



Mainframe Software Asset Management Success Based on SoftAudit for z/OS Inventory and Usage Information

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ABSTRACT

Software Asset Management (SAM) is the business discipline that focuses on optimizing investment in software assets. Since Software has become the largest single IT expenditure, SAM has evolved from being a “nice to have” luxury to an essential business practice. However, achieving SAM success in the mainframe environment through the proper integration of people, process and tools is difficult. Many companies fail in their SAM efforts. This paper describes how companies have achieved success by implementing SAM techniques based on software inventory and usage information provided by SoftAudit for z/OS. The topics we’ll cover include:

Controlling Vendor Software Costs

- Leveraging Vendor Contract Negotiations
- Invoice Validation
- An Integrated SAM Business Process.
- Efficient Server Consolidations
- Effective Charge-back
- Internal Standards Enforcement & Effective In-House Software Deployment

Improving Operational Performance & Reducing Maintenance Costs

- Improving Product Testing & Validation
- Disaster Recovery & Business Continuation
- Contract Compliance & Audits
- Effective Software & Hardware Upgrades
- Reducing Software Fees Through Competitive Replacement

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What is Software Asset Management

Software Asset Management (SAM) is the business discipline by which companies optimize investment in software assets by tracking and reconciling installed inventory, measure the usage of products, and integrate this information with contract and licensing data. Achieving success in SAM is accomplished through the proper integration of people, process and tools. The successes described in this article are based on specific SoftAudit for z/OS information.

What is an “Auto-Discovery” Tool?

An auto-discovery tool provides the automated detection and inventory of installed assets (software and/or hardware). A “resident” program or set of programs, this type of software provides the critical metrics necessary to establish and maintain an optimal cost efficient operating environment. Generally, most companies would say that it’s one of the most critical tools in an asset management program. SoftAudit for z/OS is the mainframe auto-discovery tool deployed by leading Global 2000 companies and IT Outsourcers.

How does an “Auto-Discovery” tool fit into the SAM Process?

Software has become the largest single IT expenditure and the critical expense factor to be discovered and tracked. The benefits and dollar savings associated with software discovery has typically centered on determining the “active” software inventory and then integrating that information with current vendor contracts. Another core value of the discovery tool inherent in this reconciliation process is to facilitate contract compliance and reduce the risk for the organization of an unfavorable audit.

The Value of Usage Monitoring²

SoftAudit’s software usage tracking capability uncovers savings and value by identifying products with low or no usage. This data typically identifies what is being used, where it is being used, who is using the product and how the software product usage changes over time.

Usage data enables asset managers to understand inventory and provides vital information for contract negotiations. For example, is usage declining, rising or moving from one environment (e.g. computer partition) to another? Perhaps some software is not used at all or only once a month. With complex software and hardware to manage, a clear understanding of changing usage patterns, inventory, contract terms and conditions and how they interact can save millions of dollars in software costs each year. The usage information is the dynamic data about software products that enables the company to:

- Eliminate unused vendor software
- Eliminate low usage vendor software
- Eliminate non-current versions of vendor software
- Eliminate products that have redundant functionality
- Avoid product duplication in mergers and consolidations
- Monitor periodic use products for maintenance renewal justification
- Negotiate lower upgrade & maintenance expenses based on product usage (prioritize based on usage).

² Without usage monitoring, there is no consistent or automated factual basis for taking cost-effective actions to manage assets.

The Path to Long Term ROI

There are many advantages and creative ways that companies have found to gain value from SoftAudit. Many of these approaches result in significant direct cost savings and cost avoidance. There are several other benefits that can also have a major cost impact through improved processes and quality factors. Together these form a set of 13 “best practices” for auto-discovery tools that include:

- 1 Leveraging Vendor Contract Negotiations
- 2 Contract Compliance & Audits
- 3 Reducing Software Fees Through Competitive Replacement
- 4 Efficient Server Consolidations
- 5 Effective Charge-back
- 6 Internal Standards Enforcement & Effective In-House Software Deployment
- 7 Invoice Validation
- 8 Improving Product Testing & Validation
- 9 Disaster Recovery & Business Continuation
- 10 Improving Operational Performance & Reduce Maintenance Costs
- 11 Effective Software & Hardware Upgrades
- 12 An Integrated SAM Business Process.

