately 32 percent of total respondents reported that less than 68 percent of the software in their organizations is installed as part of any controlled distribution environment. This could lead to installations that cannot be tracked and supported and is an indication of poor SAM practices and maturity.

Percentage of Software Deployed across PCs and Servers Installed through Centralized Sources or a Controlled Distribution Environment

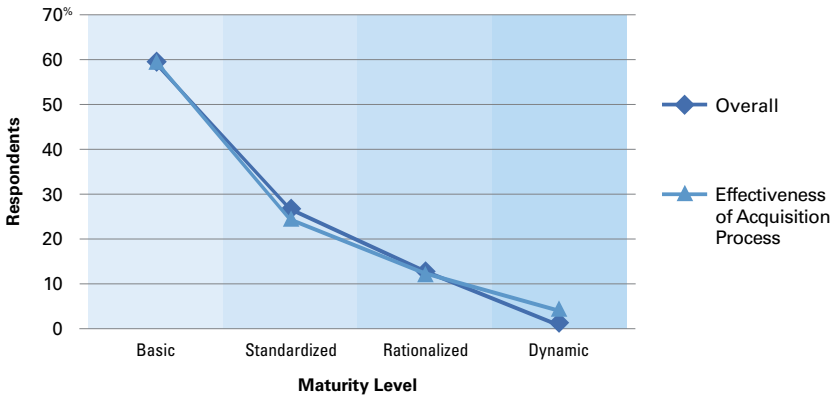


Source: KPMG International, 2008

8. Acquisition Process

What percentage of total software purchases in your organization is made through or is controlled and tracked by centralized procurement?

Competency 8 against Overall



Source: KPMG International, 2008

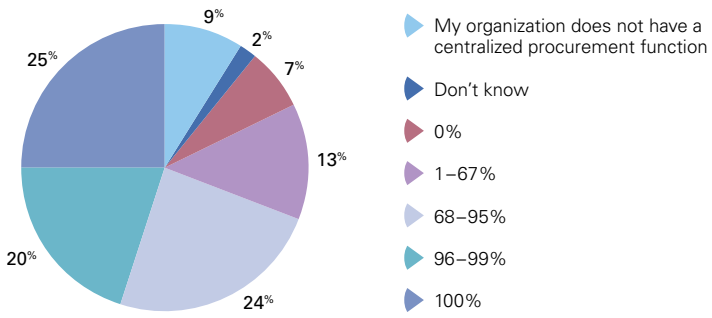
Key Observations

- *Competency 8 against Overall:* The distribution of organizations with respect to controlled procurement of software is in line with the overall maturity trend.

  KPMG's experience has shown that disconnects between the acquisition process and the deployment process are a root cause of issues when new assets are added to the operational environment. KPMG has also noted that breakdowns in the retirement process are a common issue.

  The acquisition process, the deployment process, and the retirement process manage how assets enter and leave the IT environment. The other components measured in this model define how effectively the IT assets are managed while in the IT environment.

Percentage of Software Purchases Made through or Controlled/Known/ Tracked by Centralized Procurement

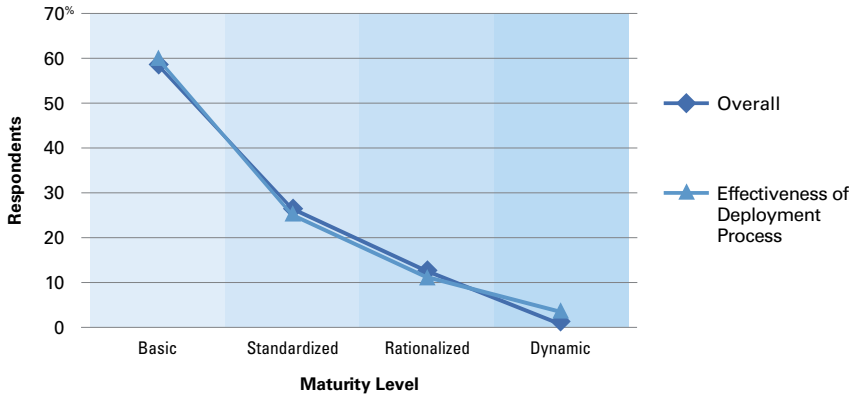


Source: KPMG International, 2008

9. Deployment Process

What percentage of total software deployed across the organization's PCs and servers (considering all operating systems) is installed through centralized sources or through a controlled distribution environment?

