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Practical IT Asset Management

A Concise Guide for Busy Executives

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A CONCISE GUIDE FOR BUSY EXECUTIVES

Practical IT Asset Management: A Concise Guide for Busy Executives
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PREFACE

IT Asset Management is often considered as a boring and low-grade task by many technical executives, CTOs, and even CIOs. This is because most technical staff in many organizations hates getting involved in the commercial and financial aspects of managing IT assets as they think this is just a glorified storekeeper job. Such misconceptions result in frequent battles between the finance, audit, and the technical departments. However, IT asset management is an extremely crucial function of any organization and must be given the highest importance possible by the senior management. An IT asset manager's job is a powerful position that can help organizations to save costs, ensure material discipline, offload asset activities from technical staff who may not be qualified or interested in doing such activities, ensure physical and data security, help in budgeting, and supervise the complete lifecycle of IT assets used in an organization. Secondly, it's not a mere storekeeper's job as many executives fear and this book will show why.

This book simplifies the procedures and processes used to successfully implement a workable IT asset management department in an organization. It removes any doubts or uncertainties about how it can be easily achieved with the help of a simple combination of qualified internal members of staff, contractors, external consultants and some common sense.

To make it easy for the reader to implement asset management, no IT jargon or theoretical standards are mentioned in the main contents of this book. This is because the book is intended to be a pure practical guide and also the concepts explained have no shelf life.

Simplicity should be the hallmark of any IT support department. If you make things simple, then all your customers will appreciate it. If you make things complex and bureaucratic, then only you will appreciate it.

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Thejendra Sreenivas

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ABOUT THE AUTHOR

Thejendra Sreenivas is an Information Technology (IT) manager for a software development firm in Bangalore, India. His introduction to IT began over 25 years ago, when after gaining a degree in electronics he took on the role of field manager. Since then he has developed a wealth of experience and knowledge of IT, and is familiar with a wide range of roles including IT support, help desk, asset management and IT security. He has also worked in other countries, such as, Saudi Arabia, Dubai, Bahrain, Qatar, and Australia. He has dealt with many organizations – of all sizes and nature of business – around the world and has implemented numerous small to large IT projects worth millions of dollars.

Thejendra is experienced in multiple areas like IT Service Management, Disaster Recovery and Business Continuity and IT Asset Management, which he is currently handling for his organization.

He has also written more than 24 books on a variety of subjects. He is now an Author & Life Skills Coach and conducts offline and online workshops on publishing and self-improvement topics. He also publishes a digital magazine called **Self Improvement International** that can be read on all smartphones, tablets, and computer browsers.

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1 INTRODUCTION

'Assets put money in your pocket, whether you work or not, and liabilities take money from your pocket.'

– Robert Kiyosaki

The head of technology (HoT) of a large organization was once presenting his department's activities to the CEO and other senior managers. During the presentation, the HoT claimed that he is responsible for successfully supporting and managing 35,000+ computers in the company. The CEO was puzzled and asked one simple question, *"Mr. HoT, we have only about 28,000 employees, including contractors and consultants, in our company. Why do we have 35,000+ computers with us?"* The HoT was unable to answer this question and was soon bombarded with many other tough questions. As a result of this discussion, the management and the HoT initiated a full-fledged audit and found several shocking facts.

1. The company had no dedicated department or employees to manage their huge number of expensive IT assets.
2. No centralized IT purchasing existed. Each department was doing its own budgeting and purchases. If a computer or some other equipment stopped working, they would simply order a new one, and discard the old one in some cupboard.
3. Many employees had more than one computer, one in the office and one at home.
4. Hundreds of laptops and other portable items were untraceable, or locked in personal cupboards, or maybe stolen.
5. Items from multiple purchase orders were mixed up.

6. Several computers and other equipment were out of warranty or support by the vendors.
7. Payments to several vendors were pending and invoices untraceable. Everybody was passing the buck with no accountability.
8. Finance and audit departments were unable to get satisfactory answers from the technical departments for financial accounting of IT assets.
9. Hundreds of obsolete and unused equipment were lying all around the building with no accountability.
10. Software licensing was a mess with no count of how many licenses were actually required. Support payments were being done for software licenses that were no longer in use.
11. No security checks existed on materials coming in or going out.

The simple reason for all these issues was the company had no dedicated IT asset management department. As a result of this investigation, the concerned management immediately approved the creation of a dedicated team for the sole purpose of managing all IT assets in the organization. Qualified and competent staff were hired or transferred from various departments to handle this department. Within a few months of intense efforts, the company was able to bring some material management discipline and start seeing its immense benefits.

1.1 WHO SHOULD READ THIS BOOK?

As you can see from the above example, too many CTOs, CIOs and their technical staff irritate their CFOs and their CEOs because they cannot answer the below important questions fundamental to running a successful business:

1. What IT assets do you have?
2. Where are they, and who is using them?
3. What is it costing to maintain these assets?
4. Do you have any excess materials?
5. Are you having IT assets that we no longer use?

This book will help you answer such questions and is aimed at anyone who is directly or indirectly involved in managing IT assets. If you belong to one of the groups mentioned below, then you will find this book extremely useful. Though the book is aimed at small and medium organizations, the concepts also hold good for large organizations.

- IT managers
- Chief technical officers or chief information officers
- Business managers and consultants
- Board members
- IT consultants
- Anyone who has been assigned the responsibility for overseeing IT asset management for their organization.

1.2 WHAT IS AN IT ASSET?

An IT asset is basically a physical or virtual item that is owned or leased by your company. Typical examples are desktops, laptops, phones, mobiles, printers, tablets, servers, networking equipment, storage devices, racks, routers, etc. Software licenses, either 3rd party or in-house developed, are also considered as virtual IT assets. But employee owned devices, even if used for official purposes, are not considered as company assets. This is important as a new trend called BYOD (Bring Your Own Device) is becoming popular. Also, depending on your finance department policies, any IT infrastructure items provided by the building where you operate may not be considered as company IT assets as such items will be owned and managed by external parties. Some experts argue that even company data is to be considered as an IT asset, but in this book we will only consider physical and virtual IT assets. We will also not consider Non-IT assets like furniture, power supply equipment, etc. But the concepts mentioned in this book can be applied to such equipment also by the concerned departments that manage them.

1.3 WHAT IS IT ASSET MANAGEMENT (ITAM)?

While IT executives and their managers often give various self-congratulatory claims about how great their departments are, their finance and audit departments will have a different story to tell, especially regarding the management of IT assets. They can tell you horror stories of how IT assets are not maintained properly to reconcile with their financial books, the number of items that are missing or lost without any accountability, frequent financial demands for new equipment or software licensing without proper justification, obsolete equipment lying all around without disposal, budget overshoots, etc.

IT Asset Management (ITAM) solves such pressing issues and brings discipline into managing IT assets. It is an all-encompassing set of best practices that combine technical, financial, contractual, and inventory activities to support the life cycle management for all IT assets. ITAM answers questions like, what IT assets do you have, where they are, who is using them, are they obsolete or with proper vendor support, are there excess assets, etc. It involves purchase, contracts, leases, payments, paperwork, issue, recovery, location, ownership, disposal, etc., of all IT assets used in an organization. It's a completely different function than IT operational management, whose objective is to provide performance and delivery of technical services.

1.4 WHAT ARE THE BENEFITS OF IT ASSET MANAGEMENT?

IT assets are expensive to acquire, configure and maintain. Secondly, the number of portable assets is increasing day by day in all organizations. IT assets depreciate and become obsolete rapidly, and require frequent update and replacement. An effective IT asset management department delivers significant benefits through cost management, cost recovery, better usage and tracking of assets, reduced risk, etc. The objective of IT asset management is to ensure

that the large quantity of expensive and frequently churning assets is effectively managed from beginning to end to achieve the highest return on investment. Senior management can take better decisions regarding their IT infrastructure with a properly functioning ITAM department. Some of the key benefits are,

Purchasing and Deployment Decisions – This helps organizations in understanding what assets you have, where they are deployed, and what are they being used for. A well-managed IT asset management data can help organizations to evaluate purchasing trends to guide future actions. It helps in selecting the best vendors based on purchase price, product and service quality and future support. It also helps in avoiding excess purchase of equipment and software licenses that are not needed.

Software license and subscriptions - One of the biggest challenges for any organization is tracking software licenses and subscriptions. Non-compliance is a legal, financial and reputational financial risk for the company. An IT asset team will ensure the company is using software licenses in accordance with each manufacturer's guidelines and not buy excess or unwanted licenses.

Standardization - Non-standard equipment and software can cost any organization a lot of money. It also causes headaches for the IT staff to maintain a variety of hardware and software. An IT asset team can ensure that the organization buys only standardized hardware and software to reduce support hassles. For example, if organizations buy laptops of multiple brands, then it becomes necessary to maintain different drivers and patches for each of the models, have separate maintenance agreements, deal with user experience issues, warranty conflicts, etc. Instead, if they buy a single brand and only one or two models within that brand, then it becomes easy to maintain and support them.

1.5 WHAT ARE THE RISKS OF NOT HAVING AN IT ASSET MANAGEMENT?

Most organizations do not think that IT asset management is a crucial function, and hence they have a low level of maturity. This is because they mistakenly assume this is only a boring stores management activity. Secondly, technical staff will be unable and even unwilling to do such activities as it involves non-glamorous activities like maintaining paperwork, taking stock, managing inventory, process invoices, etc. But the costs of not having a proper IT asset team are huge. Some of the risks are,

- No control over IT assets. This will result in a company buying more assets than actually needed.
- Budget overshoot - If there is no proper mechanism to utilize all assets then the budgets will overshoot. For example, if the company has 10,000 staff and there are 12,000 computers it will mean there are hundreds of unused computers that were purchased unnecessarily. The indirect costs for this will be buying extra software licenses, hardware maintenance costs to vendors, headache of keeping those systems patched with application hotfixes and service packs.
- Old and obsolete equipment will be lying all around with no ownership or disposal mechanism. This can frustrate the finance and audit department as it involves high financial losses.
- Theft and misplacement will become common. For example, what if a user is using two laptops and one gets lost containing important data, and the management is not aware of its loss? It's not only the actual cost of the laptop, but also the tremendous cost of losing important data that may fall into wrong hands.

If nobody is managing assets, then employees can also start stealing items without fear. For example, I have seen cases of cleaning staff stealing new and expensive toner cartridges as there was no one to keep track of its count or usage.

