WHITE PAPER | OCTOBER 2014

Why Software Asset Management is So Difficult—and How to Simplify IT

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Executive Summary

Challenge

The process of achieving software compliance through efficient software license management poses considerable difficulties for organizations looking to perform these activities with any level of efficiency or automation. A lack of standards in both the products needing identification and the tools designed to provide this service leads to a process dependent on tedious, manual tasks to assemble an accurate software inventory for license management.

Opportunity

Technology that offers integration and automation is now available and can be leveraged to address the challenges surrounding software inventory and license management. Solutions including these capabilities offer visibility into an organization's software environment and work toward automatically associating all software licenses, use rights and supporting purchase data to their respective software.

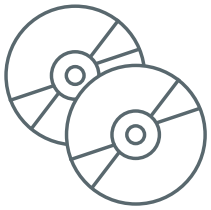
Benefits

Improving the efficiency with which software inventory and license management processes are performed provides an organization with a host of benefits, including:

- Reduced costs associated with software purchases
- Reduced costs and disruptions due to external software compliance audits
- Reduced likelihood and amount of software compliance fines

Section 1: Challenge

The Complications of Software Asset Management



The "dark art" of software inventory

When businesses and governmental agencies direct their IT organizations to establish a practice of software asset management to reduce IT costs and mitigate the risks of external audit, IT leaders seek technology designed and provided by commercial vendors. The expectations are seemingly straightforward—deliver functionality that supports:

- Identifying installed software products
- Matching installed software products to existing software licenses
- Reporting compliance status

It sounds simple enough. In fact, products offering this type of functionality have been available for many years. Why, then, are so many organizations struggling to address the relationship between software and license, achieve desired levels of compliance and avoid audits?

The unfortunate truth is that despite nearly two decades of development, the capabilities available in many commercial software inventory tools boil down to educated guesses at best. The root of the problem lies in the fact that there is no single set of standards outlining how products are to be internally or externally documented or manufactured for sale and installation.

Even though many operating systems offer file attributes, not all software publishers take advantage of these features. In the event that software offerings do include the pertinent attributes, a lack of formal quality assurance conventions significantly lessens consistency. In fact, there are documented instances where industry-leading vendors have brought products to market with their company name misspelled.

Aside from the inconsistent and incomplete publisher and product names, version, edition and language data is often published without a common format—and in some cases, it is simply missing altogether.

Evaluations and bundling

Further complicating software inventory processes are the practices of evaluations and bundling.

Some time ago, the idea of "try before you buy" was limited to shareware vendors using evaluations as an inexpensive marketing tool leveraging the capabilities of the fledgling Internet. Today, with the exception of enterprise and specialized vertical solutions, nearly every major software publisher makes most, if not all, of its portfolio available for download and time-restricted trial periods. Unfortunately, these publishers rarely include notations in the registry entries or file attributes that indicate that the software is an evaluation copy.

Bundling—the process of combining software developed by two or more publishers in a single product—is a common practice when releasing software that supports non-core or "commoditized" functionality, such as reporting, database and Web services. Again, publishers rarely change anything in the registry entries or file attributes to indicate that the software is bundled.

Due to a lack of proper registry entries or file attributes, software inventory tools typically cannot recognize software installed for evaluation or differentiate bundles from full products requiring an associated license. As a result, the reported software inventory is artificially inflated to contain items for which users can rarely prove entitlement.

The increased complexity of cloud-based and virtual environments makes this issue even more challenging. These environments make recognition of registry entries more difficult; moreover, they often introduce new and varied ways of calculating license usage.

Compounded difficulties

The vagaries of software product data aside, it would seem that in such a mature product market all automated inventory tools would deliver essentially the same results. Unfortunately, differences in the areas of data collection and product recognition have eliminated any effective standardization.

Data collection can be approached in several ways, depending on the overall product design and the platform being inventoried. The traditional collection method requires installation of client software, often called an agent, though network-based interrogation and other agent-less methods are approaching equivalency. Once installed, an agent examines the software for all registry entries, file attributes and any product identification data embedded in the code to produce an inventory.

Recognition is then employed to identify the software product for which data was collected. The prevailing method of product recognition utilizes what are commonly referred to as "signatures"—content created for the sole purpose of using multiple data points to accurately identify software products. Signatures typically contain functionality for cleansing and normalization, though some tools include richer feature sets designed to associate the software inventory to various categories, such as functional, licensable/non-licensable, freeware and open source.