Competency 9 against Overall

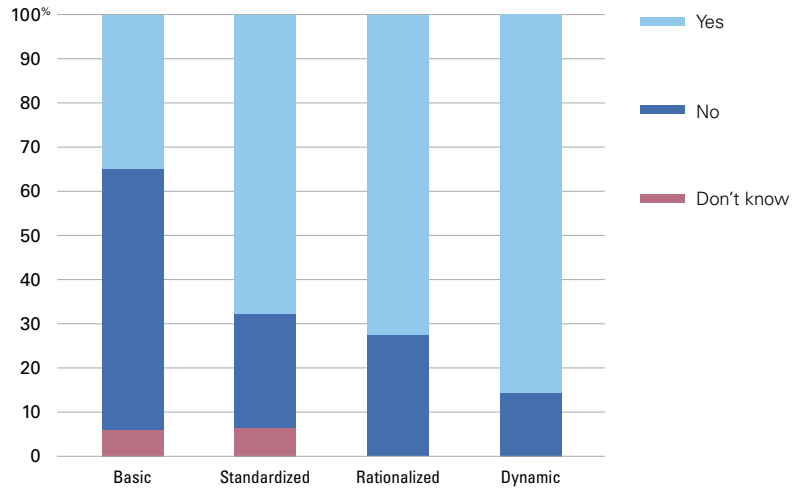


Source: KPMG International, 2008

Key Observations

- *Competency 9 against Overall:* Individually, the acquisition process component and the deployment process component appear very consistent with overall trends. However, the key risk that most organizations face is in the interfaces between these two processes. KPMG's experience has shown that the root cause of most license compliance issues is the "disconnect" between IT administrators who deploy software, procurement offices, and legal contract administrators who acquire software. IT, legal, and procurement organizations may be implementing each process effectively on their own, but issues result if these key stakeholders for SAM do not have both structured and open communication processes.

Imaging or Cloning Product Used to Create and Maintain Standard Desktop Images

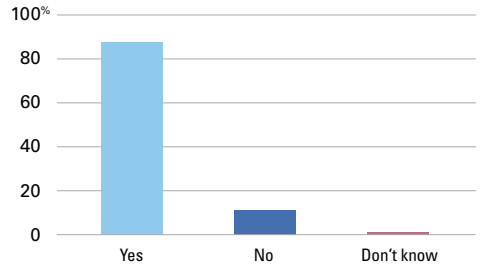


Source: KPMG International, 2008

- KPMG observed that 49 percent of respondents were using an imaging or cloning product to create and maintain standard desktop images across the organization. The percentage of companies using such technologies correlates with the increase in overall SAM maturity from *Basic* to *Dynamic*, suggesting that implementing a technical solution that provides better control over image standardization may have a positive impact on the overall SAM maturity of a company.

List of Approved Applications Available upon Request

(Applications Not Installed as Part of the Standard Image)