Controlling Vendor Software Costs

Understanding the inventory of all the software assets in the possession of the organization is a critical first step in controlling software costs. The “active” inventory is a SAM term that identifies the software assets that have current usage.

Innovate - A SAM consulting company

“It’s surprising and pleasing to rediscover how dramatic the impact can be from finding low use software”. Using SoftAudit, we researched one particular product and, based on that usage, our client was able to negotiate a cost reduction of \$170,000 per year from the vendor. We were also able to work with the client to identify numerous other products that could be removed from the contract. The result was a total cost avoidance of over \$1.1 million covering a three-year period. When senior management was made aware of these achievements they commended the SAM staff for their efforts and provided the resources to put a full court press on other vendors.

For another client company, we were able to reduce a license fee from \$2.3 million to \$1.1 million based upon the usage patterns that were identified by SoftAudit. Essentially, the usage data provided the basis for conducting a feasibility study to evaluate reducing the footprint of the vendor’s products from two CPUs to one. The end result was the client was able to successfully negotiate with the vendor to license the products on two CPUs, but only pay for the cost on one CPU. In this way, the client did not have to isolate the product to one CPU and gained both operational flexibility and disaster recovery support.

A Fortune 500 Manufacturer

“We use SoftAudit to identify cost savings opportunities by:

- Reducing the number of program products
- Challenging our Software Vendors to help us reduce our maintenance expenses, and
- Identifying the customers that utilize the program products so we can include them in the testing and validation of new maintenance and/or new operating systems.

To give some insight to how effective SoftAudit has been for us, consider our experience:

- We started 1998 with 635 MIPS, 150 program products, and software expenses that were a little over \$7,000,000; the software cost per MIP was around \$11,000.
- In 2002 we have ~ 1,100 MIPS, 65 program products, and software expenses around \$4,400,000. Today our software cost per MIP is around \$4,000.”

Through this period we have kept management aware that we use SoftAudit to identify cost saving opportunities. Over the years, several Divisional awards were given to the teams that caused the End-of-Life (“EOL’ed”) or replaced the program products to provide the cost savings.”

A Major Oil Producer

“In the first year, we identified 76 products that were seldom or never used and could be eliminated. We saved \$1.25MM in software license and maintenance costs. For example, we had a modeling product that cost \$144,000 per year but was used by only one application to produce a weekly service station sales report. Converting that application to a PC spreadsheet eliminated the service station sales report. We also identified products that were licensed on multiple CPUs, but were only required on one. Since 1991, we have been able to eliminate approximately 200 licenses.”

Farmers Group

“Holding the line on increasing software costs has been paramount to our success. Over the past 3 years we have been able to drive down mainframe fully loaded costs/MIP by more than 60%. In the current business environment it is imperative to achieve “best of breed” results. Annually, we ask various third-party consultants to benchmark our costs and service performance. For the last several years we have consistently achieved positive results identifying that we are better than the standard. This would not be possible without knowing exactly where each software product is executing and who is using that product.”

Boise Cascade

“There have been substantial savings over the years since we installed SoftAudit. We were able to phase-out several low-use products and to eliminate their associated costs. We were able to drop several products based on research provided by SoftAudit. We had several components of SAS including SASGraph. Through our analysis we were able to decide to drop SASGraph, which cost us around \$1500/month. Recently we also dropped SASStat and that product was also about \$1500/month.”

Leveraging Vendor Contract Negotiations

Inventory and software usage patterns combined with thorough analysis of an organization’s contract data pave the way for successful contract negotiations. Companies can realize the immediate benefits of eliminating unused products and the long term benefits of cost effective software contracts designed to deliver maximum business value.

Software vendors will provide a better deal, regardless of their licensing model, once they know you are empowered with information and are able to replace their products or deploy them in a controlled and limited environment.

Companies have also found that when new software versions or upgrades were installed they would get features back that were part of a vendor profile. SoftAudit is able to help the company avoid receiving products that had been discontinued from previous orders and were resupplied.

