

Enterprise IT Asset Management


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ABSTRACT

Enterprise wide IT asset management (ITAM) covers both hardware and software through the entire asset life cycle that include proposal, procurement, acquisition, installation and eventual disposition. ITAM plays a critical role in company's bid to cut cost and increase productivity. As companies continue to automate, right size and work to retain revenue, their ability to effectively manage IT assets becomes a major factor in the success equation. An effective and long lasting enterprise ITAM solution is based on systems that is build on policies and practices of the enterprise and not a software product's "out of the box" solution. Companies must create processes that best support their strategic directions and utilize software tools that support those processes. The environmental impacts and subsequent financial consequences can be enormous. These life cycle stages have unique attributes not only by asset class, but by asset itself.

During this post-Enron era, corporate spending for IT projects will be reviewed and challenged both by the management as well as stakeholders. An ITAM system is expected to assist by providing data on appropriate management of resources. While some areas of the technology sector continue to shrink, ITAM software industry promises to reach billion dollars by 2005. This growth will be driven by the need for organizations to smartly manage IT hardware and software.

INTRODUCTION

 nterprise wide IT asset management covers the entire life cycle of IT assets. These components include proposal, procurement, acquisition, installation and eventual disposition of IT resources. IT asset management has become a pivotal issue in company's bid to cut cost and increase productivity. In simple terms, asset management deals with tracking and directing assets to maximize their return on investment and minimize their cost to the company. Now, more than ever, companies are increasing their investment in IT assets and seeking bigger and sustainable returns on those investments. This paper focuses on the scope, life cycle and challenges of IT asset management in the enterprise.

"BASF, the world's largest chemical company, spent \$4 billion investing in new plants and equipment in the United States in the last five years. Like many companies, it will turn to its new machines to increase production before it turns to new workers. 'Now,' said Klaus Peter Löbke, who runs BASF's North American operations, 'comes the time to make the assets sweat.'" [1]. Such sentiment is expressed by companies, large and small, and rightly so.

As companies continue to automate, continue to "rightsize" staffing levels and continue to work to retain revenue through more efficient use of their assets, their ability to effectively manage those assets becomes one of the critical factors in the success equation. However, evaluation of problems related to these issues, their scope and impact and possible solution paradigm and pedagogy cannot be implemented overnight. Gartner advises that a good enterprise IT asset management program typically takes two to three years to successfully implement [2].

An effective and long lasting enterprise IT asset management solution is based upon an understanding of the policies and practices of the enterprise and not a software product's "out of the box" features. Companies must create processes that best support their strategic directions and utilize software tools that enhance, support and automate those processes.

While there are several enterprise software products for asset management, the market is still evolving and there are several categories of software that can be part of an enterprise solution including: Repository, discovery and inventory tools, procurement, software metering. MRO's Maximo/MainControl and Peregrine System's Asset Center

represent two of the more mature providers in complete ITAM solutions while vendors like Tangram & Computer Associates have expanded their offerings in the ITAM over the past few years either through creating or acquiring the missing pieces required for a complete solution.

Company assets range from buildings to vehicles, from manufacturing equipment to computers and networks to software. Enterprise assets can be grouped into four categories: Production, Facilities, Fleet & IT [3]. While this paper focuses on IT asset management and will attempt to emphasize the differences from managing other types of assets, it will become clear that many of the principles cross over to all assets and that in many ways, “an asset is an asset”.

DEFINING IT ASSETS AND ASSET MANAGEMENT

IT asset management (ITAM) encompasses managing a wide range of IT assets. These include hard assets such as desktop and notebook computers and their associated peripherals like monitors, ports replicators and intangible assets represented by installed software and their maintenance contracts. Items such as the networked printers, networks & servers as well as their peripherals and software also fall under this category. Many companies are including some items that cross into the facilities stream such as copiers, faxes, and multi-function devices. Additionally, pagers, cell phones, and hand helds are increasingly being managed as ITAM class assets.

Soft assets that can yield the biggest savings to the enterprise. Merely centralizing their software license management and including contract management empowered Halliburton [4] to negotiate a 70% savings in license and upgrade costs with Adobe. This was based on their current expenditures and practices of purchasing adobe software at retail.