- Mix-up of assets. Ideally, an asset should be maintained in its invoiced condition. For example, when a computer is procured with Purchase Order-1 (PO-1) you will get a laptop, bag, charger, and a mouse. If you maintain all these as a set, then it is described as maintaining the asset in its invoiced condition. But if users exchange the charger or mouse among themselves, then an asset procured with PO-1 will be mixed up with assets purchased with PO-2. Later, this will become a nightmare to track the assets and also for its disposal.

1.6 WHAT IS AN IT ASSET LIFECYCLE?

IT assets have a finite useful life. To maximize the return on investment, a process called asset lifecycle is necessary to help in effective decision making. Life cycle management is required to improve the return on investment for IT assets, manage budgets, keep the finance and senior management satisfied, handle audits, and adopt newer technologies. Also, the records of present and past items may have to be indefinitely retained to satisfy audit requirements. Some of the main stages of the lifecycle are,

Planning – This involves strategy and decisions about what type of assets are required by the organization, how to procure them, who will fund it, etc. Planning also includes total cost of ownership, cost benefit analysis, alternatives, etc. For example, a company may decide to replace all its desktops with laptops for better productivity, mobility and reduction in seating costs. But this will result in a steep budget overshoot as laptops are usually costlier than desktops, plus there are risks of losing and damaging assets. So, after careful evaluation of the advantages and disadvantages, the company may finally decide on a combination of desktops and laptops.

Acquiring – This involves procuring the assets through various means like purchase, lease, or licensing. Procurement demands can be from various directions like, top management, individual users, or various departments. For example, the management may decide to add 500 new employees in the next six months. This is a direction from the top management. To fulfil this, the asset team can directly initiate a purchase or lease of 500 new computers. Or, the engineering department may need an upgrade the memory and disk for ten of their computers. This is a direction from the head of that specific department that needs to be fulfilled by the asset team.

Commissioning – This introduces or deploys the acquired assets into the network, and includes activities like installation, documentation, providing user access, etc. For example, if 100 new computers are acquired, then they have to be built with the necessary operating system and basic software. Next, they will have to be distributed to various users in different locations along with the documentation necessary for issuing and recovery later.

Maintaining – Once an asset is commissioned, it needs maintenance, upgrades, repairs, and so on. This activity should also be done by the asset team. For example, it may be necessary to upgrade memory on a number of systems because of new software that is getting upgraded. Or, when computer hardware fails it's necessary to call the appropriate vendor to get it repaired or replaced.

Retiring – At the end of an asset's useful life, it must be properly decommissioned and disposed. Retirement includes transitioning users to newer systems, transferring data and licenses from old systems to new ones, updating the asset and finance records, cancelling lease and support agreements for old systems, training users, and so on. Retiring assets must be done in its original invoiced condition. For example, if 50 computers were purchased three years ago with a purchase reference number PO-56 and invoice number INV-32, then at the time of retiring every computer and its accessories must belong to the same purchase order and invoice numbers. This will ensure the finance department to properly close their records. It's also possible to retire partial assets now and the remaining assets a few months later due to business or technical needs. In such cases, the asset and financial records should be split to show which assets got disposed and which are still in use. Retiring old assets will ensure the organization is up to date with latest hardware and software in the industry.

1.7 WHAT IT ASSET TEAMS WILL NOT DO?

IT asset team should not be considered or used as a technical support team, even though they may have the required technical knowledge. For example, staff should not call the asset team for resetting a password, or ask for help on a software functionality. But users can contact the asset team for upgrading the memory or disk on their computer, or buy a new software or hardware.

1.8 WHO ARE THE REAL OWNERS OF IT ASSET MANAGEMENT?

This is actually a tricky question. An organization may have employed its own members of IT staff, or external contractors to maintain and track their IT assets. Many would assume the real owners are the staff supporting the IT equipment, or the operators handling the business functions, because they operate the system, and as such, understand how it works. However, this is an incorrect assumption. The real owners are the organization's business managers, because if the assets are not properly managed or funded, the members of IT asset staff can't be held responsible for the organization failing to continue with business as usual. They may know what it takes to manage IT assets, but it's the business managers who should know and understand the big picture, such as the impact that the potential loss of any mission critical business and IT functions can have on the organization, that is, in terms of financial, reputational and legalities. Hence, the business managers are the real owners of ITAMs, and as such, are responsible for ensuring that the necessary budgets, manpower, resources and alternative methods are in place to manage the entire life cycle.

Some of the ways in which an organization's business managers can demonstrate ownership are as follows:

- **Knowledge:** Understand the financial, reputational, regulatory or legal impact of not managing IT assets.
- **Financial support:** Provide the necessary budgets for comprehensive maintenance of all IT assets. For example, if an organization's business manager declines to approve the purchase of new equipment or latest software, then the organization will not be able to scale up to latest technologies and will be struck with obsolete equipment. Then members of IT asset and support teams won't be able to take appropriate action in the event of equipment crash, data loss or other technical problem that may occur.
- **Manpower:** Ensure that departments have the necessary resources in all areas. It is common for an organization to have insufficient manpower to provide support and maintenance, but nevertheless demand the best from an under-resourced workforce. The common saying '*Hire an Einstein, but refuse his request for a blackboard*' describes a situation that is prevalent in many organizations worldwide. Reduced manpower and facilities in critical areas will inevitably, directly or indirectly, affect the organization.
- **Implement recommendations:** Establishing an ITAM department is not an expensive business as many assume, but the costs of not having one can become expensive for the company. Listen to recommendations proposed by members of IT and support staff for implementing asset management. It is a common practice in many organizations to ignore, or avoid IT and non-IT recommendations - using cost as an excuse. If an organization is serious about managing assets, then the senior management must provide support in terms of the necessary costs and budgets for implementing all sensible recommendations, industry standards and workarounds necessary.
- **Be involved:** Senior management at all levels must get involved in all aspects of an organization's IT asset management and adopt a '*Show me*' or '*Prove it to me*' attitude to ensure their organization's assets are truly protected.
- **Policies:** As with other essential policies, such as, in human resources (HR), or finance, a proper IT asset management must be enforced for all critical assets by senior management.
- **Sustained commitment:** IT asset management is a continuous exercise, and it's worth remembering that its facilities are similar to insurance, that is, they are a constant expense. It isn't enough to show an interest and invest on a one-off basis, because establishing proper IT asset team requires a continuous commitment.

2 ESTABLISHING AN IT ASSET TEAM

'One of the great responsibilities that I have is to manage my assets wisely, so that they create value.'

– Alice Walton

This chapter deals with how to establish a new IT asset team to start managing the organization's assets. An IT asset team is a unique combination of technical, financial, and commercial members. The department must consist of the following.

1. Supervisory or Managerial staff that is accountable for all the IT assets of the organization.
2. Field employees who can handle technical installations, build, issue and recovery of an asset, and other field activities for managing IT assets.
3. A software asset tracking tool to handle purchases, record assets, manage inventory, update usage details, generate alerts and reports, etc.
4. Desk employees, who can handle stores, maintain paperwork, update the software tool, run audits, generate reports, etc.
5. A Service Level Agreement and IT Asset Management Policy for the organization.

Each of these is explained in brief below and in further chapters. Note, the word employee is used in common to indicate both permanent staff and contractors.

2.1 SUPERVISORY OR MANAGERIAL STAFF

This should preferably be a senior manager who has technical and financial knowledge of the assets being managed. Such a person must be able to understand the technical specs of an asset. For example, if a general user who just uses a word processor and email for his work

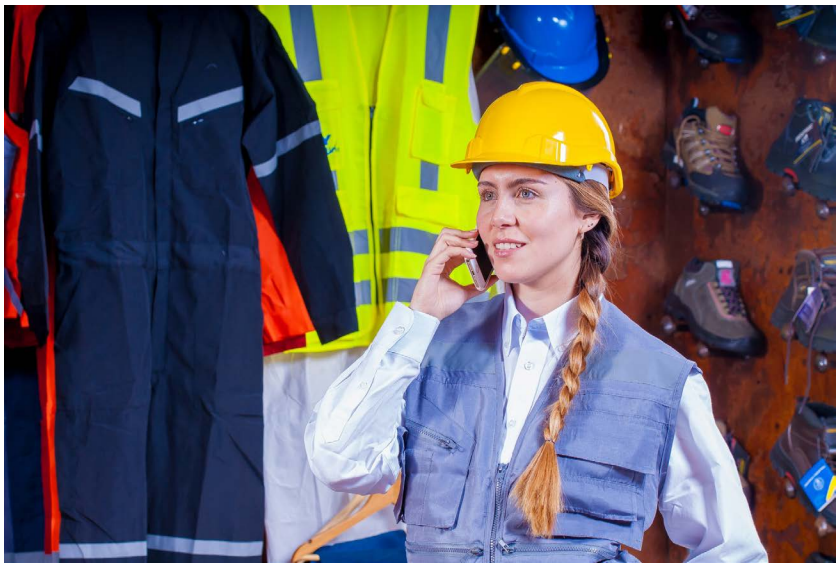
demands a high configuration system like a 32 gb memory for a laptop, then this manager must be able to question the need for such a system. He or she must also be able to reject such a request if the user demand is abnormal for the usage required. The person must also be able to lead a team comprising of technical, stores management, field staff, and also have financial and commercial leadership to deal with vendors, IT purchases, cost optimization, process invoices, deal with senior management, etc. Depending on the size of the organization he or she can have other managers, or second-in-command, to handle the workload.

This manager will also be involved with vendor negotiations, preparing and managing budgets, forecasting new requirements, approving invoices, initiating purchase orders, reviewing stock, handle user escalations, deal with senior management, manage contracts, hire manpower, optimize costs, etc.

2.2 FIELD STAFF - TECHNICAL

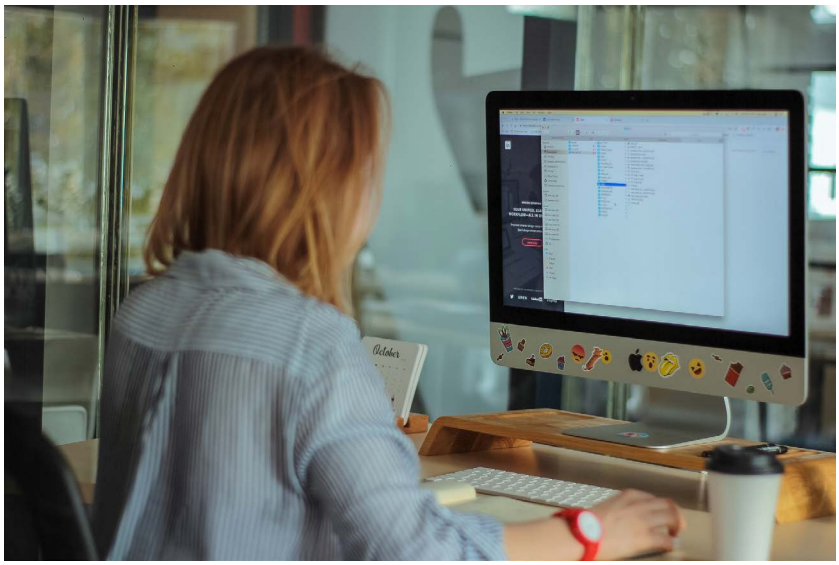
These are members who can assist in the basic technical needs and installation of an IT asset. For example, if a company buys 100 new desktops or laptops, then these employees can do the initial loading of the operating system, word processor, anti-virus, and other software tools necessary for end users. Or, they can get a server physically installed in the data centre, fix all the cabling, and hand it over to the other specialists to install and configure the server software. But these staff must not be involved in the day-to-day support of end users. For example, they should not get involved in resetting passwords for users. The boundaries of technical support of asset team must be clearly drawn, even though they may know how to do it.