Innovate - A SAM consulting company

“Usage data at the LPAR level is another key factor in achieving savings. Identification of usage at the CPU (CEC) level has also been a key factor in achieving targeted savings, especially where a product is used largely on one large MIPS CPU and could readily be licensed on a single small MIPS CPU. Since most Mainframe software cost is directly correlated to MIPS, the savings are often significant. We’ve recently worked with one client on a cost savings initiative that may yield in excess of \$4 million in savings largely through the threat of product isolation.”

Farmers Group

“Based on our knowledge of usage through SoftAudit we are able to re-negotiate contracts with several of our largest vendors and maneuver the distribution of their products on our systems to become better aligned with our end users needs while also reducing costs. Now we have enough information to drive LPAR pricing, and in the future vendors will have to step up to that requirement or face replacement. We are better able to negotiate software contracts from a position of strength and make demands of vendors that we might otherwise back away

from. When you have confidence in your resource allocations you are not as easily persuaded into wasteful agreements.”

Contract Compliance & Audits

Matching product usage rights with what is deployed and used enables a company to proactively manage contract compliance risk. To prove compliance, SoftAudit can be used to:

- Ensure that products are installed only on licensed equipment.
- Ensure that unlicensed products are not installed and are not used.
- Certify that products that are claimed to be “de-installed” are no longer resident.
- Provide independent third-party reports that show inventory and usage.

To determine Contract Compliance, it is critical to match contract usage rights with what is actually being used. Unauthorized and illegal software use can lead to substantial financial and legal consequences. Automation can be effectively used with well-defined processes to prove and maintain compliance.

A Major Oil Producer

“A key software management requirement was to validate our product licenses. Armed with the list of products from SoftAudit, the administrative staff reviewed licenses and costs. Some products were not licensed properly. These licenses had to be corrected and a few were corrected at an increased cost. Some licenses were identified for products that were no longer installed. These licenses were promptly discontinued. In addition, less expensive multi-year licenses were negotiated for products that were defined as strategic.”

A Fortune 500 Manufacturer

“Some of the most surprising and positive results have been our ability to:

- Continually reduce software expenses by removing duplicate function software,
- Identify the usage and customers for products that could be candidates for replacement based on the benefit and annual cost, and
- Negotiate better product maintenance pricing for our company by showing the Vendor usage information.”

The Largest Student Loan Organization

“Over nine years ago, the organization set up a data repository containing information on contractual obligations, purchase dates, renewal dates and maintenance agreements related to mainframe software. We use a repository to monitor compliance with vendor contracts. By combining that information with inventory and usage data from SoftAudit, the asset management team can issue red flags on obsolete products, act on compliance issues or improperly installed products and cancel future maintenance contracts before they are due.”

Reducing Software Fees Through Competitive Replacement

Understanding the usage of products that have similar functionality enables vendor discussions about which product will survive in the company’s environment. When you show a software vendor that you know how much their product is being used, which users will need retraining, and what products could replace their product, you demonstrate the real ability to replace their product.

The Largest Student Loan Organization

“Asset-management practices put in place years ago simply to keep an inventory of mainframe software have paid off – sometimes in unexpected ways. SoftAudit was installed several years ago and over the years we have been able to rip out scores of products from a single vendor after discovering that other products it already had were capable of doing the same jobs. The estimated savings is over \$1 million in hardware and license costs.”

A Large Outsourcer

“We use SoftAudit to add value to our company to identify and eliminate low use and redundant products. This same information provides critical leverage with vendors to negotiate better fees and establish a cost-effective product mix.”

Innovate - A SAM consulting company

For a client company, the focus area was reducing software costs through hardware upgrade planning. We helped a client understand their usage patterns and the competitive landscape resulted in savings exceeding \$750,000 in software upgrade fees. Using SoftAudit's usage data and a targeted competitive replacement strategy prior to an upgrade in contract negotiations resulted in a reduction in software maintenance costs of about 30%."

