

SOFTWARE MANAGEMENT: TURNING CHAOS INTO CONTROL

Managing software may seem more challenging than ever, but discipline and good tools can ease the burden.

Executive Summary

These days, the amount of software an organization relies on can be staggering. Moreover, software acquisition is often decentralized, with individuals and subordinate groups having authority to buy programs or provision software from a cloud provider for their particular needs.

The result? It can become difficult – even for the most organized IT department – to know exactly what software the enterprise has, who's using it and where, how many licenses have been negotiated, and the types and terms of those license agreements.

Software license management and software asset management (SAM) describe a set of IT tools and practices that let organizations effectively inventory the software they use, match applications to technology roadmaps and goals, and review licenses and contracts on a regular basis. In turn, enterprise software license management and SAM software help automate those processes.

With tools and practices in place, IT shops have the framework to take control of software assets, even as the technology infrastructure and requirements change over time – as they will.

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The Software Management Headache

Managing software is more complicated than at any time in history, for a variety of reasons. Not only are the programs themselves more varied and specialized, but so are the ways in which they're delivered.

People and software have grown decentralized. Mobile workers want access to software on tablets and smartphones. In addition, the growing popularity of software as a service (SaaS) – programs that organizations lease from cloud computing providers and use over high-speed Internet connections – has helped make tracking software licenses, versions, security fixes and cost critical for IT departments.

The rise in software virtualization complicates matters even more. There is little industry consensus on how to license software running in a virtualized environment; therefore, different vendors have different policies.

Microsoft, for example, often caps the number of virtual operating system environments in which a software product can be installed, depending on the software itself. IBM, on the other hand, often requires that a server or cluster be licensed to its full processor capacity for a software product, even if only one virtual machine will be running the software. (Although, it does provide ways to license software at the virtual server level.)

None of this confusion changes the fact that software is a valuable business asset and must be managed as such. The downside to mismanagement can include everything from security holes and software licensing violations to steep fines.

Despite an IT department's best intentions, not knowing what software an organization has or whether it's in full compliance with licensing agreements can get it into hot water. Whether through a routine audit or because someone blows a whistle, being found to be in noncompliance with software licenses can result in lawsuits, loss of reputation and a hit to the budget or the bottom line.

According to Robert Scott, managing partner at the intellectual property and technology law firm Scott & Scott, fines can run into the millions of dollars. In a best-case scenario, an organization might be able to negotiate a settlement and an amended licensing agreement.

And even if every software program is fully licensed, it doesn't mean the IT department has a handle on the software it makes available to users. Overprovisioning, or buying too much software, comes from not knowing which employees really need the application. Some IT managers purposely overprovision to avoid getting caught up in license compliance issues.

On the other hand, underprovisioning – paying for fewer licenses than is legally required to be in compliance – can mean

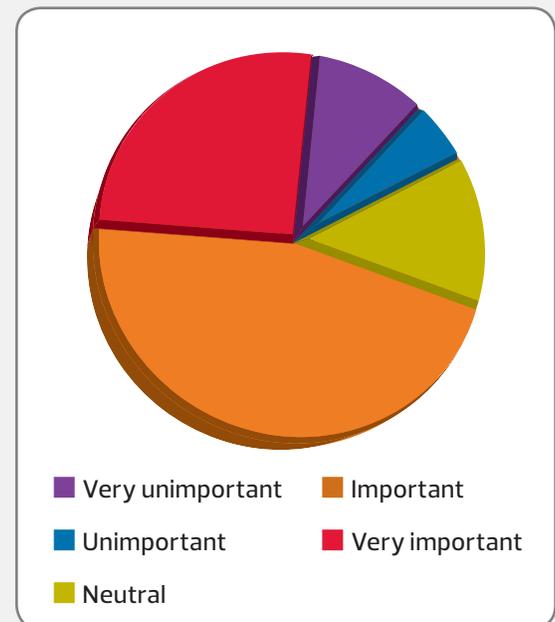
problems during a software audit. Underprovisioning rarely occurs by design, but it can happen when IT managers know neither what they have nor what they need to meet their organizations' technology and goals.