2.3 FIELD STAFF - ISSUE AND RECOVERY



These are employees who will run around the building for issuing and recovering items from staff. For example, once the 100 new desktops or laptops are built, these staff can take over and start their physical distribution to identified end users around the building. They can also get the basic paperwork, like acceptance documents, signed off from end users to prove they have issued a particular computer, installed in a particular location, to a specific user. They should also get involved in equipment relocation activities. They should also be able to locate leased items for return at the correct time. In case of leased equipment, the failure to return them at the end of the lease period will attract penalty and extra rental charges.

2.4 SOFTWARE TOOL – INVENTORY AND TRACKING



This is a software asset tracking tool necessary to maintain inventory of all IT assets. More information on this tool will be provided in a later chapter.

2.5 DESK STAFF – MAINTAIN INVENTORY AND MOVEMENT

These are employees that manage the IT stores, maintain and update inventory, generate reports, replenish stock, tag equipment, etc. They should be housed in a secure area to protect equipment from theft and misplacement. They should operate the asset tracking tool and keep it updated. For example, if a computer is to be issued to a particular user, then the field employees must contact the desk employees and then take the equipment

out. The desk employees should then make a proper record of what item was issued, the user name, location, etc., in order to recover it later. No field employees, or even senior managers, should be allowed to take any equipment out of the stores without the desk employees' knowledge or approval.

2.6 SUMMARY OF RESPONSIBILITIES FOR THIS DEPARTMENT

The IT asset department should be the central department that manages all IT assets in the company. Some of the major responsibilities are,

Budgets – IT budgets for an organization can be classified into two broad categories. First one is the standard budget. The second one is the business unit specific budget. Standard budget is used for purchasing assets (hardware, software and services) that are commonly used by all employees of the organization. Examples of such items are standardized desktops, laptops, storage and mail servers, network cabling, routers, hubs, standard software like MS-Office and antivirus, maintenance contracts, etc. For example, the hardware support contract and payment for repairing all computers used by the organization must be handled by the asset department, as this cannot be delegated to individual departments.

Business unit specific budget is used for purchasing assets that are required only by that department. For example, the finance department may require ten licenses of a specific accounting software, or the engineering department may require a special design software and high end workstations for use only by that department. The budgets for purchasing and maintain this finance and design software can come from the respective departments, as these tools are not standard or common software used by all employees of the company.

The standard budget should be under the control of the asset team. The business unit specific budget can be under the control of the respective departments. However, the purchase orders and material management for both standard and business unit specific purchases must be handled by the asset team, as most departments may be unable or unwilling to indulge in such commercial activities and its paperwork.

Requisitions – IT requisitions can also be classified into two broad categories. First one is the standard demand to meet the organization's current and future demands. Second one is the business unit specific demands. Both these demands must be handled by the asset team. An example of a standard demand can be the management decision to add 500 new employees to the organization. This demand must be met by the standard budget, or if that is insufficient then additional funds may be sought from the management. An example of business unit specific demand is the request for upgrading the memory and disk for ten computers in the engineering department. This demand must be paid by the engineering department budget.

To handle requisitions, the asset team can have a simple web based portal that users can logon and request the items required. The portal can be configured with all the basic information needed like, type of items that can be ordered, budgetary costs, authorized approvers, timeframes for delivery, etc. For example, if a staff member requires a memory upgrade, he or she can request it via the portal. The asset team can then action the request. However, no department or employee should be allowed to buy or manage IT any assets or services on their own. For example, if the finance department needs ten extra computers, then they should not go ahead and purchase them on their own, even if they have the budgets or the knowledge. Or, an employee should not order an external disk via the internet using their credit cards and then demand a reimbursement. In summary, all requisitions must be handled by the asset team. This process may lead to conflicts and office politics as many senior managers may want to have full control and independence over their purchases. But, this should be strictly controlled as allowing everyone to buy their own equipment will lead to chaos, loss and misplacement of company assets.

Issue and Recovery – Provision and repossession of all equipment should also be handled by this department. For example, if a new employee joins the organization, then he or she should first be escorted to the asset team by the concerned manager or the HR department to receive their desktop or laptop. Or, if a user resigns from the organization then the asset department should ensure that user return all the assets that were issued to him or her. A formal recovery should be enforced. For example, users should not exit the organization by handing their laptops to their colleagues or locked up in their cupboards.

Tracking – The asset department should know the exact location and user of each and every IT asset used in the organization. For example, if the company has purchased a server two years ago, then the asset team must know where exactly the server is installed, which department is using this, whether it is still under warranty or maintenance by the vendor, when it should be decommissioned, how it should be disposed, etc. Similarly, it should know the whereabouts and user details of each and every movable and immovable devices purchased by the organization.

Movement – Movement of the equipment must also be handled by the asset team. For example, if twenty users move from one floor to another, then the field employees must get involved in the relocation and proper recording of the new locations. End users must not be allowed to move equipment on their own without involving the asset team. Otherwise, it will be very difficult to trace equipment later.

Audits – The asset team must also conduct periodic audits to ensure that the equipment is being used only by the exact staff they were originally assigned to. For example, if a laptop is assigned to a user, then he or she must not loan or exchange it with some other user without informing the asset team.

Loss of assets – Loss, theft, damage and misplacement of assets must also be handled by this department. For example, if the laptop of a user gets stolen or misplaced then the asset team must assist the user in getting another laptop and fulfil the other police, finance and commercial formalities.

Vendor support – Dealing with IT vendors for support and maintenance should also be handled by this department. For example, if the hard disk of a laptop has failed, then this asset team must know which vendor to contact to get the disk repaired or replaced.

Warranty info – The warranty and support details of all IT equipment must also be known to the asset team. For example, if the company has 5000 computers, then it should know how many systems are within warranty and how many have expired. For the expired systems, the department should have either a maintenance extension contract or have plans to dispose and purchase new ones.

Paperwork – The department should maintain the paper and electronic records of all IT purchases and contracts. This should include existing as well as all historical records for audit purposes.

Disposal – Disposal of unused and obsolete equipment is also the responsibility of this department. For example, if a bunch of computers have gone out of warranty and no longer usable, then this department must make arrangements to dispose the items to suitable external vendors who deal with electronic waste. This disposal must be done in liaison with the finance department to update their records and write off the equipment.

3 ASSET TRACKING TOOL

'If you can't sell your product, it goes from being an asset to a liability. Learn to sell, partner with someone who can sell, or learn to be poor.'

– Clay Clark

3.1 WHAT IS AN ASSET TRACKING TOOL?

Maintaining an accurate inventory of all assets used in the organization is crucial. If you have to manually dig through old records, spreadsheets, or remember who was assigned which item and their location, then the whole process becomes a nightmare. This is where an asset tracking tool will help. This is basically a software (either 3rd party or in-house developed) that will give the user and location details of each and every asset in the organization. Asset tracking basically has three functions,

- Document all assets within an organization. For example, if an organization has 10,000 laptops, 3000 desktops, 50 servers, 60 printers, 500 smartphones, and other IT equipment, then this tool must have a detailed technical, financial and locational record of each and every such asset.
- Identify where these assets are at any point of time. For small organizations it may be possible to physically locate all assets. But as organizations grow, it is not possible to use the same method of physical tracking each time an item has to be located. For example, if an organization has two building and several floors in

each, then this tool must be updated with the exact location of each asset. With identifiers like a serial number or asset tag, the tool must be able to pinpoint the exact user and location of that asset. Location input to the tool can be a combination of manual entry, importing spreadsheets and automated discovery.

- It should provide alerts and reports about maintenance schedules. For example, it should give alerts about an impending warranty end for a purchase order, or give a list of systems that have gone out of lease. While an asset tracking software is not full-fledged finance software, it should give some basic information on depreciation, current book value and finance tags of an asset.

3.2 WHICH TOOL TO USE?

The cost of implementing an asset tracking tool for an organization can range from a few thousand dollars to several hundred thousand, depending on the size of the organization. Huge organizations cannot have small, nursery tools to provide asset tracking support to their thousands of employees. They will need high-end systems that can handle and track thousands of assets, so they invest in enterprise and heavy-duty systems and associated software. The type of tool you need is fully dependent on what you want to get out of it. For small organizations, the tool can even be a simple Excel spreadsheet. For larger organizations, you will probably be looking at heavy-duty asset tracking tools. However, irrespective of the organization's size, always ensure that you keep it simple. Just because you have selected a feature-rich, complex tool, does not mean you have implemented the best asset tool. Organizations must first design their internal processes before they start searching for a tool. If the processes are simple, buy a simple tool and use it to the maximum possible. If a simple tool is not available, it is possible to build a customized tool with the help of software programmers. Always select a tool that is simple and neat. Some tools are extremely complicated and have hundreds of features and reporting facilities that will probably never be used in the lifetime of the product.

Most external companies nowadays provide asset tracking tools. You can download free evaluation copies of their software to install and explore the product. Once you have decided on a tool, be fully informed and knowledgeable about the following:

- Complete product and add-on prices
- Hidden costs – read the small print carefully
- Licensing costs
- Maintenance costs
- Warranty
- Support and training requirements for the tool itself
- Upgrades and patches for the tools

- Implementation costs
- How to extract the reports you need
- Performance tuning and training for the tools.

In this book we will use a fictitious company called RockSolid Corp that operates in two buildings. Each building has 10 floors that can accommodate 500 employees each. In addition, each building has several meeting rooms, data centres, cabling rooms, executive cabins, and other types of rooms for security, stores, facilities, electricals, cafeteria, etc. We will design an asset tracking software for such a company. I will not recommend any specific branded tool, but will only provide what features the tool should have to start your asset tracking journey. Let us assume that you have a bunch of qualified software programmers who will build such a tool for you.