Efficient Server Consolidations

An accurate profile by machine of current software product deployment with usage information is the critical foundation needed to develop server consolidation scenarios. Cost scenarios are dependent on how the software vendor charges for its products. The most cost effective scenario depends on whether a product or set of products' cost is based on the capacity of the whole server or LPAR sub-capacity. If a set products' fees are based on LPAR capacity, understanding product usage is essential to determining which products are to be deployed to which LPAR. If another set of products' fees are based on the server's full capacity, a scenario that best controls cost is to isolate these products on a small capacity server while consolidating all other products on a large capacity server.

Server consolidation is a classic event where ELAs are renegotiated. Armed with information, the company can negotiate to lower their TCO. In today's marketplace and business environment mergers, acquisitions and facility consolidations are often the critical objective to financial savings. Server or data center consolidations often find redundant, underused or out-of-compliance software.

Farmers Group

"Over the past 3 years, we've had 3 major data center consolidations that went flawlessly. In the same time frame we also incorporated 2 other data centers through acquisitions and handled major system rewrites. Having accurate inventories greatly assisted our transition and consolidation of datacenters. With each consolidation we've greatly reduced the total time involved in the process and had trouble free transition. All of this has been accomplished by accurately determining all software products involved."

A Major Oil Producer

"Since 1991, our company has:

- Consolidated 5 data centers into one global data center
- More than doubled the mainframe computing capacity (1456 MIPS)
- Reduced our mainframe software costs by more than half – from \$13MM to \$6MM

For the last two years the data center has won the COMPASS Survey award for Best Global Data Center.

Today we have access to the information on which software products installed, which software products are required, which software products can be eliminated and which software products can be licensed on a limited basis. This information is used to manage the software assets of the company in order to provide the low cost computing services that are required to remain competitive in the current marketplace."

Effective Charge-Back

Charging customers for the products and services used in today's complex IT environment is a continuing challenge. Over the years a variety of approaches have been attempted

and implemented with varying success. The key to a successful charge back process requires allocating software costs based on product specific usage patterns. In this way, customers can understand how their needs result in charges to them.

Boise Cascade

"We purchased SoftAudit in January 1994. Initially, SoftAudit was brought in to our company to provide a general review of software usage on our system. Although it wasn't used a lot during the first few years, it did allow us to identify early-on and re-bill one of our internal customers for an expensive "must have" product that only they were using."

Innovate - A SAM consulting company

“We developed the ad-hoc functionality the client needed using Excel macros and Access database reports.” The client now uses these reports to facilitate discussion on cost control awareness during user group meetings and as part of their software usage reviews. The software usage review meetings are scheduled every three months and are a key component of the client’s SAM program. The client has tied this system into their budget management system, and uses the information generated to develop chargeback scenarios to the client’s customer base. A core group of attendees evaluate the usage results to provide product-based decisions.”

A Large Financial Services Firm

“We found that the usage information from SoftAudit can be used to help allocate specific product software costs to the department that uses the software. In this way the full cost of low used applications could be applied to specific users instead of into a storage size or processing time based allocation pool. Several departments realized the cost of seldom-used applications and found less-expensive alternatives, or agreed to use the product from a smaller machine where license fees were lower.”

Internal Standards Enforcement & Effective In-House Software Deployment

Companies have been able to use SoftAudit effectively to help enforce internal standards and maintain compliance. SoftAudit helps manage the application software inventory by providing information to:

- Eliminate unused in-house software
- Eliminate low-usage in-house software
- Eliminate non-current or obsolete versions of in-house software
- Plan cost effectively for in-house application upgrades
- Identify application software that has high processing time and low usage as a candidate to be eliminated or rewritten to increase efficiency.
- Verify that all load modules are correctly deployed for in-house applications
- Identify non-current embedded software
- Plan and verify implementation of an application “end of life”.

A Large Financial Services Firm

“SoftAudit can be used to identify instances where internal applications may have copied entire program product load libraries or modules and are executing out of those copied libraries. This is against our standards because it promotes back-level usage and may lead to contractual issues if application run against products that are no longer licensed. An example of this was our migration from COBOL and COBOL II to COBOL for OS/390. To support this migration, we used SoftAudit to determine all of the applications running the old COBOL versions and where these libraries existed. This became the basis for removal.”