The key is to establish an automated, centralized way of managing the software itself and associated licenses. Implementing a software license management and asset management program can give IT managers an effective way of tracking software licenses (and renewal dates), product versions, security updates, application use and more.

This can result in managing software in a more strategic and proactive manner.

Managing Software Licensing and Usage is Important for the Enterprise

72% of enterprises indicated that managing software licensing and usage is important or very important. Only 12% indicated it is unimportant.



Source: 2011 Key Trends in Software Pricing and Licensing Survey, sponsored by Flexera Software

In Brief: Software Licensing

Still not convinced that software and software licenses require effective management? Consider the myriad licensing options. Implementing a management strategy can help IT managers determine which of these make sense, depending on application and usage.

▪ **Per seat:** This type of software license is based on the number of devices that access the application within a network. For example, a 100-device, per-seat license means 100 individually named devices can access the software program at the same time. Note: This model can be per seat (device) or per user.

- **Per concurrent users:** This model works well for the enterprise that has employees working in different locations at different times. It means that users can essentially share licenses.
- **Per usage:** With this newer licensing model, software publishers charge a base fee for starters. Costs then rise or fall depending on how heavily the software is used.
- **Volume licensing:** These formal programs offer discounted pricing when software licenses are purchased in volume. They provide only one activation code or product key, simplifying management and tracking. They also fully document license compliance and reduce support issues by standardizing software versions across the enterprise.

Then there are the licenses themselves, which can be confusing. No software licenses are exactly the same, but some clauses are common to virtually all of them. Understanding the basics is an important step toward managing them more effectively. Common clauses include:

- **Grant of license:** This clause spells out what type of license is being purchased and restricts the buyer's right to use the product to those specifically defined rights. It will also define the platform on which the software can be used and the purpose for which it can be used.
- **License restrictions:** This details exactly what the users can and can't do with the software. It will generally state that it can't be shared, sold, distributed or sublicensed. It will also state how many users are permitted and that they can't modify or copy the software except as a backup.
- **Ownership:** This clause basically states that the software remains the property of the licensor, who retains all intellectual property rights. It will also state that the product is being licensed – not sold.
- **Disclaimer of warranties:** Usually, licensors disclaim "any and all warranties" and note that the product is being licensed "as is."
- **Limitation of liabilities:** This clause generally excludes liabilities for incidental, consequential or punitive damages, and will cap liability for all claims and losses to the amount paid for the software.
- **Right to audit and termination:** Perhaps the most important reason to have a software management strategy, this clause gives the licensor the right to audit the software's use. And if the terms of the license are violated, it gives the licensor the right to terminate the license.

The Wisdom of Software License Agreements

With the advent of mobile workers, virtualization and cloud computing, it's more difficult than ever for IT managers to know what software its employees are using (or not using),

how many copies they have and whether all copies are up to date. Add in IT staff changes and a fast-paced technology environment, and it's easy to see why keeping tabs on software licenses, purchase orders, serial numbers, installation codes and documentation is complicated.

One of the best ways to keep track of everything is by using software license agreements, which simplify record-keeping while ensuring legal compliance and making sure users have access to the latest software releases.

The concept is fairly straightforward: Instead of buying, for instance, 30 packaged copies of a program and tracking multiple serial numbers and licenses, an organization could buy one license for 30 copies of the software. The license agreement allows for the installation of the same software license on multiple clients from a single point on the network. IT managers have just one license to track and upgrade when the contract expires.

The more users of a piece of software, the more a software license agreement makes sense. If an organization's employees use several types of software, it's possible to bundle them together and get an even bigger discount.

To make the most of the license agreement opportunity, develop a short list of software titles used by multiple staff members. Then focus on applications that are likely to gain additional users in the next 12 months. From this list, IT managers or software asset management specialists can review the software licensing terms and conditions offered by various publishers and make the right choices.

The Software Audit

Even if an IT department follows good software management practices, at some point it is likely to be audited for compliance. According to a Gartner study released in March 2011, 61 percent of organizations had been audited in the prior 12 months.

