Automating Software License Management

Automating license management saves time, resources, and costs. It also consistently produces high quality data and a documentable method for mapping software licenses to installations.

This paper will explain how catalog-based license management works, how it facilitates high level process automation, and what you pitfalls to look out for when choosing a catalog.

Aspera.com
License Management

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Software asset management (SAM) is not only a process that can be fully automated, many organizations around the world today already benefit from it. All it takes is an intelligent catalog for SAM and a specialized SAM tool to automatically link licenses to software installations/usage. Through the catalog-based approach the manual effort to build the license and software inventories is substantially reduced and measuring software compliance is simplified. It also provides the added benefit of transparency and enabling faster responses to software audits.

But not all software asset management catalogs are created equally. The catalog must be a fully integrated component of the technology and provide high quality information in order for it to automate processes. Additionally, the catalog must contain both technical and procurement data in one, follow transparent maintenance processes, and offer specific enhancements for complex software metrics. And finally, the technology must easily integrate with existing systems and be based on solid processes.

The Aspera A-Model for SAM provides a visual conception of how the license and software inventories can be automatically populated using a catalog. As you can see, the Master Catalog is at the center of the picture.
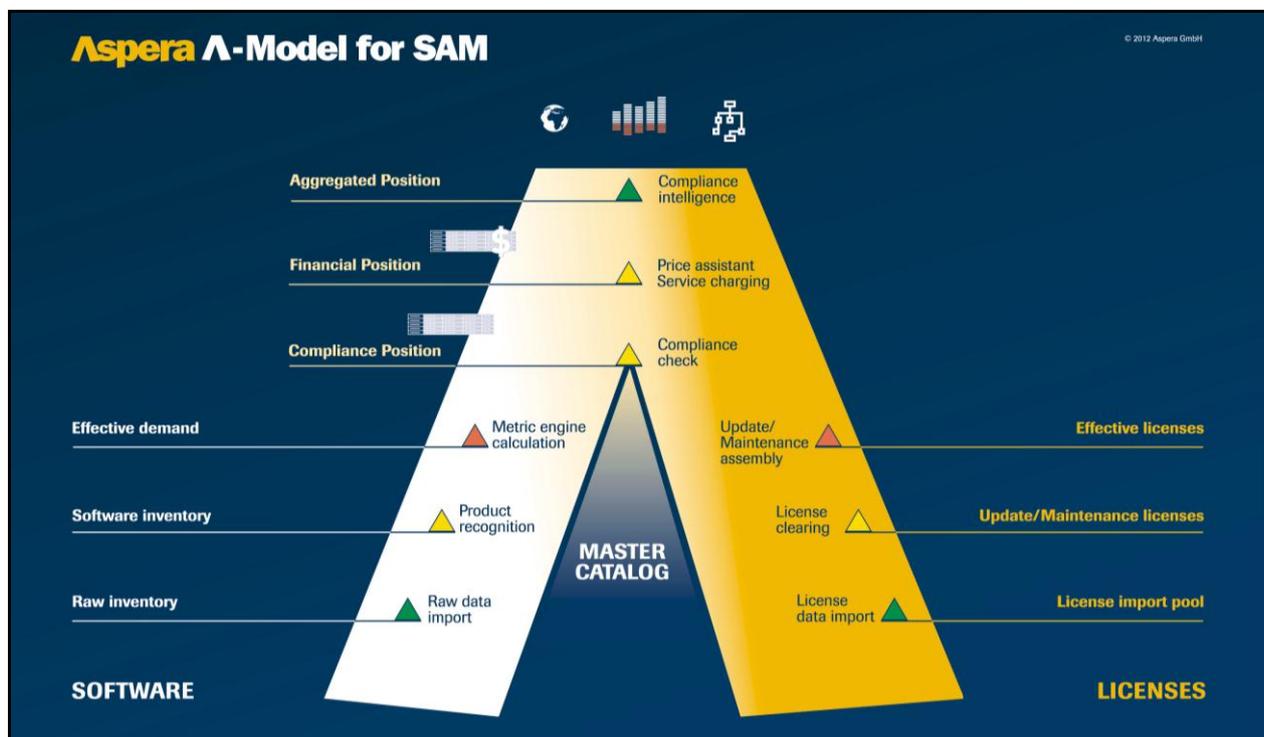
Automating Tedious Daily Tasks

Good data quality and automation of license management cannot be achieved without a reliable reference point. The key is a catalog that contains all the necessary information required to generate a complete license record.

The basic scheme is built around a catalog of articles. Articles are manufacturer part numbers. These are worldwide, standardized unique identifiers assigned to each license by the publisher that indicates the software product

name, publisher, language, and version, among other key information. In reality, when you purchase a software product, you purchase an article that corresponds to a license. The foundation of automation rests on gathering the articles of purchased licenses and verifying them against the articles in a catalog.