A Fortune 500 Manufacturer

“We’ve been able to use SoftAudit very effectively to help enforce our standards and maintain compliance. For example, via SoftAudit reporting tools we have been able to identify instances where our internal applications may have copied entire program product load libraries or modules and are executing out those copied libraries. This is against our standards.”

Invoice Validation

The more complex a software contract is, the more likely the invoice will be incorrect. Incorrect invoices often account for a significant amount of potential savings in a software asset management program.

Even for simpler licenses, changes in deployment and use that are communicated to the vendor may not find their way to the vendor billing systems. Too often, the organization has no mechanisms for ensuring that the software products listed are correct and consistent with the terms and conditions specified in the license agreements. In these cases, organizations often make the mistake of incorrectly relying solely on the vendor’s billing system.

A Large Financial Services Firm

“We use SoftAudit for inventory and usage data. We then tie the inventory and usage data with our license data to review our vendor invoices.

In the first year we found 8 or 9 products that were not charged consistent with our license and saved \$300,000. We also have found that when we installed new software versions or upgrades we would get features back that were part of a vendor profile.

SoftAudit was able to help us avoid receiving products we had discontinued from previous orders that were resupplied.”

A Large Outsourcer

“We use Isogon’s products to validate each invoice so that we can adjust our budget on the fly with actual data. In this way we can create forecasts for the upcoming quarters and the remainder of the fiscal year. Our analysis of our past performance shows savings now of over 25% due to eliminating incorrect and incomplete vendor invoices.”

Improved Product Testing & Validation

A company that is able to identify who is using a software product is in a position to get better testing and validation from customers. This usage-based information gathered from SoftAudit provides an opportunity to define or expand the user acceptance-testing group when new maintenance is applied to the product.

A Fortune 500 Manufacturer

“SoftAudit for z/OS has added value for our company in that we are able to identify who is using the product so we can get better testing and validation from our customers when new maintenance is applied to the product or when we add maintenance or upgrade the operating system.”

A Large Financial Services Firm

“We research the use of old-code on programs. This is really a large and “untapped” area for us. It’s hard to know what is being used, who is using it and what is not being used. By using SoftAudit in this way, we “keep our thumb on the pulse of what we’re doing and not doing.” We feel that we are leaner, have more focused testing and we can use more for re-engineering.”

Boise Cascade

“We’ve been surprisingly successful using SoftAudit internally. We use results against our Test Library. We found programs that hadn’t been used in the past year and we moved them to our back-up. As a result we’ve been able to keep our Libraries leaner and cleaner and we’ve been able to synchronize our source and executable libraries.”

Disaster Recovery and Business Continuation

If anything happens to a company’s data center(s), understanding product deployment and usage patterns is essential to a proper prioritized recovery plan. Another set of critical components is the contract terms and conditions to prepare the company for any contingency.

A Large Financial Services Firm

“SoftAudit allowed us to maintain a list of “core” software and with data regarding which products were being used and by whom. We used this data as a key starter to establish critical business functions and systems, identify associated staff and system resources and recovery needs. The critical systems recovery factors and resources enabled us to negotiate alternate site plans and develop a comprehensive business continuation plan.”

Improving Operational Performance & Reducing Maintenance Costs

Identification of unused and back-versioned software provides immediate opportunities to renegotiate maintenance agreements and lower costs. Removing and re-positioning of products provides the data center staff with the opportunity to streamline processing efficiency and optimize production performance.

A Fortune 500 Manufacturer

“We currently run SoftAudit on two production LPARs as well as our Development systems. We 'mod' current usage data to a system specific weekly file, at the end of each week we copy the weekly file to a GDG and clear it. Currently we keep 13 weeks of history data (plus current week); we find this provides us with enough information to uncover quarterly cycles. Since all DASD is shared on the PROD systems, we typically run reports appending data from both LPARs.

On a monthly basis we have a scheduled job to regenerate the surveyor/identifier data. For the most part, we scan all volumes (work, page, etc. excluded). We've also used SoftAudit to assist applications in determining the programs within their applications that are still active. Through some of the SoftAudit Knowledge Base customization features (USRPDATA) we've been able to associate various application modules to a company defined 'product' and then produce usage reports from the data.