With the right management system in place, IT is more likely to know what software it has (or doesn't have) and will have less to fear from an audit. What's more, with an automated system in place, it's easier to gather the licensing and use information needed during a software audit.

Generally, audits come about in one of two ways. A growing number of software vendors are conducting routine audits, which is their right under most software licensing agreements. For routine contractual audits, software publishers act either on their own or with an accounting firm that has a software audit practice.

Audits also can come as a surprise – for example – when a disgruntled employee submits an anonymous tip to the Business Software Alliance trade group. When the enterprise receives a letter from the BSA, it is often asked to conduct a voluntary audit. The BSA then compares those results against sales receipts and invoices. If the alliance reviewer finds a

discrepancy, then legal action usually results. At that point, it might be wise to bring in legal assistance.

In fact, retaining a lawyer is important for any audit. A competent lawyer will limit the scope of the audit as much as possible, based on time, business unit, product set and geography. The lawyer will also spend time reviewing the software inventory in light of software entitlements related to installed products.

The right lawyer will understand both the software publisher's and the organization's perspectives. And he will make the case that a good long-term relationship between software publisher and customer requires agreement on how usage and compliance will be monitored. To avoid adversarial audits, internal audits and so-called "true-ups" are critical. The right management system makes them possible.

The Business Software Alliance Makes Your Software Its Business

The Business Software Alliance (BSA), which represents industry heavyweights such as Adobe, Intuit, Apple and McAfee, considers itself both an information provider and protector of vendors' software revenue.

On the information side, the BSA runs policy, legal and educational programs in 80 countries. Its public policy programs focus on inspiring innovation through intellectual property policies. These include copyright, patent and trademark laws, improving export opportunities for technology organizations and promoting research, development and investment in next-generation technologies.

The organization also provides a software asset management program to help the enterprise reduce compliance risks and conducts outreach efforts to educate groups about the importance of software compliance.

As the protector of software manufacturers, the BSA heavily promotes its anti-piracy and intellectual property programs, which aim to reduce the theft and illegal use of software. One way it does this is by encouraging employees to anonymously turn in their employers for software misuse.

The BSA even offers rewards for reporting piracy. If the tips prove valid, it will take next steps, going as far as filing civil lawsuits and referring cases to national law enforcement authorities for criminal prosecution. In most cases, the BSA will notify an organization about possible software violations and request a voluntary audit. When that letter arrives, the enterprise with a comprehensive software asset management program is in the best position to respond.

Twin Disciplines: Software License and Asset Management

Software license management and SAM are complementary approaches for achieving software management.

Software license management, a subset of SAM, focuses on recording license information and details, matching software purchases with vendor product information (including part number and associated entitlement rights). With an automated software license management system, IT managers often discover benefits of their existing software licensing agreements that they didn't know existed, such as technical support or training.

SAM layers more capabilities on top of software license management systems, including tools to log and track software settings and configurations, determine software inventory, measure use, optimize performance and enforce policy. These toolkits also typically manage software license costs, renewal dates, terms and conditions, and signed agreements. Some SAM platforms also manage hardware and networking assets.

In addition to tracking and managing enterprise software, a comprehensive SAM system can manage licensing in complex software environments, such as those that incorporate cloud computing, virtualization and mobile platforms. It may include contract management capabilities, cost management features, compliance reporting and the ability to manage the full software lifecycle.

Both software license management and SAM programs help solve one of the biggest problems organizations have – the unintentional purchase of too many or too few software licenses (over- and underprovisioning). These programs solve both of these problems by generating reports that reconcile all existing license agreements with purchasing records and employee headcounts.

According to a May 2011 report from Enterprise Management Associates, the most important types of applications for a SAM system to support include well-known, broad-based applications, such as Microsoft Exchange, Oracle, SAP and IBM Lotus Notes, as well as mission-critical applications, custom programs, web applications and traditional client/server software.

A Gartner study found that more than half of enterprises rely on SAM to track, manage and report their software licensing and use. The same study found that 20 percent of those organizations were doing it manually – relying mainly on spreadsheets for their SAM programs, instead of using one of the fully functioning products on the market today.