In addition to gathering articles, Aspera researches the contracts and EULAs, compiles the entitlements granted within (e.g. product use rights and maintenance) and license metrics, and links this information to the articles. In the end, on the procurement side the Aspera Master Catalog provides comprehensive license information including:

- Manufacturer article number and/or SKU
- License metric,
- License model,
- Update or full version,
- Part of a downgrade path?,
- Unlimited use rights?,
- Pure maintenance contract?,
- Point value and point category,
- Maintenance type,
- Maintenance timeframe,
- Alerts,
- Limited use rights (OEM, etc.)?,
- And much more.

Commercial Data

Licenses always find a way into your company: through contracts, purchase orders, maintenance payments, true ups, invoices. Purchasing through resellers or directly through the publisher, centrally or globally, via email, credit card, or SRM system. And the list goes on. But every license that doesn't find its way into license management and whose product use rights are not correctly identified damages efficient planning and ultimately destroys value.

Automating software license management relies on interfacing to the procurement systems and/or importing reseller and vendor reports. All procurement information from systems like SAP, PeopleSoft, Ariba, Insight, etc. need to be combined. With the procurement systems integrated you can create license records and build a central license inventory.
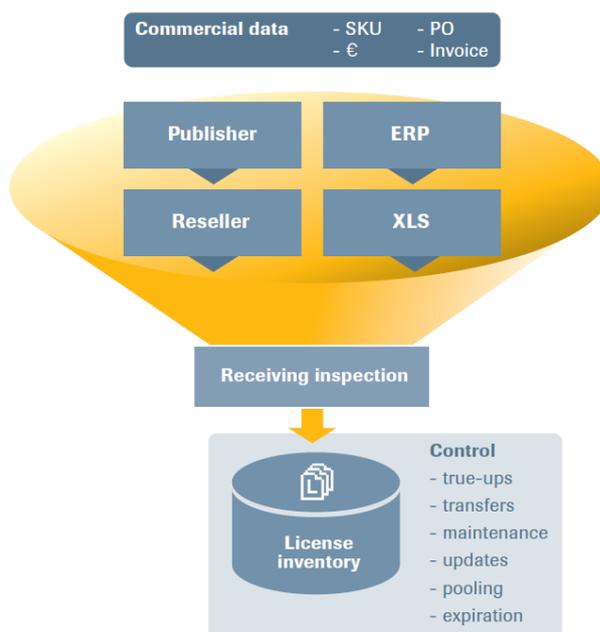
Automating the License Inventory

To automate the time consuming and error prone task of manually entering license records into the system, the SAM tool integrates into the company's chosen procurement system or method. When licenses are purchased the tool pulls out the unique articles and validates them against the catalog. When a match is found, the license is sent to "license clearing." License clearing is a technology designed to maintain high data quality. It looks for mistakes in the data to ensure that what goes into the license inventory is correct. If no mistakes are found, the license terms and conditions, entitlements, and any overlying contract terms are then automatically recorded.

Automating this process saves time and eliminates thousands of hours of repetitive manual work, the immediate benefits are:

1. Ensures accurate and timely data: All acquired licenses are captured and recorded immediately. Timely and accurate data is necessary if a company is audited by a publisher, vendor, or third party.

2. License managers can look up the details of each license to gain an understanding of the entitlements. One Aspera customer achieved savings in the upper 6-digits just by taking advantage of hundreds of previously unknown upgrade rights instead of purchasing new, full licenses.

3. The technology automatically applies the entitlements (e.g. downgrade rights, second installation, parallel usage, etc.) in a compliance report. Often companies who perform manual compliance reviews don't know or forget to apply the entitlements. This leads to inaccurate results, on which important decisions must be made.

Technical Data

However, the key to automating SAM only starts with the article. When a catalog not only has reliable license references but also technical information, then it's possible to automatically process the software inventory data.

For each platform you have, you use management tools to install, configure, and monitor the software. Your software inventory is made up of the input from all of these data sources. It doesn't matter if you use SCCM, HP AssetManager, VMM, LDAP/ADS, Citrix, ILMT or any other tool – the license management tool needs to connect to all relevant systems that have to do with discovery, deployment, and configuration.
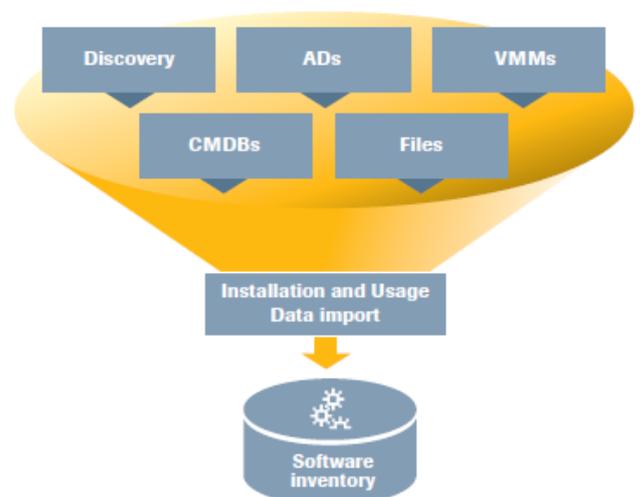
Automating the Software Inventory