Done well, comprehensive signature-based product recognition can deliver a software inventory with a high degree of accuracy. However, achieving a comprehensive inventory depends entirely upon the library of available signatures.

When considering the sheer magnitude of potential product titles to be inventoried—including multiple versions, configurations, editions and languages—it's not a stretch to estimate that millions of signatures may be required. Yet only a small few of the more aggressive and ambitious software inventory tool vendors claim signature libraries approaching the 100,000 mark.

To compound the problem, development of software recognition signatures typically requires access to the software product itself. Not only is this a costly drain of resources, but it also poses a difficult competitive compromise. Since many leading software inventory vendors hold competitive positions in the industry, little to no cooperation exists. Companies just aren't willing to hand their products over to their competitors to assist the recognition development process.

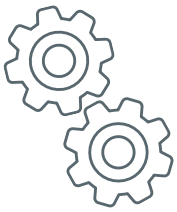
Inconsistencies breeding inconsistencies

Understanding software licensing and proving entitlement is equally troublesome, again due to a lack of standards and legal controls. For example:

- Software inventory as reported often doesn't correspond to purchase records, due to shortened or abbreviated product titles and the use of trade names and multiple SKUs representing a single software product sold in different ways.
- Suites and promotional bundles have with individual components that are indistinguishable from separately purchased products.
- Infinite license models with new schemes continue to emerge and evolve.
- Multiple license models based on logical relationships involve elements that do not physically exist and therefore cannot be inventoried, such as most client access licenses (CAL).

These difficulties, along with the challenges posed by misnamed attributes, trial software, bundles and signature development, combine to significantly increase the amount of manual effort required to produce an accurate software inventory and properly manage licenses.

Section 2: Opportunity



Compliance Through Automation

Leveraging a solution that enables more efficient software inventory and license management processes eliminates a multitude of manual tasks while mitigating legal and regulatory risks and addressing associated costs. Specifically, this solution should offer visibility into an organization's software environment in such a way that all software licenses, use rights and supporting purchase data are automatically associated to their respective discovered software.

Processes for simplified asset management

The process of simplifying the everyday complexities of software license management begins with the implementation of several tasks designed to automate the administrative tasks of matching licenses to their discovered instances. At minimum, such automation should help organizations to:

- Import license data and parameters from spreadsheets and other structured data sources
- Develop a library of templates with predefined license models for the top software publishers' products
- Map dependencies and define relationships as necessary to support complex licensing requirements
- Support dependent licenses, such as upgrades
- Produce reports and dashboard views of compliance status
- Cleanse data to facilitate normalization and classification

- Facilitate the development of a database of up-to-date software inventory and trusted license compliance information
- Integrate inventory data across the business

The importance of such processes has increased in magnitude due to the recent attention organizations are paying to adhering to ISO 19770-1 Software Asset Management standards. These guidelines outline a set of best practices organizations can employ to ensure their license management processes will help satisfy corporate governance guidelines and support IT service management.

Section 3: Benefits

Making License Management a Business Asset

An organization that automates and streamlines the process of software inventory and license management will become more efficient and improve its ability to promote IT governance through software compliance. Employing this robust brand of compliance management helps establish a foundation for task-driven license discipline.

In addition, implementing a solution with embedded domain knowledge of software license models and compliance requirements reduces costs by:

- Matching available licenses to demand, thereby reducing software purchasing costs
- Improving organizational ability to respond to external software audits
- Reducing the likelihood of compliance fines

Section 4:

Conclusions

Organizations looking to establish software asset management practices do so in order to reduce software related IT costs and minimize the risk of an audit. Yet, even with a number of dedicated solutions commercially available, the process continues to prove cumbersome and is often fraught with costly, time-consuming manual processes.

Implementing a solution designed to perform software asset management through automation and integration improves efficiency and lessens the risk of painful audits and/or falling out of step with compliance standards. As such, organizations can promote a stronger internal compliance discipline, harness a better understanding of current licensing processes, and reduce the costs associated with software license management as a whole.

Section 5:

About the Author

John Fulton has more than 15 years of experience in the information technology sector. He has been product manager in the IT Business Management business unit of CA Technologies, focusing on Asset Management solutions, for close to a decade. Prior to his role in product management, John was a lead senior consultant and architect for the National ITAM Practice of CA Technologies, where he was responsible for articulating and implementing ITAM solutions including technology, best practices and process.

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