

Managing IT Assets



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Organizations usually have an inventory control function that is designed to track large capital assets. When organizations track IT assets, however, the techniques used to track other capital assets may fall short and not deliver all the possible value to the organization. In addition, many benefits over and above financial tracking are lost. This paper discusses IT capital asset management and describes the benefits that accrue from doing it properly.

Throughout this paper, we will talk of an asset management system. This system could be an integrated piece of software that performs all of the functions discussed below. However, it may be something much simpler than that or even various components held together through process. The decision of what kind of system is necessary depends on the size of the asset pool and the needs of the organization managing the assets.

Asset Lifecycle

Before we talk about tracking and managing IT assets, we should discuss the asset lifecycle since the asset management will take place within the context of this lifecycle. Figure 1 shows the asset lifecycle that will be used throughout this paper.

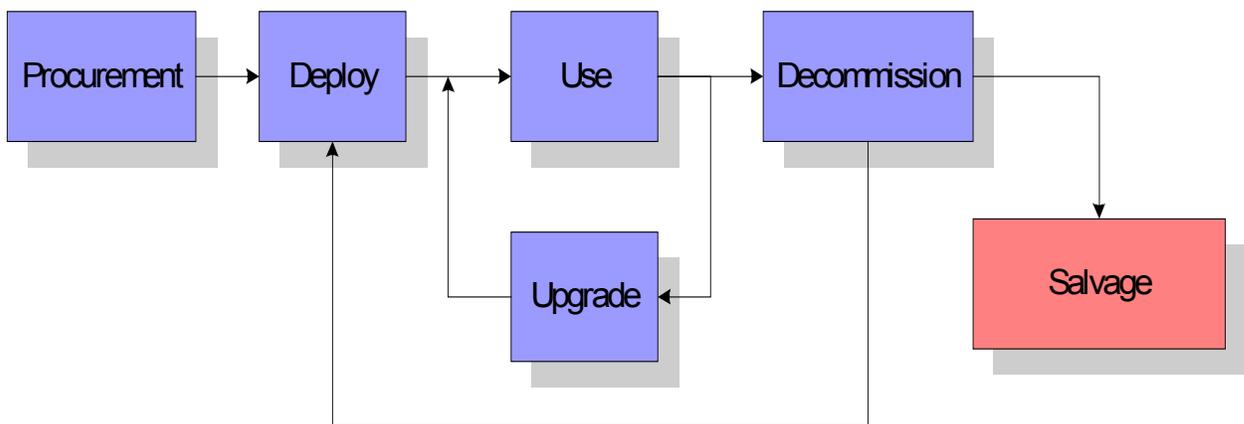


Figure 1: Asset Lifecycle

The first phase in the asset lifecycle is **procurement**. When an asset is procured it enters the asset management system and begins to be managed. Ideally, the procurement system should feed the asset management system the data on the new asset as soon as the purchase order is completed and the receiving organization should acknowledge receipt in a way that confirms the asset in the asset management system and notifies the purchasing system so that payment can be made.

The second phase of the asset lifecycle is **deployment**. When an asset is deployed, the system should be updated with relevant data such as location, responsible party in the organization, configuration, vendor, warranty, and any other data that will be useful in managing the asset. The location may be a physical location or simply a link to some other asset that contains the asset being deployed. For example, software or memory will likely be tied to a chassis and be located wherever that chassis is located.

The third phase of the asset management cycle is **usage**. Usage is not simply a static flag but could be periodically updated by operational software that measures asset usage so that valuable assets not being used can be redeployed.

From time to time, the asset in question might be **upgraded** in some way. The software version may be changed, or a new hard drive may be added. When this happens the configuration information for the asset should be updated accordingly.

When an asset is no longer being used, it is **decommissioned**. Decommissioned assets may still be useful to the organization, in which case they can be **redeployed**. If not, they likely still have some **salvage** value and the asset management system should track them until salvage has been completed.