Benefits of Software Asset Management

- Lowers total cost of ownership of IT assets
- Helps manage technology change
- Streamlines administration of software assets, including upgrades and maintenance
- Minimizes compliance risk
- Limits security risk
- Delivers greater IT staff efficiency

The Extended Benefits of SAM

By implementing a SAM strategy, including an automated, fully functional SAM solution, organizations gain visibility into the software and hardware installed in their environment, right down to numbers, versions and license dates. SAM also makes it easier to discover if there are any unused programs that are being paid for unnecessarily, if all software is up to date and if employees have all the applications they need to do their jobs.

All of this data helps organizations remain in compliance, make better decisions about what software should be running and create a standardized environment. It helps IT shops determine if their budget dollars are being spent effectively, or if they could save money by consolidating agreements or scaling back licenses. A SAM solution also gives IT managers more information with which to enter into license renegotiations.

But SAM has additional benefits. For example, organizations tend to reap significant time savings by implementing a SAM system. Not only can the IT department stop manually accounting for software licenses, but a robust SAM package can help implement patches and security updates.

With a SAM solution, the IT support staff also become more efficient. Because they now have licensing and versioning at their fingertips, they can more quickly troubleshoot software-related issues.

Another major benefit is cost savings. With full visibility into all the applications installed on a network – and how they are being used – IT managers can make better decisions about software acquisitions. If IT finds, for example, that many licenses are unused or underused, it can save money. Usually, organizations can also cut back on any maintenance and support contracts they have in place to match the real use of the software, saving even more money.

Finally, a SAM solution can also improve network security. In August 2011, the SANS Institute, an independent resource for security certification and training, released Version 3.0 of its *20 Critical Security Controls for Effective Cyber Defense*.

Control 2 – an inventory of authorized and unauthorized software – guards against cyberattacks that tend to exploit a lack of software control by scanning for vulnerabilities in old or unauthorized programs.

Moreover, SAM boosts security because when an IT manager is notified that an application has a critical vulnerability, it is easier to identify which employees are using the software and where their machines are. With that information, security issues can be handled quickly.

Implementing Software License Management and SAM Solutions

Making software asset management work means knowing what software the enterprise is using, who is using it and then matching software with licenses. That can be a tall order without a certain degree of planning and automation. There are five basic steps to implementing a SAM solution:



STEP 1: Review the current software environment, documenting all programs loaded on desktop PCs, notebooks, tablets, mobile phones and other devices.

STEP 2: Using the data collected in Step 1, do a compliance check by comparing the application titles that are in use with official licensing purchase records.

STEP 3: Create a series of checks and balances by centralizing all software purchases. The best way to do this is by developing usage policies that are backed by underlying rules for requisitioning, acquiring, installing, reallocating and removing applications.

STEP 4: If it hasn't been done already, now is the time to implement a dedicated SAM solution for automating the steps going forward and ensuring future compliance (see below). Keep in mind, a SAM solution often includes a SAM tool, a SAM team and the SAM process.

STEP 5: Now, that the enterprise has established a process, it must maintain it – rinse, wash, repeat. It's not enough to go through the process once, although it's critical for establishing a baseline and bringing all of the organization's software licenses into compliance. Plan to repeat the process every 12 to 24 months.

With a software management process in place, license management and SAM tools can make all the difference. Here are several solutions that IT departments use today:

- **CDW Software License Manager:** This free, agentless tool keeps track of software licenses, versions and start/end dates. It also alerts IT managers if action is required. It helps prevent overpayments, unnecessary purchases and inflated maintenance agreements while improving IT governance and ensuring compliance. It tracks all software regardless of manufacturer, or whether the software was purchased through CDW.
- **CDW Software Asset Manager:** This IT auditing and license management subscription solution adds to the capabilities of the Software License Manager. It gathers inventory information, allowing license reconciliation and the ability to compare software installed with software purchases. Other capabilities include remote auditing and tracking of all major enterprise platforms, including Microsoft Windows, Linux, Unix, Apple OS and IBM AIX, as well as Windows Mobile devices.
- **FlexNet Manager Suite:** This suite of tools from Flexera Software includes specific software management for Microsoft, Adobe, Symantec, IBM, SAP and Oracle, as well as engineering applications. It's built on the FlexNet Manager Platform, which provides core SAM functionality for identifying and managing applications installed on physical and virtual machines.
- **FrontRange Software Asset Management:** This SAM solution consists of four modules. FrontRange SAM Essentials helps IT managers scope and plan a SAM project. FrontRange Discovery finds software in use. FrontRange License Manager captures proof of license entitlements and reconciles software against those entitlements. And FrontRange NetInstall automates software deployment and management.
- **IBM Tivoli Asset Management for IT:** Enabling effective management of the IT asset lifecycle, it provides the ability to capture, integrate and maintain technical and financial information about IT assets from planning to procurement, deployment and maintenance to end of life and disposal.
- **LANDesk Asset Lifecycle Manager:** This visual tool allows IT managers to aggregate data from multiple sources, including service desks, financial programs and systems managers, and organize the data by department or cost center. With this information, IT managers can reconcile software and devices against purchase orders, reconcile software entitlements against discovery and better control software versions.
- **Microsoft Assessment and Planning (MAP) Toolkit:** A free, agentless tool, it provides a network inventory of IT assets, resulting in consistent server and software usage tracking reports. The toolkit also identifies the currently installed operating systems in the environment and analyzes hardware and device compatibility, along with recommendations for migration to major Microsoft products.
- **Microsoft Asset Inventory Service (AIS):** This two-part solution includes a web-based service for viewing inventories of software installed on desktops within an organization, and client software program that communicates with the service and supplies it with inventory information. It is a core component of the Microsoft Desktop Optimization Pack for Software Assurance.
- **Microsoft System Center:** Offering better control over IT infrastructure and assets, Microsoft System Center Configuration Manager (SCCM) allows taking inventory of both hardware and software throughout the enterprise. Asset intelligence translates inventory data into information, providing rich reports that help administrators optimize software usage.
- **Novell ZENworks Asset Management:** This solution provides an accurate view of software installations and license compliance status. It integrates the asset inventory with software usage and license reconciliation capabilities that include automatic filtering for purchased-versus-discovered products, as well as for different versions, editions and suites. It also integrates contract management and includes a full set of reports.
- **Symantec Altiris Asset Management Suite:** This product delivers IT asset discovery and tracking for hardware information, installed software packages and operating system settings. Pre-built workflow templates automate common tasks and processes, such as collecting information and providing follow-up notifications.

A Daunting Task? Not Necessarily

Some IT shops may not have the staff or resources to implement a comprehensive SAM solution. For those busy IT departments, one option is to turn to an expert for the right software asset management system.

By partnering with a solutions provider, a smaller operation can be sure to get valuable software licensing, contract and best practice knowledge around deployment as well as an understanding of what SAM solution would be the best fit. If this route is chosen, both sides must set clear expectations up front in terms of work scope and quality.

Software licensing specialists are usually certified in a wide array of programs. They understand how to navigate complex licensing options, and can help compare key features of different programs. The software licensing specialist typically works with additional technical resources, like system engineers and solution architects, who can answer complex technical and product questions and help ensure that the enterprise is getting the right mix of software products – and the right number and type of licenses.

Specialists can help simplify program planning and contract negotiation, transfer operating systems and software settings, install software and provide lifecycle support. They can also prove helpful by providing an internal readiness assessment.

This process helps the enterprise understand the hardware and software it currently has in place, along with what's needed to help it achieve its future goals or mission requirements. The right technical experts can then help create a technology roadmap to achieve those goals.

How One Software Developer Regained Control of Its Own Licenses

For Harms Software, a fast-growing developer of business management software for the salon and spa industry, adopting a software license management system was the best way to get a handle on its growing array of software licenses. Prior to using a software license management solution, the organization managed software licenses for its own and its customers' businesses using basic Microsoft Word documents. But as Harms Software grew, the old way of doing things also grew – out of control.

Last year, to ensure smooth operations and customer satisfaction, the company began using a software license management system to keep track of software license keys and start/end dates. The system also alerts customers when an action, such as renewal, is required.