With the help of recognition criteria in the catalog large volumes of inventory data are automatically processed and turned into useful, normalized software titles. In addition, all redundant data (for example hotfixes, security patches, operating system components, drivers, etc.) are filtered out and product components are combined into suites. The resulting software inventory is the groundwork for calculating the actual license demand.

In order to overcome this challenge the catalog must contain recognition rules and utilize more than one type of data. If a catalog only utilizes, for example, Add-Remove-Program (ARP) listings problems arise because these listings are not always accurate. It is not uncommon for an application to show up in the ARP list although it has already been uninstalled.
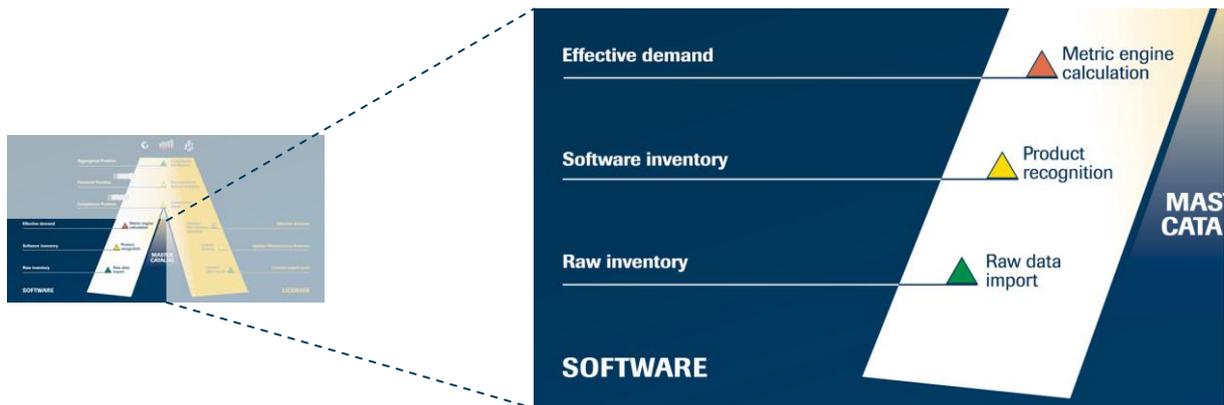
Many SAM tools identify software installations using only one type of data. This is not always enough. For example, file header analysis is one commonly used technique for identifying installed applications. The issue with file header analysis is the level of reliability of the information the file header contains - many software vendors don't provide complete information or don't update file headers on a regular basis, leading to inaccurate, inconsistent, or even missing data. This makes a difference when you want to reconcile licenses.

The solution is to utilize data from various sources such as CMDB, scanning, discovery, usage, and deployment tools to accurately identify the licensable product installed on a machine. The recognition rules compiled in the Aspera Master Catalog combine add-remove program data (ARP), executable file data, MSI data, customer specific data such as distribution packages or registry key, as well as ISO software tags.

Automating Compliance Checks

UPU, PVU, Floating, Core, User – the imagination of software publishers is limitless when it comes to creating new price models for software. The fight for market share and new trends like multi-core CPUs and virtualization drive publishers to permanently adjust their license metrics.

You need more than technology that just counts software installations and licenses. You need technology that can add, subtract, multiply, and divide while taking all licensing terms into consideration. And not only on your desktops, where license metrics are still pretty manageable, but also in your server environment, where the greatest saving potential is known to hide.

At Aspera this part of the technology comes with the Master Catalog. We have license experts whose job is to make sure that the algorithms for complex metrics always utilize the latest publisher and product specific calculation rules that are defined by the license model. The algorithms, called Metric Engines, are embedded in the catalog.

When the licensable product is recognized after software recognition, the tool automatically knows how to calculate license demand. And when the publisher changes part or all of the rules for measuring usage, the updates to the Metric Engines are made immediately available in the catalog.