Assets Management

Asset management is primarily a financial activity. As such, the asset management system should avoid tracking operational and other data about the asset and concentrate on the financial aspects. For an IT organization, the following assets, among others, all need to be tracked:

- Base machines
- Installed components
- Peripherals
- Operating system
- Licensed software
- Phones
- PBXs

Note that for our purposes, we should not define “base machines” too narrowly. These could include routers, desktop computers, servers, or any other computer based gear. Installed components, operating systems, and some licensed software may be tracked separately or as part of the configuration information of the base machine depending on its cost and how likely it is that it will be used at some future time as part of another configuration. Another factor in this decision is how closely the organization needs to track a particular asset and the risks involved in not tracking it. As an example, some operating system licenses require that the license stay with the machine, so it might be tempting to not track the OS separately. However, license auditing requirements may require that it be tracked separately for compliance purposes.

Asset management forms the basis for the operational systems. Data from the asset management system is fed to the operational systems and the help desk system, if appropriate. In this scenario, when the deployment team deploys a new piece of gear, whether a PC on a desk or a server in a rack in the machine room, they will take any necessary steps to update the asset management system (much of the task can be updated). Once that happens the asset should immediately appear in the operational management system as a new piece of gear and the operational team can takes steps to bring it into production.

Data warehousing of asset management data, along with operational data can be used to inform purchasing and other decisions. Figure 2 shows the data sharing relationships between the asset management system and other management systems such as the procurement system, general ledger, operations systems and the data warehouse. .

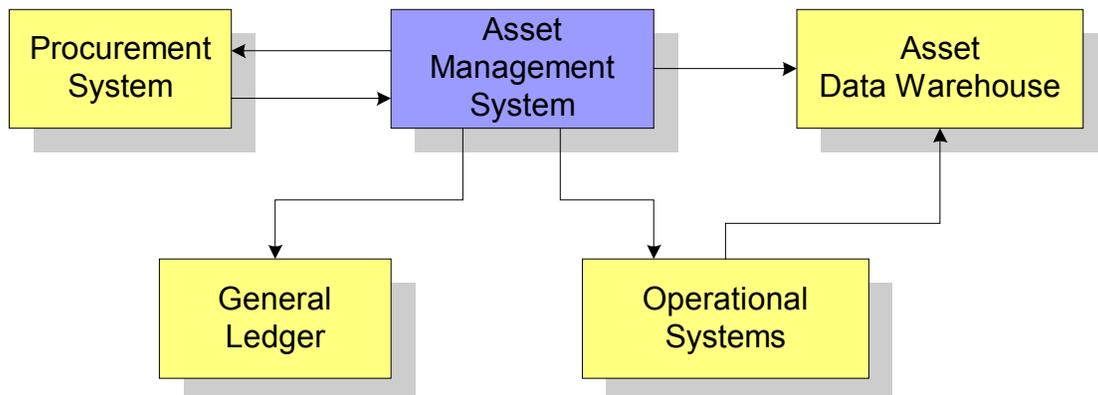


Figure 2: Asset Management System Data Relationships

Benefits of Asset Management

Asset management facilitates:

Inventory Control. One of the chief benefits of asset management is inventory control, an important input into the general ledger system for depreciation

calculations. Inventory control also helps prevent theft of organizational assets. As was mentioned earlier, inventory control can be achieved with the same systems that are used for other capital assets, but other benefits will not accrue unless a more specific IT asset management system is put into place.

Total Cost of Ownership. The total cost of ownership, or TCO, is a measure of all aspects of owning and operating an asset. A properly functioning asset management system can reduce TCO by eliminating costs from duplication of assets or from wasting assets by not using them after they are purchased. An asset management system also reduces the effort required to track assets, reduces the risk of software license non-compliance, and facilitates better asset operations. All of these contribute to TCO. Another area where an asset management system can be profitably employed to reduce TCO is by tracking warranty information for assets to avoid paying for repairs to equipment that should be covered by the vendor or manufacturer.

Software License Compliance. Clearly one of the major tasks facing the financial division of any large IT organization is tracking software licenses and ensuring that they are properly allocated and used. Being out of compliance can bring financial risk, but more often becomes a time sink as the IT organization focuses on coming into compliance instead of adding value to the mission of the organization they serve.