The ability to track software keys has already come in handy. It has saved Harms time in managing its own Microsoft licenses, as well as helping it maintain software licensing information for clients that may have lost their software keys. The system also helps the firm streamline renewals, both internally and among its customers, and helps avoid reinstatement fees, which software vendors sometimes charge when customers don't renew during the prescribed period of time.

SAM in the Era of SaaS

Software as a service is growing rapidly in all sectors. With this model, instead of loading software onto physical servers, the software is hosted outside of the organization's walls – in the cloud – and made available to employees on demand.

For IT departments, SaaS can be easier to deploy, manage, monitor and scale up or down. SaaS providers generally price applications on a per-seat basis, and organizations review their SaaS contracts annually to adjust for fluctuations in their per-seat allocations.

SaaS may be convenient, but it also complicates software licensing. For example, how does IT keep track of who is buying

access? SaaS providers have no incentive to inform customers when they have multiple redundant contracts. They also won't help control the problem of overlicensing.

Complicating the issue is the fact that for most organizations, SaaS is just one software delivery model. Many organizations are moving to a hybrid model whereby some software is accessed remotely, some on premises, some in a virtualized environment, and some via smartphone or tablet. Comprehensive software licensing and software asset management tools can help manage such a hybrid software environment.

Although many SAM tools haven't yet caught up with today's licensing complexities, some have and others are making strides. Regardless, SAM solutions are the best place to start. By pairing a good automated software license management or SAM system with a software licensing or asset-management specialist, the enterprise has the best chance to cover all its software compliance bases.

Choosing a SAM Partner

Implementing a software asset management system has benefits, but, done correctly, it can also be a significant undertaking. Not only does the IT staff have to understand what capabilities they need, but they also must develop and implement an effective plan.

It's possible to go it alone, if the enterprise has the time and resources to dedicate a staff member to research requirements and alternatives, as well as the expertise to implement it. But for many organizations, that's not realistic. A partner that understands the SAM landscape can help inventory existing software and licenses and review software procurement and deployment procedures.

Engaging with a SAM partner streamlines the process of developing and implementing a software management plan that meets the organization's needs. A partner can save an organization time and money because it maintains a repository of expertise in the field. And because a trusted partner has an in-depth understanding of the financial and legal aspects of SAM, it can not only guide an organization in choosing the appropriate SAM tools, but also help control costs and reduce organizational and legal burdens.

When seeking assistance, an organization should determine the following about possible SAM partners:

- Do they have extensive experience with SAM?
- Do they understand complex software licensing issues and legal repercussions?
- Do they understand licensing deployment?
- Are they familiar with the various SAM tools available?
- Have they implemented SAM at an organization with similar software issues, and can they provide those references?

CDW: A SAM Partner That Gets IT

Best practices and management tools are essential to a well-run SAM program. And because the software licensing landscape can be complex and dynamic, many organizations require a third element: expertise.

CDW has a staff of highly trained and certified technology experts who understand software asset management and who can help software buyers address its inherent challenges and opportunities. CDW's team of experts includes software licensing specialists to help organizations navigate complex licensing options and compare features of different programs; licensing account executives to help recommend appropriate products and licensing programs; pre-sales systems engineers to answer in-depth technical and product questions; and software manufacturer representatives.

CDW delivers more than just products. Its comprehensive approach enables organizations to reap the benefits of the best technology, expertise and ongoing support services. CDW provides a host of software support services to help organizations improve their IT investments while decreasing

overall spend. These services include assessment, planning and design, to help evaluate software licensing program options, planning and contract management, configuration to ensure that all settings and operating systems are retained, onsite software installation and lifecycle support.

Dedicated CDW account managers and solution architects are ready to help at every turn. Their approach includes:

- An initial discovery session to understand goals, requirements and budget
- An assessment review of the existing IT environment and definition of project requirements
- Detailed manufacturer evaluations, recommendations, future environment design and proof of concept
- Procurement, configuration and deployment of the chosen solution
- Telephone support and ongoing product lifecycle support

To learn more about CDW's software management solutions, contact a CDW account manager, call 800.800.4239 or visit CDW.com/sam



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