3.3 HOW TO GATHER REQUIREMENTS FOR THE TOOL?

Requirements' gathering is a collaborative exercise. For this you will need qualified staff from the following departments,

- Technology departments who will give asset types and essential specifications of computers, networks, printers, scanners, phones, routers, etc. For example, the essential specification of a desktop can be its brand, model, memory size, disk size, monitor size and its model. The tool must have fields to enter these details. All other detailed internal specs like motherboard and software driver details are not necessary from the asset management point of view.
- Finance department who will give what financial information they look for in an asset like, capital expenditure, operating expenses, depreciation, leasing or purchase, etc. They will not be interested in its technical specifications, but will only consider the asset from a financial perspective like a capital expenditure. The tool must have fields to enter these financial details.
- Facilities department who will provide floor and seat details of the buildings. This is necessary to capture the exact location of all IT assets. For example, a number like 5N32 can mean fifth floor, North wing, and seat number 32. The tool must have fields to enter these location details.
- Security department who will provide what security measures are needed (or expected) for them to protect the organization's assets, entry and exit of assets, etc. For example, they can do random checks on users who are carrying out laptops to ensure they are carrying only the laptop that is formally assigned to them. They can maintain a list of users who have been provided laptops along with their serial numbers. So, if a user who has not been assigned a laptop is

seen carrying a laptop out, then the security can question or confiscate the item till it is investigated. Such actions by security should not be considered as an insult or invasion of privacy as every organization has the right to protect its assets from theft.

- Other specialists depending on the type of assets used. If this tool has to store Non-IT assets, then you will need qualified staff from various other departments. However, in this book we will only concentrate on IT assets.

The asset tool must fulfil the needs of all the above departments by having the necessary field. In its simplest definition, an asset tracking tool is basically a software database with necessary data fields (numeric, date, alphanumeric, text only, etc) plus search and reporting features. It will have hundreds of fields used by each of the above departments to input data. The software programmers will need information from each of the above departments for them to build the tool. Initially, a simple tool can be built with the ability to add more features later.

3.4 TOOL REQUIREMENTS FOR THE TECHNICAL DEPARTMENTS

The technical departments can give the following specifications for the tool,

- The tool must be web based and work on all types of browsers.
- The tool must be able to work with industry standard database like SQL, Oracle, etc.
- The tool should have fields for a unique Asset ID (explained later) based on the type of asset being input into the tool. No two assets should have the same Asset ID.
- Ability to change font and size, background colour, add company logo, letterhead for printing, etc.
- Different level of admin access for the tool like, Read only, Full rights, Edit only, etc., for different kinds of tool operators (desk staff).
- Brand and technical fields of an asset. Example – Laptop/Desktop/VDI, Servers, Switches, Routers Model, S/N, Vendor, Tech Specs, Upgrade status at later stage (example memory upgrade of a computer).
- Warranties start and end details, support vendor details, etc.

3.5 TOOL REQUIREMENTS FOR THE FINANCE DEPARTMENT

The finance department can give the following details for their asset management requirements,

- Ability to add any number of vendor details.
- The tool must also have fields for a unique Finance ID (explained later) based on the type of asset being input into the tool. No two assets should have the same Finance ID.
- Ability to add commercial information of an asset like vendor, invoice, cost, currency, tax, PO details, contracts, capex/opex, leased or purchased, operating status of an asset like in use or retired, depreciation, etc.

3.6 TOOL REQUIREMENTS FOR THE FACILITIES DEPARTMENT

The facilities department can give the following details for their asset management tracing requirements,

- Building
- Floor
- Wing
- Room and cabin numbers
- Bay and Seat number
- Location ID
- Other details

3.7 TOOL REQUIREMENTS FOR THE SECURITY DEPARTMENT

The security staffs needs to be aware of what assets can and cannot be taken out of the building. For example, the company policy may allow staff to carry their own laptops out. But this is not enough. To prevent theft, they should also be able to verify whether a particular laptop being carried out by someone is indeed assigned to that particular user. Or, if some user is carrying out a monitor or a desktop, then they should be able to prevent that unless there is formal authorization.

When new assets are coming in or old assets going out, they should be able to keep a track of such movements. For example, if 100 new computers are purchased the security should make a record of their entry into the building. Or, if 50 old computers are being disposed, then they should record the details of those systems. Basically, all incoming and outgoing activities of assets should be under the supervision of the security staff.

3.8 COLLECTIVE OR COMMON REQUIREMENTS

While each department will have their specific requirements, there will also be certain common requirements from the tracking tool like,

- Custom and comment fields for adding any additional information for an asset. This can be alphanumeric, only numeric and date fields for an asset. While the standard fields may suffice, there may be cases where some extra information is required for a set of assets. For example, the standard field for support contact of Dell computer may allow entry of only a single phone number. But there could be a second support contact number given by the vendor that need to be documented somewhere. This is where the custom and comment fields will help.
- Ability to add attachments – This is for embedding important files of an asset. For example, pdf files of purchase orders, invoices, entry papers, photos, etc., can be added along with each asset. This way you can electronically view the paperwork associated with each asset at any time.
- Exporting Data – Ability to export full or partial data into excel, pdf, word, csv and other formats. This ability is needed for generating custom reports or analysing data.
- Search and Replace – Ability to do single or bulk search and replace for data. For example, renaming of old records or correct data entry mistakes. If one data entry person has correctly entered Dell-790 for an asset, and another data entry person has wrongly entered dell790 for another asset, you will need to correct such entries to maintain naming uniformity through search and replace feature.
- Bulk data import – This feature is needed to prevent multiple and exhaustive data entry for a large number of similar assets. For example, if 500 computers of identical configuration are purchased, then there is no need to enter the same asset data 500 times. A spreadsheet containing the common specs and unique Asset and Finance IDs can be created and the file imported into the tool. Apart from spreadsheet, it should also be able to read and import barcodes printed on an asset.
- Automated reminders – Email and inbuilt notifications for time bound issues, Lease expiry, Warranty expiry, maintenance schedules, etc.
- Depreciation Value Monitoring – Estimates the decrease in finance value of an asset over time using the information regarding the useful life of the asset.
- Asset issue letter generation – For every portable asset issued to an employee it is recommended to issue a formal letter (hardcopy and electronic) from the company as evidence. For example, this letter can be checked by the security staff to verify the laptop being carried out by the employee is authorized for that employee. Without such a letter, a dishonest employee can take his own laptop out on Monday, and then steal and take out a second laptop out on another day.

- Maintain Logs and History – Each and every update, deletion, and modification of the tool should be logged. This will be helpful for audit verifications, correcting mistakes, or check some historical information. For example, the logs can show that a particular asset was used by Emp-10 for three months, and then issued to Emp-72 for six months, and now currently being used by Emp-88.

3.9 WHAT ARE ASSET AND FINANCE IDS?

In order to tract any asset and know its specifications it is important to have a unique alphanumeric text called the Asset and Finance ID. This is a crucial feature of any tracking software. It is like a social security number, and no two assets should have the same IDs. For example, if ten Dell computers were purchased, then you can assign Asset IDs like, Dell-2019-001 to Dell-2019-010 to show that they are Dell computers, purchased in 2019, and having separate IDs 001 to 010. These will be the permanent asset identification IDs for their entire lifecycle.

In a similar way, each of the above computers should have a matching and unique Finance ID that is referred by the finance department. These numbers can be given by the finance department to upload in the tool. For example, when the details of the computers are being entered in the tool, the finance department can ask the asset team to enter Comp-2019-001 to Comp-2019-010 for the assets. These will be the permanent finance identification IDs for their entire lifecycle. Each and every asset used in the organization should have these two IDs, and all tracking should be done via these two IDs.

3.10 ASSET TRACKING SCREENS

While the design, usability and aesthetics of the asset tracking tool can be left to the programmers expertise, the below screen samples will give a raw overview of the functionality.

The main dashboard can look like below. Each of the asset categories can be a clickable button that will open further screens and details of the assets under that category.

The Main Dashboard

RockSolid Corp Asset Tracking System		
Asset Categories		
Computers		Servers
Printers		Network Eqpt
Phones		Scanners

For example, clicking on the Computers button can open a master screen like below containing names of all computers.

The Computers Dashboard

Sl No	Asset ID	Finance ID	Asset Type	Description	Serial #	Status
1	**Dell-2019-001**	Comp-2019-001	Computers	Latitude 630	KBZV1	Field
2	Dell-2019-002	Comp-2019-002	Computers	Latitude 630	KBZV2	Field
3	Dell-2019-003	Comp-2019-003	Computers	Latitude 630	KBZV3	Field
4	Dell-2019-004	Comp-2019-004	Computers	Latitude 630	KBZV4	Field

5	Dell-2019-005	Comp-2019-005	Computers	Latitude 630	KBZV5	Field
6	Dell-2019-006	Comp-2019-006	Computers	Latitude 630	KBZV6	Field
7	Dell-2019-007	Comp-2019-007	Computers	Latitude 630	KBZV7	Field
8	Dell-2019-008	Comp-2019-008	Computers	Latitude 630	KBZV8	Stores
9	Dell-2019-009	Comp-2019-009	Computers	Latitude 630	KBZV9	Stores
10	Dell-2019-010	Comp-2019-010	Computers	Latitude 630	KBZV10	Stores

Clicking on the first Asset ID (Dell-2019-001) will open further screens or tabs as below. Similarly, clicking on the other Asset IDs will open their respective screens. Depending on the asset the custom fields can also be filled.

		Dell-2019-001		
Technical	Financial	Location	Usage	Other

Clicking on each of these buttons can provide further details like below.