We also used SoftAudit to identify systems developed utilities (Shareware) and to determine whether these utilities are still in use. Typically during an O/S upgrade these utilities require code changes. With SoftAudit we been able identify instances where a utility is no longer used or could be replace by new native functions. This has reduced the number of utilities to maintain and streamlined the upgrade process by saving System Programmers time and effort.”

Boise Cascade

“SoftAudit allowed us to refine our list of “core” software and get real data regarding which products were being used and by whom. We were then able to eliminate several products and optional add-ons to other products that had little or no use.

We're always looking for opportunities to reduce costs and operate more efficiently. Each year as we begin our budgeting process we review our existing software suite with an eye on eliminating any product that has outlived its effectiveness. High priced products always receive scrutiny. It has been harder to find candidates for elimination lately, which says we've done a pretty good job of policing our environment.”

Effective Software & Hardware Upgrades

SoftAudit data enables the data center staff to manage the upgrade process more efficiently. Understanding which software products are deployed in different LPARs and which are actually being used is key to optimized planning that can product significant savings. Using information from SoftAudit companies can decide to deploy software on the entire new machine, selected LPARs, or on an intentionally retained small machine.

Boise Cascade

“We've used SoftAudit a couple of times to support our analysis of potential upgrades. These results were highly successful. I see us doing this type of analysis based on SoftAudit data on a consistent basis in the future.”

Farmers Group

“We've been able to keep software cost increases to a minimum while overall workload and capacity has more than doubled over the past several years. We also now regularly sign 3 to 5 year Enterprise License Agreements (ELAs) that are in-line with our software and hardware capacity projections. We're able to negotiate more flexible agreements with features that (as an example) can allow us to possibly pick up new products and discard obsolete or low usage products. Using SoftAudit has helped us to meet these needs and do even more. For example, we've been able to:

- Understand our system products, know their costs, and develop opportunities for savings. Then where appropriate we have been able to develop and acquire substitute software.
- We were able to accurately inventory our products for auditors and vendors and our own Disaster Recovery teams to meet their requirements.
- We provided management with specific products for possible termination or replacement or transition to smaller machines.”

An Integrated SAM Business Process

The SAM Business Process incorporates the definition of each of the business functions performed by the SAM team. Each business function is described in terms of work steps, responsible parties, and standard deliverables. The level of business cooperation and integration of functions within the organization to support SAM measure the success of a SAM Business Process.

Farmers Group

“Our management realized something was missing in our SAM process and we weren’t as effective as we could be at reducing software costs. There was very little communication between systems operations, finance and contracts. The hardware decisions that we made didn’t include the software cost impact. We also needed to ensure that software compliance for all vendors was accurate. Now technicians and managers meet with the contracts staff. Both finance and contracts representatives now join our meetings with vendors.”

A Major Oil Producer

“It wasn’t long before we were building several spreadsheets of administrative and technical information on our 600 products. The team decided to formally define the requirements and develop an inventory database that could be used in an on-going manner to manage the information we were accumulating.

Today, management of the software assets is a standard process of the data center. The database that was developed is used as an active inventory containing software licensing, cost, usage, and vendor information.

Measuring usage has become much easier with SoftAudit. SoftAudit is used to continuously monitor product usage on the mainframe environments, to identify seldom-used products and to identify who is using them. Each year, products that are no longer required are eliminated and those that have limited usage are identified and licensed appropriately.”

SOFTWARE INVENTORY AND USAGE IS AN ESSENTIAL SAM BEST PRACTICE

Software Asset Management choices can impact the entire enterprise. The information provided is essential to operational planning, budgeting and management. Upgrades, server consolidations, contract negotiations, mergers, divestitures, outsourcing, and insourcing are events that require careful analysis to achieve the most cost effective solution.

In today's dynamic business environment, information about your software assets is crucial to making the right decisions. To negotiate the best terms in your software contracts, you need to know where software is actually deployed and how it's being used. This information is especially useful in competitive replacement negotiations.

Without this information, you may be paying for unused, low usage, or out-of-date software. You may also be wasting significant amounts of money in unnecessary hardware upgrades and software fees.