Operational Monitoring and Control. IT assets must be operated to add value to the organization. In most cases, this operation is split between an administrator who maintains the asset in a functioning state and the employee or employees who use the asset to produce value. The administration of the IT asset can be a large task. Often, IT organizations take advantage of the economies of scale that computers allow and administer them using operational monitoring and control systems. The asset management system can form the basis for the operational system and supply vital information needed by the operational system when an asset is deployed or remove it when the asset is decommissioned.

Decision Making About IT Resource Deployment. Often IT assets are deployed with little understanding of how they will be used and in many cases they are not used as they were originally intended. For example, a computer may be deployed and then rarely used or it might be deployed and overused. When data from the asset management system is combined with operational data, these patterns can be easily seen and resources reallocated to better add value to the organization.

Zero-day Employee Provisioning. Employees are expensive. Keeping them functioning is a critical issue. This is true from the very start. A good asset management system can form the basis for and facilitate zero-day employee provisioning. In zero-day employee provisioning, an employee should show up

for work (whether just starting in the organization or simply changing positions) with everything the employee needs to start work and be productive. Clearly, in today's world this includes a computer that is properly set-up and configured with the right software to get the job done, access to appropriate data, a phone, and other devices. On the other end of the employee lifecycle, when an employee leaves the organization, their access to data and systems should be rescinded and any equipment they were responsible for should move to the decommissioning phase so that its available for redeployment.

Standardization and Compliance. Non-standard equipment and software cost an organization money. Non-standard IT infrastructure requires more employees to manage and those employees are less productive because they are less likely to be experts at managing the non-standard asset. In addition, time is wasted when people are required to use and understand non-conforming data and systems. An asset management system can tell an organization the level of compliance with standards and allow efforts to bring the IT infrastructure into compliance to be focused on the areas where they are most needed.

More Informed Purchasing. When combined with operational data, the asset management system can help an organization evaluate past purchasing decisions and make better decisions in the future. An asset management system can track vendors and provide data about how one vendor performs relative to another in key areas such as delivery, support, etc.

Business Resumption Support. Whether assets are lost through disaster or something less severe (such as theft or damage), a properly functioning asset management system can help the business resume its operations more quickly. From knowing what assets are being used to how they are configured, an asset management system contains data that is vital to a recovery from disaster.

Performance Metrics

The following performance metrics should be tracked in relation to the asset management system to determine its effectiveness:

Total Cost of Ownership (TCO). Total cost of ownership, while based on operational measures to some extent is, in the end, a financial measure. One of the reasons for having an asset management system is to reduce costs. While asset management does not account for all of the factors in TCO, it is clearly the foundational process for managing TCO and, ultimately, reducing it.

Illegal Software Usage and Risk of Non-Compliance. In an IT asset management system, one key reason for managing the software licenses, is to reduce illegal software usage and, as a result, the risk to the organization of non-compliance with the terms of the license. Non-compliance and the resultant risk should be regularly tracked and reported.

Accuracy of System. The accuracy of the system will depend, in large measure, on how much money and time the organization is willing to spend on the original system and its operation. We could, of course, strive for 100% accuracy, but this is not realistic from a time or cost standpoint. The accuracy of the system must be balanced against the return on investment for increased accuracy. For small organizations with a small capital investment and where the risk of software non-compliance is relatively low, the system might only need to be 95% accurate to fulfill its mission (although such low accuracy might decrease its usefulness as a basis for the operational systems). For large organizations, a more accurate system may be required to meet the needs of the organization.

For each of these performance measures, some form of audit will be required to establish the organization's performance against the measurements.

Conclusion

While knowing what IT assets are in use and how they are configured may seem like mundane issues, it is vital to both the financial health of the IT organization and its operational performance.

Not knowing what we have is costly. In fact, I've had vendors tell on more than one occasion that they make their money by knowing what assets we own better than we do and selling us more than we really need (they usually confess this *after* they are no longer selling to me).

An asset management system is an important, foundational piece of the overall systems necessary to manage IT infrastructure. Without a good asset management system the organization will waste time and resources managing inventory, buying unnecessary equipment and software, and maintaining license compliance for software. With a functioning asset management system the organization can expect to reduce the total cost of ownership for IT infrastructure and provide a solid foundation for the operational system necessary to keep the infrastructure operating efficiently.