Technical Details	
Standard Fields	
Asset ID	**Dell-2019-001**
Finance ID	Comp-2019-001
Asset Type	Computers
Sub Type	Laptops
Model	Latitude 630
Serial #	KBZV1
Manufacturer	Dell Corp
Memory	8 GB
Disk	256 GB
Mac #	D4-BE-D9-9C-8A-0E
Vendor	Saturn Computers
Warranty Start	01st April 2019
Warranty End	31st March 2022
Vendor Contact	8888888
Vendor Email	support@saturncorp.com
Attachment-1	PO36.pdf and PO96.pdf
Attachment-2	Latitude630-Brochure.pdf
Upgrade Details	8GB additional from PO96

Custom Fields	
Date-1	
Date-2	
Text-1	2nd support# = 777777
Text-2	
Number-1	
Number-2	

The Financial details of Dell-2019-001

Finance Details	
Standard Fields	
Asset ID	**Dell-2019-001**
Finance ID	**Comp-2019-001**
Asset Class	Capital Expenditure
Vendor	Saturn Corp
PO Number	PO-36
PO Date	10th Feb 2019
Invoice Number	SN-36
Invoice Date	20th Feb 2019
Unit Cost	US$800
Currency	US Dollar
Lease Start	01st April 2019
Lease End	31st March 2022
Leasing Vendor	Trident Financials
Lease Number	21
Depreciation	33% every year
Attachments	PO36.pdf and PO96.pdf

Custom Fields	
Date-1	
Date-2	
Text-1	
Text-2	
Number-1	
Number-2	

The Location details of Dell-2019-001

Location Details	
Standard Fields	
Asset ID	Dell-2019-001
Finance ID	Comp-2019-001
Building	Elegance Tower
Floor	7th
Wing	East
Bay #	Bay-40
Seat #	376
Room Name	-
Room #	-
Cabin Name	-
Cabin #	-

Custom Fields	
Date-1	
Date-2	

Text-1	
Text-2	
Number-1	
Number-2	

The User details of Dell-2019-001

User Details	
Standard Fields	
Asset ID	Dell-2019-001
Finance ID	Comp-2019-001
User Name	Robert Jordan
Emp #	RS-870
Email ID	robert.jordan@rocksolid.com
Phone #	676
Staff Type	Contractor
Manager Name	Bruce Williams
Main Dept	Engineering Department
Main Dept #	EN-20
Sub Dept	Design Department
Sub Dept #	DN-20
User Location	7th floor, East Wing, Bay-40, Seat 376
Issue Date	01st July 2019
Issue Letter	RS-870.pdf

Custom Fields	
Date-1	
Date-2	
Text-1	Staff home address & Phone#
Text-2	
Number-1	
Number-2	

In a similar way, clicking on the other buttons like Servers, Printers, etc., on the main dashboard will open their respective technical, financial, location and usage screens. But all this data will not appear magically in the tool. How these screen information gets populated in the database is explained in the next chapter.

4 POPULATING THE ASSET DATABASE

'No one would look just at a firm's revenues to assess how well it was doing. Far more relevant is the balance sheet, which shows assets and liability. That is also true for a country.'

– Joseph Stiglitz

4.1 TEAM AND SOFTWARE ARE READY. NOW WHAT?

Once the required asset management employees (as outlined in Chapter-2) and the asset tracking tool are ready, you must start populating the asset tracking tool with every IT asset owned or leased by the organization.

Let us assume the RockSolid Corp has the following employees, IT assets and other details.

- 10,000 employees, including contractors.
- 11,000 computers consisting of 7000 laptops, 3000 desktops and 1000 high end engineering workstations.
- 50 Printers.
- 20 Scanners.
- 10,500 desk phones.
- 60 Servers and other Data centre equipment.
- 30 IT vendors who provide hardware and software.
- Several thousand software licenses of various types.
- Layout and identification numbers of the two buildings.

Now, all the above data must be fed into the asset tracking tool. Even though this is a Herculean exercise, it must be done before you start the day-to-day operations of the asset team.

4.2 HOW TO BEGIN POPULATING THE DATABASE?

Populating the database can be done in various ways, both manual and electronic. Here are some suggestions for populating the database.

- The asset team in liaison with finance team must dig out the purchase orders of all the IT assets. For example, those 7000 laptops in circulation may have been purchased in over 40 purchase orders. Similarly, all the other equipment and software will have their respective purchase or lease orders.
- Each of the above assets must first be given a unique Asset ID and a Finance ID.
- Then the data must be accurately fed into the database, either manually or by preparing correct spreadsheets and importing them.
- Details of all IT vendors, contracts and their contact details must also be entered.
- If necessary you can also take help from various vendors to provide a list of equipment they have supplied in an excel format that can be imported. This can help you speed up the database entry.
- High clarity and quality stickers of several sizes suitable for various equipment containing the Asset and Finance ID must be printed. Then they must be pasted on each and every asset in the organization. Have extra stickers for each as it is normal for stickers to get peeled off over time, or sometimes staff will damage such stickers. This is an important exercise and will have to be done manually by running around the buildings. Pasting stickers is a method to show that the assets belong to RockSolid Corp, and will help in asset tracking and its movement later.
- A marathon exercise of this nature can show the asset team and the management how well the assets are being used or misused. For example, you may notice 50 laptops are untraceable with no one taking accountability. Or, you may find out several unused equipment lying all around, or hidden inside cupboards kept by employees no longer in the organization. Or, you may find items belonging to multiple purchase orders mixed-up.
- All IT equipment that is lying unused must be recovered and stored in a secure place.
- The IT items that are being used by various staff can be formally assigned to them along with a letter as proof of issue.
- Items mixed up from multiple purchase orders can be corrected. For example, if someone has removed the monitor from a desktop of one purchase order, and connected it to a desktop of another purchase order, then you can restore it back.

- An exercise of this nature in a large organization can result in friction, non-cooperation and heated arguments by staff. For example, employees may not be willing to give up their additional laptops or desktops that they may be using. However, the asset team and the senior management must be firm to ensure that all assets are tracked and material usage discipline enforced. Ideally, a ratio of 1:1 must be enforced. This ratio means one employee gets only one computer. Any extra computers required must have appropriate business and technical justification.
- After a few weeks of such intensive exercises your asset database will become accurate and mature. Now two more things are required before you begin operations, and this will be explained in the next chapter.

5 SERVICE CATALOGUE AND IT ASSET POLICY

'Your insight is your asset; the edge you require to succeed.'

– Farshad Asl

Once you have the asset management employees and the tracking software populated, you will need some important documents like an IT Asset Policy and a Service Catalogue to finalize the service boundaries of the asset team. A brief overview of each is given below. You can expand on the points mentioned to create detailed documents for each.

5.1 WHAT IS A SERVICE CATALOGUE?

The Asset Management Service Catalogue is a descriptive list of all the IT services the department is accountable and responsible for.

Why do you need a service catalogue? The purpose of a catalogue is similar to a supermarket or shopping catalogue. It provides the following.

- It answers the basic question – What services does this department provide?
- How can all employees avail those services?
- Defines service boundaries to manage employee experience and also allows ITAMS to formally reject requests that fall outside the range of their defined services.

Audience – This catalogue should be applicable to all employees, including contractors.

Services provided – You can mention their high level names like below,

IT Asset Management	IT Procurement	IT Vendor Management
Software Licensing	IT Budgeting	Other

Brief description of the above,

- **IT Asset Management** – Build, Issue, Recovery, Transfer, Repair and Inventory maintenance of all hardware and software used in the organization. Will also include lease expiry and redeployment.
- **IT Budgeting –** Capacity and cost inputs to standard and business unit specific IT budgets. This should cover ongoing and impending budgets.
- **IT Vendor management** – Technical discussions, service assurance meetings, hardware and software support coordination with various IT vendors.
- **Software licensing** – Handle standard and business unit software licenses, purchase new software, conduct usage audits, etc.
- **Invoice management** – Vendor payment approvals and related paperwork.

Business Hours – Mention the timings for ITAMs support like, Monday to Friday, 9:00 am to 6:00 pm and excluding public and declared holidays.

Next, mention all the individual services provided in a manner that users can understand. This can even be in the form of a FAQ.

Service ID	Unique numeric identifier for each service. Example - **HW-01**
Service Name	Short name of the service. This can be worded as a question usually asked by the employee. Example – **I need a laptop**.
Service Description	This elaborates the service further. Example – Standard laptop provided will be Dell Latitude 630 model with 8GB memory, 256GB disk, Win 7/10, Mouse, and Bag.
Pre-Requisites	Forms to be filled, approvals required, whom the request should be sent, etc.
SLA	Give timeframes to fulfil request like 3-5 business days.
Costs	Provide costs for the request.
Other Details	Any other details necessary or paperwork.

In a similar way, you can list down all the Service Names with their unique Service IDs like, HW-02: I need a Desktop

HW-03: I need a temporary laptop or desktop for N days

HW-04: I need to move my desktop from one seat to another

HW-05: I need two monitors for my system HW-06: I need to return my system

HW-07: I have lost my laptop And so on.

Once you prepare a detailed list like above, users will be in a position to know what standard services can be expected from your asset department. Secondly, your asset team can draw the service boundaries to prevent employees from demanding non-standard services or have unrealistic expectations.

5.2 WHAT IS AN IT ASSET POLICY?

The purpose of an asset policy document is to manage, control, protect and maintain accurate records of your company's physical and virtual IT assets. This document should establish compliance with government regulations, legal requirements and accurate reporting of all types of IT assets. It should also establish roles and responsibilities of the asset staff. This policy should apply to all assets purchased or leased by the company, and to all employees who use those assets.

The policy details can be summarized as follows and enhanced later.

- All assets purchased or leased will be recorded in the asset tracking tool by the asset team. All mandatory technical, financial, commercial, user, and facility location information shall be entered and maintained in the tool. Some necessary information shall be retained even after the retirement and disposal of the asset.

- All employees will be provided a standard Dell Laptop or Desktop (henceforth called a system) for their use, but not both. Systems and monitors shall be issued at a ratio of one system and one monitor per staff. Exception for additional systems will require approval by the IT asset team along with a valid business or technical justification.
- The duration of usage of the system shall be three years. Employees may be issued with a functional redeployed system instead of a new system.
- IT asset team will maintain accountability for fulfilling requisitions, procurement, vendor liaison for hardware and software support, and final disposal of the systems.
- IT asset team is also responsible for ensuring that all licensed software is managed.
- IT asset team will arrange for deactivating of systems on replacement or retirement. This will allow the company to reduce and redeploy software licenses, improve accuracy of system utilization and reduce costs.
- IT asset team shall also conduct periodic audits for all assets. Audits may be conducted at any time and without prior notice on the systems being used by staff. Auditors and investigators reserve the right to examine the web browsers, cache, files, and other information stored or passing through the company network.
- Employees shall not remove any IT assets from company premises. This does not apply to laptops, tablets and smartphones formally provided to the employee for business usage, teleworking or work from outside when required.
- Systems issued to authorized employees will be configured by the technical services team to access company emails only. Personal email, software downloads and social media websites are disabled. All non-standard settings and features will be disabled for security reasons. Users must not attempt disabling or modifying any features or settings on their systems. Accountability shall also include that installed software is used in accordance with company policies and business purposes only.
- Employees are responsible for safeguarding all IT assets under their custody. Employees must immediately report the loss or theft of any assigned asset to their immediate manager, the asset team and the security manager.
- Employees are not allowed to bring their personal IT assets or software into work locations. Exceptions to this policy must be approved by the head of information security.
- All IT purchases for standard or business specific needs will be done only by the asset team. No employee shall purchase any hardware, software or enter into any contracts without the explicit approval of the asset team.
- Employees should return their old systems within one week of system replacement by the asset team. Retaining the old system is allowed only when there is a valid business and technical justification. Costs for retaining shall be billed to the respective department.