Meta Group estimates that the software budget of most organizations account for approximately 25 percent of their total IT budget [5]. Gartner goes even farther with estimates that for every USD 100 spent on acquiring software, most organizations will spend USD 500 over its 2-3 year lifetime. But companies with the technology, expertise, and focus to manage software effectively throughout its life cycle can realize 20-40% savings on their IT budgets [6]. No matter whose research an enterprise is closest aligned to, this aspect alone makes it a key target area for potential improvement and cost avoidance.

So we now have a basic one dimensional understanding of ITAM, the horizontal. The vertical definition of ITAM is commonly referred to as cradle to grave, birth to death, acquisition to disposition. The cycle involves: request, the request approval, the order, receiving of the order, installation/move/add/change (IMAC), refresh and disposition. Obviously not all of these apply to all asset types, but it gives us a good starting point.

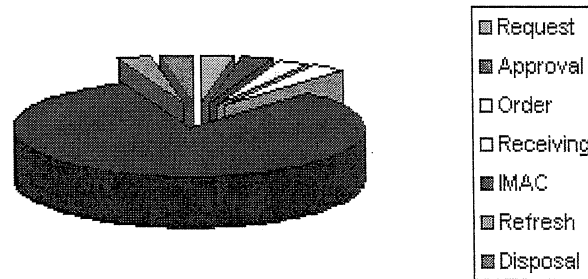
It should also be noted that according to IDC Research, good practices around the lease/buy decision, standards of acquisition, authorizations, requisitions and receiving yield a 160% cost advantage to the practicing enterprise [7]. The request is the point at which an end user, project team member or designated staff determines a need to acquire an asset. The form may be a verbal request or a simple form or it may be a very involved engineering request, business case and cost justification. The request approval may be as simple as a verbal ok or as complicated as complete engineering reviews and a string of management and executive signatures or online approvals.

In a typical enterprise, the order is a formal process usually managed by a central ordering or supply chain authority. In the modern age, most ordering systems are directly linked to suppliers via a third party ordering networks.

Receiving of the order should be linked to the ordering process. However, it is not uncommon, even in large corporations, to see absence of an end-to-end IT asset management information system. The ordering entity (especially in enterprises that lack mature asset management processes) tend not to share information with the receiving and managing organizations, yielding a situation where the enterprise is not sure that they are getting what they have paid for. The failure is usually not a conscious one. Usually, it is one where either the ordering system will not transfer data easily to the asset management system or one where the processes have not been reviewed to that detail. There have been cases however where the controlling manager has simply placed explicit faith in the vendors that they will always get what they order. Many enterprises correct the situation in one of two ways: a) the ordering

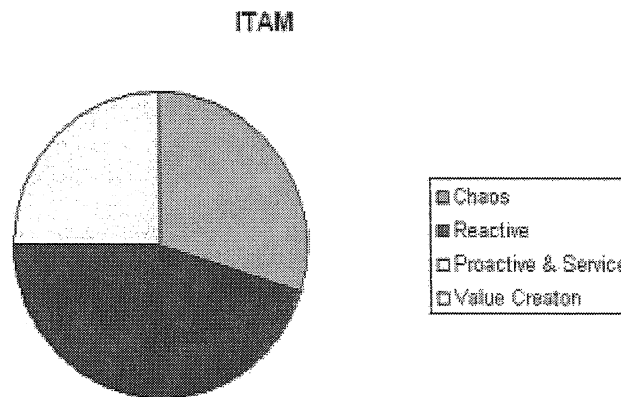
and asset management systems are made to communicate data or b) a “swivel seat” process is put into place where the order information relevant to asset management is re-keyed. It should be noted that in ordering systems where detail data is commonly referenced by binary attachment or other vague methods that the latter case is a much cheaper and easier to manage solution, even in the long term.

IMAC represents the major portion of the life of the asset in the enterprise. From the move of the asset from the point of receiving to the point of installation, through the installation and post installation changes during active production usage to potential moves and reinstalls this stage of the asset's life cycle is extremely varied and is hard to manage simply due to the variety of possible IMAC events.