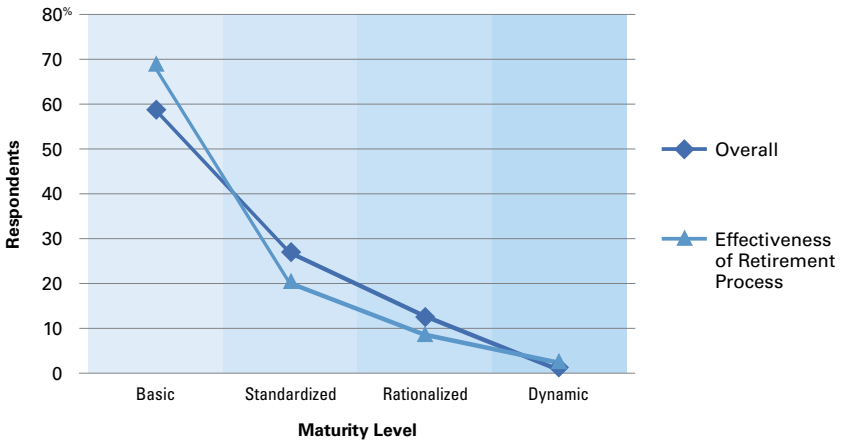
Source: KPMG International, 2008

- Almost 88 percent of respondents said there is an approved list of software not installed as part of their standard image but available upon specific request. This high number suggests that most organizations are paying close attention to what software is deployed within the PC environment and have specific approval mechanisms in place to help ensure that deployment of nonstandard software is limited and controlled. However, this alone is not sufficient to have a robust SAM component.

10. Retirement Process

What percentage of retired hardware assets is tracked in a way that enables the resident software to be reused?

Competency 10 against Overall



Source: KPMG International, 2008

Key Observations

- *Competency 10 against Overall:* KPMG has observed that, compared with other key processes in the IT asset life cycle, retirement management is often literally left until the end and then often forgotten or ignored. The survey data demonstrates that the retirement process component of more organizations is *Basic* when compared with the overall trends and suggests that 69 percent of respondents do not have retirement processes in place. Organizations that have mature processes and procedures related to other aspects of the software life cycle may benefit further by implementing effective retirement processes. A few such benefits are described below.
- Retirement process benefits include:
  - Cost optimization (e.g., reuse of retired software from retired PCs)
  - Accurate records (keep hardware and software inventories accurate; enable reconciliation between the financial fixed-asset ledger and the actual IT environment)
  - Social responsibility (many organizations donate old hardware and software and help to ensure "green" recycling)
  - Security and risk management (e.g., hard-disk wipe and other initiatives to protect customer and corporate private and confidential information)
  - License compliance risk mitigation (e.g., if legacy PCs and servers are not appropriately retired, the company is required, per the license product use rights, to maintain licenses for these unused items).

How KPMG Can Help

KPMG's Advisory practice provides a wide array of services related to software asset management and software license compliance. KPMG has helped leading global corporations (including several of the Fortune 50) to address challenges related to SAM with a view toward reducing compliance exposure, optimizing costs, and achieving higher overall IT maturity.

KPMG has more than 123,000 professionals in KPMG member firms in 145 countries, located in or near the cities where our clients operate. This proximity means that KPMG's professionals know local laws, customs, and business practices so they can effectively provide SAM services, help our clients optimize cost and achieve compliance with license agreements, and recommend practices that can help achieve higher levels of SAM maturity going forward.

Contact Us

For more information about this study or about software license compliance, please contact one of these KPMG practice leaders:

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The pace of technology innovation continues to present new challenges for organizations managing software assets throughout their life cycles, and SAM will continue to be a critical part of a successful informa tion technology strategy. As a professional services firm with access to an extensive international network, KPMG understands how much organizations struggle with software asset management and can help address those challenges.

About the Authors

Tom Lamoureux is KPMG's Global Advisory Sector Leader—Electronics, Software & Services. He assists technology clients in creating leading processes to improve risk management and enhance business processes. Tom has developed and implemented leading risk assessment and audit planning methodologies, led high-value-added internal auditing services for domestic and international objectives, and created self-assessment strategies and technology solutions for internal audits. Tom's clients include many of the world's leading technology companies.

Ron Brill is a partner in KPMG's Advisory practice based in Silicon Valley, and KPMG's Global Leader for Software Asset Management. Ron has many years of experience in IT governance, information security, software licensing, and software optimization, and he has led the development of KPMG's methodologies in this area. Ron works closely with leading software publishers on the topics of software licensing, software compliance, and software asset management. Ron is a frequent speaker at industry forums.

Abhi Joshi is a director in KPMG's Advisory practice who has worked with multiple software publishers to build compliance programs. Abhi has advised leading companies to help them better manage their software and hardware assets, limit compliance exposures, and obtain greater value from investments in hardware and software.

Jon Naseath is a manager in KPMG's Advisory practice, focusing on software asset management and software licensing services. Jon has extensive experience helping leading organizations to optimize their SAM programs as well as assisting both software vendors and their customers in understanding software deployments and entitlements.

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