- Insurance arranged by the company shall cover physical damage and theft. However, any deliberate damage or loss to the company may result in disciplinary action.
- When employees resign the organization or proceed on long leave, employees must surrender the systems to the asset team.
- Retirement and disposal of all IT assets shall be handled by the asset team. All disposals, by any method, must be done in conformance with government eco-friendly standards. All software and data must be securely removed before disposal.
- And so on.

Now that you have a fairly good idea of what should be contained in the Service Catalogue and IT Asset Policy you can expand and improve it further.

6 DAY TO DAY OPERATIONS

'Your most precious asset is your right thinking.'

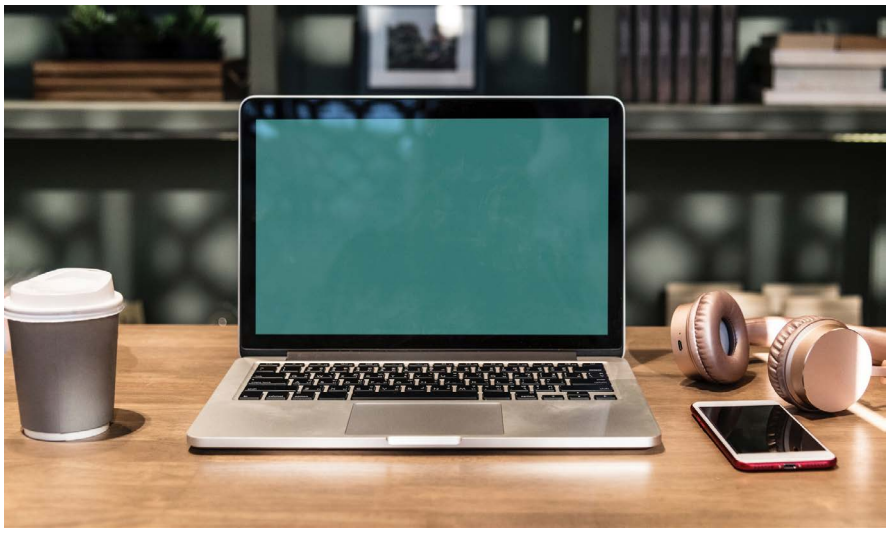
– Mehmet Murat ildan

With the information in the previous chapters you will now have the following things ready,

- A qualified asset team consisting of field and desk staff.
- An asset tracking software populated with all assets and their data.
- A published Service Catalogue and IT Asset Policy.

Now you can begin day-to-day operations of the asset team. This will be explained through some examples.

6.1 ISSUE A LAPTOP OR DESKTOP TO A NEW EMPLOYEE



Whenever a new employee joins the organization, the following steps must be followed,

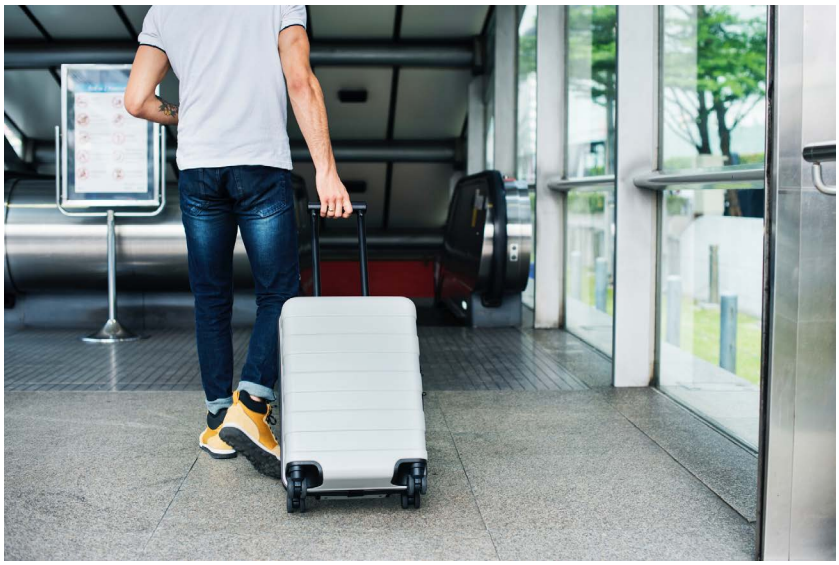
- The concerned manager or HR should escort the new employee to the asset team for receiving their laptop or desktop.
- The asset team should immediately issue a suitable desktop or laptop as required by the user. It is a good practice for the HR or the concerned manager to inform asset team a few days in advance about the arrival of a new employee. This way, a specific laptop or desktop can be identified and kept ready for issue along with the necessary paperwork. This will enhance the user experience and avoid last-minute hassles.
- Next, the asset tracking tool must be updated with the user and location details as evidence of having issued the system to that employee. A paper letter can also be issued along with the signature for audit purposes. This laptop or desktop is now formally considered as being under the custody of that employee till he quits the organization, or gets a replacement system
- If the system assigned is a desktop, then the asset field staff should provide additional assistance in installing the system at the user desk.
- Some initial assistance for connecting to the network and printers, access email, support contact details, etc., can also be provided to the new user.
- Any additional software or access to departmental servers required by the user should be requested separately. For example, if the user belongs to the engineering department then he may need a new design software license and access to their servers. This decision should be left to the concerned department manager as it will involve extra costs that will be billed to his department.

6.2 ARRIVAL OF NEW SYSTEMS

When new systems arrive in the organization, the following steps should be followed. For example, let us assume 300 new laptops have been purchased.

- The laptop boxes should first be received by the security, facilities and asset teams and transported to the asset stores.
- An initial verification of the boxes can be done to verify if all the laptops and accessories that were ordered have been supplied, or whether there is any short shipment.
- The carton boxes should be unpacked and all laptops should be pasted with an Asset and Finance ID that is already predetermined.
- The technical, financial and commercial details of all the laptops should be entered in the asset tracking tool. At this stage, the user and location details of each laptop need not be entered as that can vary on distribution.
- After this, all the laptops must be tested and built with the necessary operating system like Windows7/10, along with all standard software like MS-Office, Anti-Virus, etc. This is the concept of building the system to the company approved image. Now the laptops will be ready for issuing to users when demanded.

6.3 EXIT OF AN EMPLOYEE



When an employee quits the organization the following steps should be followed,

- All exiting employees must return all systems to the asset team. No user should exit the organization without a proper handover.
- For example, if a user has been assigned a laptop, charger, mouse and a bag, then he must return all the items and get a signoff from the asset team.
- Only then should the finance and HR proceed with their formalities.
- It's very common in large organizations for employees to leave with their systems locked in cupboards, or handed over to colleagues, or even take the systems away if proper supervision is not there. Such practices should be firmly controlled to ensure that all company assets are properly tracked and maintained.

6.4 BULK REPLACEMENT OF SYSTEMS

Periodically, it will be necessary to replace a large number of systems due to lease or warranty expiry. For example, if 200 systems were purchased three years ago, then at the end of three years all those systems must be recovered and new systems provided to those employees. During such times the following steps should be followed,

- Such marathon activities have to be planned well in advance, like three months before the actual lease or warranty expiry.
- For this, you must extract reports from the asset tool pertaining to all users who are using those 200 systems.
- Next, you should have 200 new systems purchased and built for issue, if not done already.
- Once they are ready, you should contact all those 200 users well in advance and inform them of their impending system replacement.
- Advance information will ensure those users are ready for replacement by taking backup of their important data, agree on a mutually acceptable date and time for replacement, seek vendor assistance for any business specific needs or software, etc. For example, the engineering team may want an external vendor assistance to transfer their design software license and data from the old computer to the new computer before handover.
- Once the users are ready, you can prepare a timetable for smooth replacement. The complete replacement must be done before the warranty or lease expiry of the systems to avoid financial penalties.

- Once all the old systems are recovered they must be formatted and all data removed for security purposes. However, it is a good idea to retain the systems undisturbed for a couple of weeks, as it is highly likely that a number of users will rush back asking for some files or configuration setting they may need or have forgotten. Once all the users settle down with their new system, the old systems can be forgotten and packed for disposal.
- Next, the asset tool must be updated with necessary retirement details and then you can plan for disposal of the systems.
- The finance department should be informed about the decision to dispose these 200 systems so that they can make necessary updates to their finance records. Once all the concerned departments give their approval you can plan for the final disposal (explained in another example).

6.5 AUDITING OF SYSTEMS

Even if the asset activities and tool update is going on smoothly, you should not assume that everything is fine. This is because in a large organization many users indulge in various mischiefs in managing their assets, either knowingly or unknowingly. For example, if a laptop formally assigned to User-1 gets quietly exchanged with another User-2, then it's very difficult for the asset team to track such activities. To track and correct these it's necessary to conduct periodic audits. Some of the methods to conduct audits are,

- Periodically, a verification email can be sent to all employees asking them to mandatorily revert back with the serial number of the laptop or desktop they are using.

- With the replies obtained, you should compare that with the data on your asset tracking tool. For example, if a user replies that he is using a laptop with serial number XV43N, but if your record for that user shows it as XV77N, then you know some unauthorised exchange has occurred. Immediately, a corrective action should be taken to get the systems back to the original assignee, or update the tool with the latest details if there is a justification.
- Without such audits, assets will start disappearing, misplaced or even get stolen. In big organizations doing a physical verification is very difficult.
- Apart from email verification, you can also take the help of technical teams to do an electronic scanning that can discover devices on the network. Specialised tools are available that can scan the network and read the technical specs of laptops, desktops, routers, etc. You can also use such data to compare with your asset database and find out mismatches.

6.6 MOVEMENT OF SYSTEMS

In large organizations there will always be a need for users to move from one seat to another for various reasons. Reorganizations result in large scale movement of staff from various floors and buildings. The asset team should be fully involved in such activities. When movements are initiated the asset team should do the following,

- Get a list of users who will move along with the current and destination seats.
- Inform those users to take help of asset field staff for their movement. For example, users should not haphazardly dismantle their department systems, transport them on their own, and install them in the new locations. If such things are done, your asset tracking database will become a mess, and also systems and accessories from multiple purchase orders will get mixed up.
- Later, correcting that mess will be a Herculean task. This is why no user should move their systems on their own without seeking guidance from the asset team.