Refresh is the term used to represent the point in the life cycle where the asset has degraded due to time in service or newer technology that the asset is due to be replaced independent of whether its function is still viable or not. Disposition is the end of life of the product. This point is more than simply throwing the old monitor in the garbage. The environmental impacts and subsequent financial consequences of improper disposal have the potential to be devastating. These life cycle stages have unique attributes not only by asset class, but can be unique by asset itself. As an example, most software licenses and contracts have minimal requirements for disposition, but a specific one may require that the enterprise notify the other party at least 60 days prior to termination.

The next question is what is the state of ITAM today? Gartner current estimates that 30% of organizations are at what they call the “Chaos” level [8]. The organization doesn't know what it owns, who has it or where it is located. Another 45% of organizations are estimated to be at the “Reactive” level of ITAM. Reactive organizations have their ITAM data in databases or spreadsheets, but processes aren't followed and quality of data is in question.



Most of the remaining 25% of organizations fall into either requisition to retirement tracking with linkages to financial and contract data (“Proactive”) or “Service” level ITAM. Service level ITAM builds upon the Proactive model by having all assets in a common repository integrated with enterprise level resource planning, technology refresh plans and not only has service levels, but also uses metrics to measure performance. Gartner says that almost no organizations have reached the “Value Creation” level of ITAM. Value Creation links total cost of ownership (TCO) metrics with ITAM metrics and has fully integrated ITAM processes with human resources and corporate IT processes [9].

NEW DYNAMICS IN IT ASSET MANAGEMENT

Current economic stagnancy and stiff off-shore competitions, and many uncertainties arising thereof, have put additional challenges in ITAM. The CIOs everywhere are looking at ITAM to present options and solutions for savings and cost cutting. Additionally, many new advances in technology are now finding a home in the systems utilized by ITAM.

CIOs and other executives want instant access to asset information. That is not to be confused with data. They want the information presented in a relevant, understandable format. It is estimated that less than 25 percent of all enterprises worldwide have a life cycle asset management program that can determine potential risks[10]. Problem is that even to get to that level of understanding, executives need consistency and accuracy. They also want it with the existing staffing levels. There are three ways in which technology is playing a supporting role in providing accurate and timely information: web technologies, data mining and handhelds.

Handhelds are being used more and more in ITAM for inventories and work flow in controlled environments. Today's handhelds allow a user to preload all the staff and asset data for an area, building, or city directly onto the handheld so that when the asset tag or serial number is scanned, all currently known information about that asset can be displayed. This allows quicker and more accurate IT inventories. The increased usage of wireless communication is allowing direct access to the production database. Security concerns are limiting its deployment, but other technologies like WAP, LEAP and PEAP [11] continue to advance wireless towards a secure implementation. Eventually, technology will allow us to use handhelds as a enterprise wide standard.

In controlled environments such as a configuration/installation center, IT warehouse, or data center the handhelds are beginning to play an even bigger part by being integrated into the workflow. Let's take for example a configuration/installation center. As an asset is prepared for deployment, it is scanned into processing steps (or statuses) by virtue of its location being updated by bar code scan. When it reaches the final step, it is then ready for out processing and that function is directly handled by system automation once the handheld bar code location scan data is fed to the central asset management system. By virtue of a simple process such as this combined with technology, near instant access can be obtained to not only current inventory levels, but also determine number of assets ready for deployment, assets out processed for deployment and efficiency of the warehouse staff.

Data mining is becoming more accessible to all business units. As computer systems continue to become more efficient and powerful, as data continues to centralize for the enterprise and as systems continue to become more tightly integrate, the ability to cross reference inventory data to purchase data to employee data to network scans becomes critical. A clearer view of the enterprise wide data becomes available like never before for ITAM.

Web technologies are bringing access to the data from anywhere without special software. All the major software vendors have announced strategies utilizing browser based technologies. This allows not only the ability to get to the data, but to get a lifetime view of the asset and in many cases a personalized live view of the asset data. It also allows updates to the data from any network connected computer for well a designed system.

The enterprise wide ITAM becomes really promising when all of these technologies are combined with well designed processes and a sound repository. Add to that integration and partnering all business units along the life cycle and their information systems and a company can begin not only to see what they currently have and what it costs, but also begin making very accurate forecasts about what will be needed and what those costs will be. Projections can also be made as to the costs of implementation of various strategies and preemptive management of the assets becomes a reality.