Ideally, one catalog contains both commercial and technical data important to license management. This method is easier to document. Now, the software installation and usage data (license demand) can be automatically compared to the license and entitlement data to measure compliance.
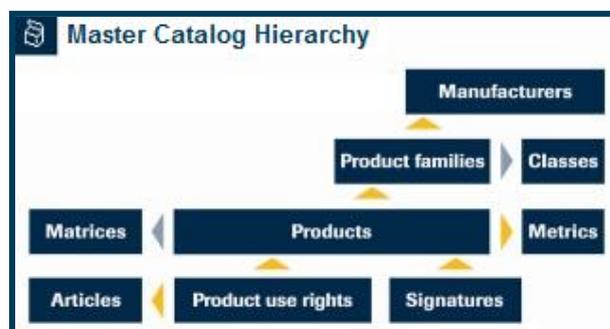
A Catalog Doesn't Necessarily Mean Automation

Simple Database

A provider's interpretation of a SAM "catalog" can start with the most basic understanding of the concept: a simple database where license or software recognition data is collected and re-used. However, in this case, the catalog does not automate data generation or even complete incomplete records. Often these catalogs are error-prone. For example, IBM's discovery tools rely on a database of signatures. However, due to dependencies between the different hardware platforms to which software signatures can be assigned, adding multiple recognition signatures for the same software item can result in inaccurate results. For instance, if you add *recognition_signature_A* for the *UNIX* platform and *recognition_signature_B* for the *HP-UX* platform and assign them both to *Software Product 1.2*, the product will be discovered as installed twice on the *HP-UX* system.

Unreliable References

Another variation of the concept "catalog" can be categorized as a collection of information where acquired licenses are referenced against a collection of numbers (or rudimentary differences in the licenses). Some well known competitors follow this approach, and maintain a unique number catalog. Here, a selection of codes, such as reseller SKUs or a proprietary master set, is used as the reference point. In an ideal world, the license should be automatically recognized based on these reference codes. Unfortunately, in most cases, the reality is far from ideal because consequent uniqueness of the reseller SKUs or the proprietary master set is not guaranteed and, thus, cannot be relied on to have a consistent 1:1 relationship between the license and the SKU. In other words, one SKU can point to more than one license.

Broken into Parts

Another caveat to look out for is how the catalog is provided. There are significant challenges ahead when a closer look reveals that a catalog comes in two parts, one for the articles and license information and the other part for the technical data. While the technical product information is integrated into the logic of the tool (because many software asset management tools on the market today started out as inventory or discovery solutions), the reference articles with license information take a peripheral role.

Often important license data is missing, such as the product use rights (downgrades, secondary copy rights, parallel usage, etc.) or the license metric. If this data is not provided then the user cannot truly measure compliance. In these cases, you can forget about a consistent and technically documentable mapping out of the complex relationship between the article, license, contract terms, and software installation.

Doing the Job Only Half Way

Several solutions have adapted the entitlement-centric methodology and retroactively integrated a catalog into their products. However, most technology stops with identifying the license, and measuring consumption is left up to the customer. For example, in Microsoft® SCCM you can record the number of licenses per product and then SCCM will provide a license balance. However, it cannot distinguish downgrades or upgrades of full licenses. In a situation where a user purchases 50 licenses and then later updates 10 of these, SCCM cannot show that the 10 updated licenses belong to the original 50.

Now, if the 50 licenses were acquired under a master agreement, the problem gets bigger. Thus, from the license side, SCCM is limited to a manual collection of the number of licenses and products.

Other technologies incorporate the "counting" into the actual software so that users:

1. Need to buy different modules for different software publishers, and

2. Face problems if the software publisher changes their calculation scheme. This requires an update to the software, and if you're lucky, updates come once or twice a year. So you can forget about timely and accurate analysis.

Aspera's catalog is different: the Master Catalog contains all the specific enhancements necessary to automatically measure license consumption and it is fully integrated in the technology. This way, changes to license terms and conditions are updated in the catalog. The new information is immediately useable by the tool and made directly available to end-users.

This is the key to successful automation: knowing what data needs to be gathered, where to get it from, and what to do with it. The license and software inventory are automatically populated and maintained. No hand work is necessary to measure any license metric, even the notorious server software metrics (e.g. PVU, CPU, and CALs). And this is exactly where other, catalog-based but non-entitlement-centric approaches to license management fall short.

Processes are the Foundation of Automation

The introduction and operation of a license management system requires real processes. In addition to the technical approach, implementing and enforcing processes are key success factors.

Often companies don't know what data are necessary to automate license management. Therefore, they cannot implement a process to ensure the data is obtainable. It is the job of the

solution provider to show the customer what data is needed and to provide expertise on how to best set up processes in the unique organizational setting to ensure the data is collected.

Aspera places processes and data quality management very high up on its priority list. The point is to free the customer from mundane data gathering/handling and to enable him to focus on the important aspects of license management: quickly getting through audits, eliminating non-compliance risks, planning strategic purchases, cost saving, and using a comprehensive, powerful combination of practical features and reports to pro-actively manage licenses.

For more information and to arrange a private introduction to Aspera and our software license management solution, please contact:

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