6.7 IT STORES AND FIELD INVENTORY

The IT stores should be maintained accurately. Some of the best practices are,

- There should be a periodic inventory exercise to find out how many items are there in the store and in the field, and whether it matches with the overall purchase or lease. For example, if a particular purchase order had 200 laptops, then a count like 180 in field and 20 in stores will prove that all items are accounted for. But if the field quantity is 180 and stores quantity is 17, then you need to find out where those 3 missing laptops are hiding.
- No unauthorized person should be allowed into the IT stores. Having security cameras would be a good idea to prevent any theft.
- The field staff should take material out only when the desk staff has authorized them. For example, the field staff should not walk in and vanish with some laptop they may urgently need for some support purposes.
- There should be adequate storage for usable and retired material. Retired material should be disposed as soon as possible.
- Asset team should also maintain a copy of all the paperwork like purchase orders, invoices, and any other papers that would have come with the materials. The originals can be in the custody of the finance department.
- The stores should also be designed and maintained such that there is no water seepage or fire and electric hazards.

6.8 DISPOSAL OF RETIRED SYSTEMS

Once a set of IT assets are retired they should be disposed as soon as possible. Some of the best practices for disposal are,

- All disposals should be done in its invoiced condition. For example, if a purchase order had 50 laptops that were retired after three years, then every laptop and accessory that came with the purchase order must be disposed. This method will make it easy for the finance department to update their records.
- Disposal can be in multiple ways like giving to charity, selling to employees at discount, or selling to registered vendors who specialize in eco-friendly disposal. Obsolete equipment should not be simply thrown into garbage dumps as they will harm the environment. Today, there are many specialized vendor who will dismantle old obsolete IT equipment and recover material like copper and other usable things from motherboards, chassis, etc., in an environmental friendly way.
- Once the disposal is done you must update the asset tracking tool with the correct status. For example, if 50 laptops have been disposed, then the individual records of those laptops status must be shown as retired and disposed, along with other information like dates, vendors, cost recovered, etc. This is essential for audit purposes later to prove that the items were disposed in an authorized way.

7 IT ASSET REPORTS

'Beware of little expenses; a small leak will sink a great ship.'

– Benjamin Franklin

Generating asset reports is a very important management exercise. Such reports will show how the assets are being utilized and will also help in decision making for future assets, budgeting, etc. The asset tracking tool must be able to generate standard and custom reports as demanded by the management. Some of the reports that give an insight into how the IT assets are being used are as follows,

7.1 INVENTORY CLASSIFICATION BY USAGE

The IT assets purchased by the company can be used for various purposes and departments. An inventory classification by usage report will provide a helicopter view of which asset is where and how many are being used for a specific purpose. For example, let us assume the RockSolid Corp has 11,000 computers consisting of 8000 laptops and 3000 desktops. A high level inventory classification by usage report can be as in the following table,

LAPTOPS DISTRIBUTION		
Usage Type	**Quantity**	**Comments**
User Assigned Laptops	7500	In field
Testing or Pool Laptops	100	With various departments
Store – Usable Laptops	300	Stock
Store – Unusable Laptops	100	Defective

DESKTOPS DISTRIBUTION		
Usage Type	**Quantity**	**Comments**
User Assigned Desktops	2500	In field
Testing Desktops	150	With various departments
Shared Desktops	50	Common usage
Store – Usable Desktops	200	Stock
Store – Unusable Desktops	100	Defective

This high level report can be further drilled down for management purposes as shown in the following tables. For example, the 100 testing laptops can be further drilled down into the specific departments using them.

Testing or Pool Laptops Distribution		
Department	**Quantity**	**Comments**
Engineering	60	
Transport	10	
HR	20	
Facilities	10	

A similar report can be generated for the testing and shared desktops. For example, the 50 shared desktops can be shown as follows,

Shared Desktops Distribution		
Department	**Quantity**	**Comments**
Library	20	
Reception	5	
Internet Kiosks	25	

By generating such detailed reports periodically you can get the following information,

- You will know how your company assets are being utilized. For example, if you have hundreds of usable systems in stock lying unused from many months, then you know you have excess stock.
- If you have hundreds of defective or retired systems in the stores from months, then it shows you are not managing the disposal efficiently.
- If you have very low stock of usable systems, then you will not be able to gear up when there are sudden demands. For example, if you have just 20 systems in stock and 50 new employees join, then you will not be able to provide systems for 30 employees resulting in conflicts and delays.
- Such reports can also help in budgeting and cost control. For example, if you have enough systems in stock, then you can reduce purchase of new systems and licenses next year. Or, if you have fewer systems, then you can demand a budget increase for additional systems.

7.2 BUSINESS UNIT USAGE

Frequently, a department manager or head may ask the asset team to give a report of how many systems are in use by their department. For this, you will need a business unit usage report. This is a report that shows how many staffs are using how many systems. An example report is shown in the following table.

Department	Staff	# of Desktops	# of Laptops
Engineering	70	20	90
HR	30	5	35
Other-1	200	20	210

With such reports you can see how many assets are being used by how many employees. For example, if you look at the above table you will notice all the departments are using more systems than the staff they have. Now, this is an opportunity to recover some systems, unless they have a valid business and technical justification for having more systems than the number of staff.

7.3 DAYS TO WARRANTY EXPIRY

This is an extremely important report to decide on timely replacement of desktops, laptops and other assets.

PO-Number	Item	Qty	Days to Expiry
PO-150	Laptops	200	20
PO-152	Desktops	50	170
PO-170	Laptops	100	110

For example, if you look at PO-150, you will see it has only 20 days of warranty left. With such a short time left you will not have enough time to arrange for 200 new laptops, build them, and replace for those 200 users. If the generation of a new PO or arrival of new material is delayed, then those 200 users will be using warranty expired system with no vendor support. If there is a hardware failure you will have to pay extra to get it repaired. Hence, it is a good idea to generate this report every month to review on replacing warranty expired systems at least three months in advance. This way, you can plan your activities in a leisurely manner without putting pressure on your field and desk staff.

7.4 LOST ITEM REPORT

It is also useful to generate a PO wise lost or misplaced item report that will be helpful at the time of disposal.

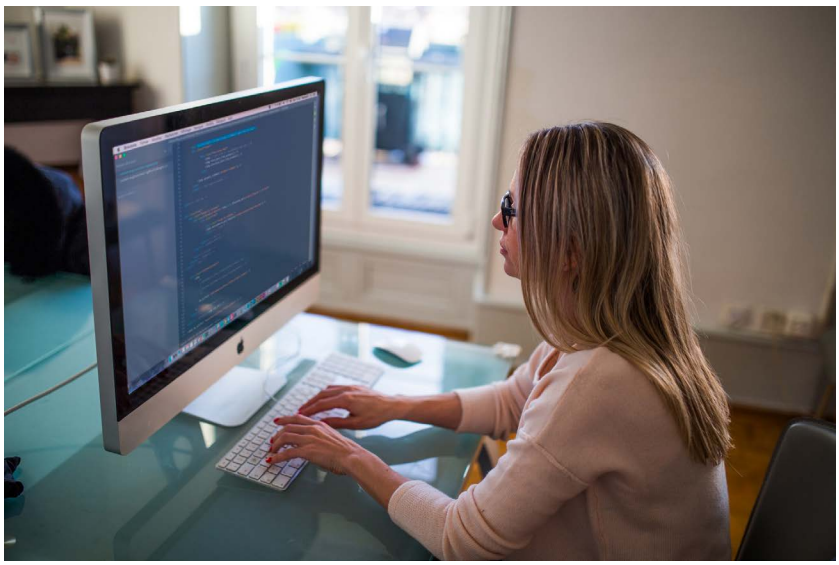
PO-Number	Item	Qty	Qty Lost
PO-150	Laptops	200	7
PO-156	Laptops	50	3
PO-170	Laptops	100	5

In a similar way, you can generate a variety of reports to meet the demands of the management. The accuracy of the report depends on the accuracy of the asset database, which is the source of truth. If this database has any mistakes, then your reports will have many mistakes. Hence, it's necessary to maintain the database in a highly accurate manner to microscopic levels. These reports also help in accurate IT budgeting and avoiding excess or inadequate spend.

It's also a good practice to take daily or even hourly backup of the database for disaster recovery purposes

If there are a large number of changes to the database daily, then it is essential to have periodic backups. For example, if there is a database corruption or mistaken entries, then you can restore the database to its previous accurate version and the differential data re-entered.

8 SOFTWARE ASSET MANAGEMENT



'Mr Corleone is a man who insists on hearing all bad news immediately.'

– The Godfather

8.1 HOW TO MANAGE SOFTWARE ASSETS?

Similar to managing the physical or hardware IT assets, the asset team (or a sub-team) should also manage the company's software licenses by having additional qualified staff. This team can be called the Software Asset Management team (SAM Team). Software licenses are nowadays equal to, or more expensive than the desktops or laptops. An improperly managed licensing can be a financial drain on an organization as you will end up buying more licenses than necessary. Or, if you are using fewer licenses than required, you may end up with audit and legal troubles. For example, if you have 500 computers, then you will legally need a separate Windows 7 or Windows 10 license for each system. But if you have purchased only 300 licenses and installed on 500 systems, then you are committing an illegal act as per software licensing rules.

8.2 WHAT ARE THE RESPONSIBILITIES OF A SAM TEAM?

The main responsibilities of software asset management are to ensure the correct management of software assets (software licenses) throughout their lifecycle. SAM is responsible for software from the time it is requested by a user or department, through procurement, install, re-use, and finally retirement when the version is no longer supported by the manufacturer. SAM is also responsible for ensuring all users use the software according to the manufacturer's product usage rights and ensure that the organization maintains the right compliance to satisfy audits. Other responsibilities of the SAM team are,

- Adding software names and license counts into the asset tool. For example, if the company has purchased and installed fifty licenses of an engineering design tool like AutoCAD Ver 15, then the asset tool will have fifty entries of this tool along with the names of the users and the computers on which they are installed. If a user quits, then the new user name must be updated in the tool. Or, if a system is retired then the license must be transferred to a new computer, and the tool updated accordingly.
- First point of contact for software asset requests. All users must contact the SAM team for any install, upgrade or decommission of a software license. No user or department must install or purchase any tool on their own without informing the SAM team. If such practices are allowed, then licensing will become a mess.
- Daily management of SAM tool. This will involve updating the tool with the latest usage of all licenses, who is using what, which computer has what, and so on.
- Management of any physical licenses and boxes. These can be in the form of DVDs, Pen drives, etc. Some manufacturers provide physical boxes with DVDs and a paper containing the license numbers. So, it's necessary to maintain those boxes and paper work in its invoiced condition until they are retired.
- Producing Standard SAM reports. These reports can be similar to the hardware reports given in the earlier chapter. For example, the management may want to know how many licenses of each type are actually in use and how many are lying idle to decide on software budgeting.
- Deal with software agreements. This can involve entering into support and upgrade agreements for various software. Many manufacturers give free low cost upgrades for a period of one or two years if entered into an agreement. For example, your organization may have purchased 20 licenses of a software at $1000 each. The manufacturer can suggest entering into an agreement at just 30% higher cost and promise to provide two years of technical support and free upgrades to the next two higher versions. This can be a cost effective method for the organization because, without such an agreement, you may have to spend $1000 or more for each license again in a year or two if you decide to upgrade.