CHALLENGES OF IT ASSET MANAGEMENT

The major challenges in ITAM fall either into categories of processes or tools. The first and most important challenge of ITAM are processes. It is estimated that ITAM deals 80% with process (including people) and only 20% with tools [12].

Processes start with a good understanding of the company's policies and priorities. Once these are couple that with sound decision models to implement and monitor the workflow to support those policies and priorities with strong enforcement, your eighty percent of problems are solved. There cannot be enough emphasis given to processes. Organizations that fail in their attempts to implement ITAM successfully can usually look back at their processes understanding and implementation.

The remaining twenty percent fall on the software tools to support those processes. As we have discussed, those tools include the repository, inventory and monitoring tools. There is almost no limit to the vendors willing to sell one or more software tools. The mark of good tools are those that are flexible enough to allow an enterprise to adapt them to match them to good, defined processes, not requiring the enterprise to conform to the vendor's idea of what the process should be.

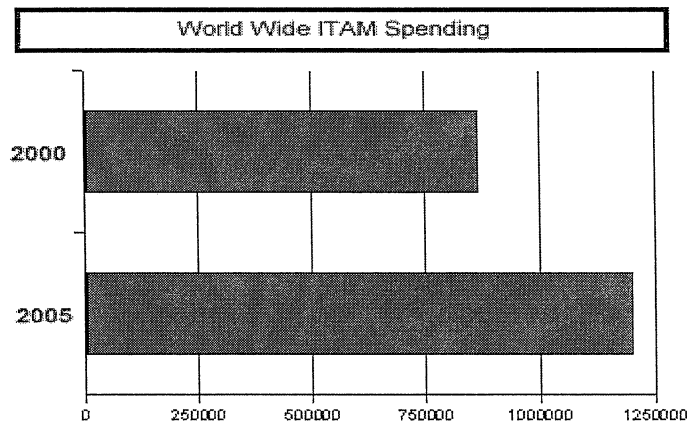
Data accuracy is one of the bigger challenges facing ITAM. Physical inventories are a way to insure that accuracy, but cost time and money and are drain on precious resources. When they are performed, they need to be as non-invasive and expediant as possible. Handhelds and barcode technologies discussed in the previous section are ways to achieve those goals.

Software license and software usage seems to be a very hot topic in ITAM right now. It not only is the focus of several research and position papers from Gartner, but a common topic in conversations with asset management staff at a good many companies across the US. With revenues declining for software vendors like Microsoft and SCO, these vendors are seeking to supplement their bottom line with new licensing fees, threats of audits [13] and law suit [14], and even raids on businesses causing disruption or shutting down operations. [15] The mere threat of disruption of operations can cause a company to feel blackmailed to pay up whether the fees are justified or not.

Legislative challenges is the final class of challenge I would like to address. As an example, the Sarbanes-Oxley [16] act of 2002 (post Enron) addresses corporate spending for IT projects. Asset management is being expected to assist with providing data on those IT project expenses. Being able to provide accurate cost and inventory data continue to be mandated to corporations as publicly held companies are more closely scrutinized.

IT ASSET MANAGEMENT AND THE FUTURE

While other areas of the technology sector continue to compress, IDC Research believes that “IT asset management software will become a \$1.2 billion business worldwide by 2005, up 42.1% from the 2000 figure of \$861 million. This growth will be driven by large enterprise deals and the need of organizations to smartly manage IT hardware and software assets.” [17]. Tangram Systems is estimating an average 20% annual growth in asst management with the goal of driving down TCO [18]. Gartner further believes that several of the smaller point tool vendors will drop out as the market continues to mature.



They further expect to see addition consolidations and a move towards complete suites of asset management software packages. [19]

As this often negeted area of Information Technology continues to gain the focus of IT organizations worldwide we will also see an maturing of processes and a better overall understanding of what is required to do ITAM correctly. As other IT jobs continue to be moved overseas and outsourced, this area of IT will stay close to the corporate offices. This is because ITAM is more of a control function.

In closing, ITAM is a field just beginning to be understood and over the next few years it will grow and mature into a strong and respected component of corporate IT.

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