- Conduct internal audits. This can involve generating usage reports to find out how many licenses are in use. For example, if you have purchased 100 licenses of some software but only 80 are in use from several months, then you can decide to cut down on budgets for support maintenance of that software next year.
- Meeting with vendors. This is an important exercise to understand latest changes in software licensing terms and conditions. Most manufacturers change their licensing terms frequently and document that in a fine print, which may not be easy to understand. So, it's necessary to meet vendors and understand if your company is using their software according to their product usage terms.

8.3 WHAT ARE THE TYPES OF SOFTWARE LICENSES TODAY?

Managing a SAM team requires knowledge of the types of software licenses in the industry. Each manufacturer can provide the same software under a difference licensing method based on the organization needs and complexities. For example, if a small organization may buy ten licenses of a software, then the vendor may give ten separate license keys. But if an organization buys 1000 licenses, then it may not be practical to provide 1000 separate license keys. Here the manufacturer may give a single volume key that can be used on all the 1000 installs. This can be easy for the SAM team to package the software and install on any computer without having to use a separate key for each install. The SAM team should ensure that the license is installed on not more than 1000 computers to ensure compliance.

Some of the types of licenses in the industry are,

- **Academic licenses** – These are specifically for schools, colleges and universities and must be used in accordance with the terms and conditions specified for academic use. For example, manufacturers may provide steep discounts for a software provided they are used only within the college for student's educational purpose.
- **Concurrent license –** Here, multiple users can access the software at the same time. For example, you can buy a concurrent license of 50 users and install the software on a server. Then 50 users can access the tool simultaneously at any time. If the 51st user tries to connect it may give a warning message and not allow that user to access the tool.
- **Enterprise license** – This can be a software that the entire organization can use and will usually be expensive. For example, a company with 50,000 users may buy an enterprise license of MS-Office and use it on all their systems with some extra usage permitted.
- **Freeware** – These licenses requires no purchase but the copyrights are held by the developer. Also, all freeware may not be free for commercial use. So, one should be careful of using freeware in a commercial organization, unless the manufacturer explicitly allows its use.

- **General Public License** – This is a license and software available for free. It allows users to use, share, copy, and modify the software with no guarantees or liabilities for any damages.
- **Named User License** – Here the license is assigned to a specific user who must be identified to ensure that the license agreement is validated.
- **Open Source License** – This is free for use but will have some restrictions. The terms of use should be checked before use.
- **Processor based** – This is also known as CPU based. This licensing depends on number of processors in the system. If a server has four processors the manufacturer may need you to buy four licenses of their software to be considered as valid usage.
- **Site License** – This is a license that covers a whole site. Sites can be defined from a single department to an entire organization and may even cover multiple countries where the company operates.
- **Subscription License** – Here the license is available only during time of subscription. You cannot continue using the software if the subscription has ended with renewing it for further use.
- **Upgrade License** – This is an upgrade from an older version to a newer version of an application. Such incentives are provided by many vendors to push companies to upgrade their licenses at lower costs. However, once an upgrade is purchased and installed you cannot continue to use the older license.
- **Client Access License** – This allows users to connect to a server software and use its features and functions.
- **Cloud Credits** – This is the unit of measurement or billing required to perform certain tasks or run certain applications provided by the vendor in the cloud. Companies have to buy credits in order to usage such software.
- **Trial license** – Here the vendors allow a fully or partially functional license for the purpose of testing for a limited time, usually 15 to 30 days. Such trial versions are useful to test the functionality and suitability before buying.

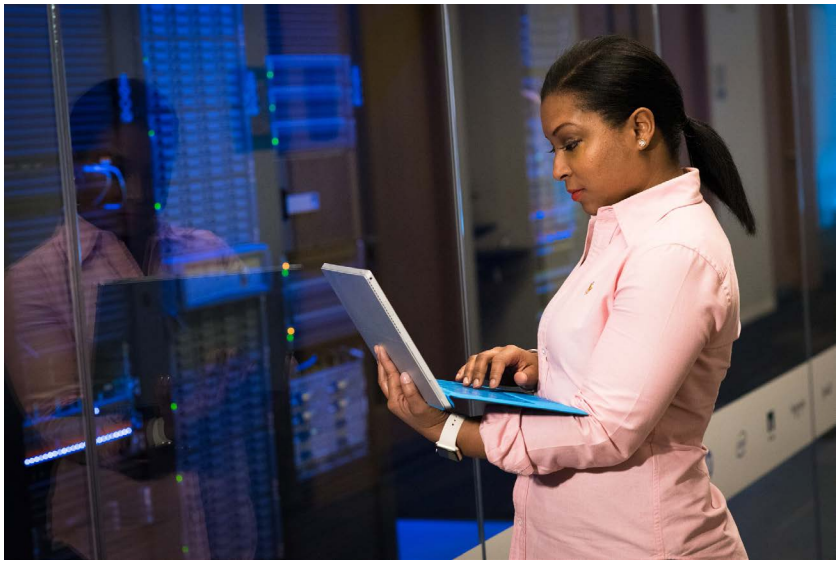
Summary – Software Asset Management (SAM) has seen a huge increase in demand in recent years, and SAM professionals are now considered as specialist professionals with high demand from a variety of organizations across all sectors. There are a number of financial advantages that SAM can have on an organization. With a properly implemented SAM, organizations can save tremendous amount of money on hardware and software through proper re-use and avoiding excess purchase. It's no longer a "nice to have" department and is now considered as a "must have" department. Finally, a professional hardware and software asset team can be considered as two indispensable eyes of an organization that will have a complete oversight of saving costs, handle audits and compliance, prevent legal troubles, re-use hardware and software, dispose unwanted items, control budget overruns, etc., and ensure physical and virtual asset discipline.

9 WAS IT A BORING JOB?

'When you pay attention to boredom it gets unbelievably interesting.'

– Jon Kabat-Zinn

We have now come to the last chapter in this book. As you can see from the information in the previous chapters, asset management is not really a boring and low grade job as many technical staff assume. This is a powerful and high visibility department, and the staff working here will be exposed to a variety of knowledge that can help them in their careers. Some top advantages of managing an IT asset team are as follows.



Subject Knowledge – You will gain a tremendous amount of industry knowledge about hardware and software as you will be continuously involved in the lifecycle of an asset. For example, you will know the latest models of hardware and latest versions of software that is available in the industry. You will also be able to compare specs with your existing models and versions to decide on what new stuff with the latest features to buy or upgrade. Indirectly, you will become an advisor for the latest hardware and software in the market.

Financial leadership – With the subject knowledge gained you will also gain financial leadership to decide on large value purchases, initiate pragmatic cost cutting and optimisation exercises, decide on disposals, keep your company infrastructure upgraded with the latest hardware and software, etc. This department will also be responsible for managing budgets that can exceed several million dollars.

Vendor interaction – You will also have the advantage of dealing with numerous vendors to know about their products and services. You can gain industry contacts, attend useful seminars, meet subject experts, and even get help in career moves.

Staff interactions – By managing an asset team you will be able to interact with a variety of staff, ranging from junior staff to very senior managers and understand their requirements. The management will be dependent on your valuable data and suggestions for approving budgets and making strategic decisions. You will also be part of important meetings where you can present the ongoing and impending IT costs to the management.

As you can see from the above, very few departments offer such a variety of knowledge and interactions for an employee. This is why asset management can be considered as a crucial department that can help the company in numerous ways.

Finally, IT Asset team can be compared to the armed forces like army, navy, and air force of a nation who protect their country's assets. I hope the information provided in this book was useful enough to kick start a professional IT asset management team in your organization.

I hope the information provided in this book was useful enough to kick start a professional IT asset management team in your organization. I would love to hear your comments and suggestions for improving this book. Feel free to send your suggestions to thejendra@yahoo.com or thejendrabs@gmail.com.

APPENDIX: SOME ISO STANDARDS

'Nothing is sadder than having worldly standards without worldly means.'

– Van Wyck Brooks

As you may have observed the main contents of this book did not mention any ISO standards. In this appendix we will briefly mention some ISO standards related to asset management. Those who are interested may explore these standards in details.

Asset Management Standards

ISO 55000 – The ISO 55000 series provides terminology, requirements and guidance for implementing, maintaining and improving an effective asset management system, and what it can do to increase value generated by all organizations.

ISO 55000 consists of three standards:

ISO 55000 Asset Management – Overview, principles and terminology. This introduces the critical concepts and terminology needed to develop a long-term plan incorporating an organization's mission, values, objectives, business policies and stakeholder requirements.

ISO 55001 Asset Management – Requirements. This specifies the requirements for the establishment, implementation, maintenance and improvement of an asset management system.

ISO 55002 Asset Management – Guidelines on the application of ISO 55001. This provides guidance for the application of an asset management system, in accordance with the requirements of ISO 55001.

SAM Standards

There are three ISO SAM standards that organizations need to be aware of. They are,

ISO 19770-1

ISO 19770-2

ISO 19770-3

ISO 19770-1 is a framework of processes for an organization performing software asset management to an adequate standard. This standard provides a tool to clearly display and present the fact that they are managing their software assets in accordance with governance standards. This also helps organizations to show the positive impact that software asset management is having on the IT Service Management (ITSM) function.

ISO 19770-2 is about software identification tags. Identification tags help establish what instances of software are installed. Software identification tags, also known as software ID tags (SWID) provide identifying information for installed software. Software vendors use ISO 19770-2 to enable their software to be easily, quickly and accurately identified. This helps SAM personnel manage their install base more effectively and generally helps with a number of SAM processes.

ISO 19770-3 relates to software entitlement tagging. Software entitlement tags are files that help identify the applications software licensing rights. This helps with the day-to-day management of a SAM project as it helps SAM tools automatically identify the license metrics for certain applications that have entitlement tags built into them.