

# Do you know where your computers are?

There are big pluses for an organization that institutes a technology asset tracking system to keep an eye on network hardware, servers, desktops, notebook computers, and software.

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With advanced computer systems and software programs now present in the marketplace, there are virtually no limits to the number of fixed assets an organization's accounting department can track.

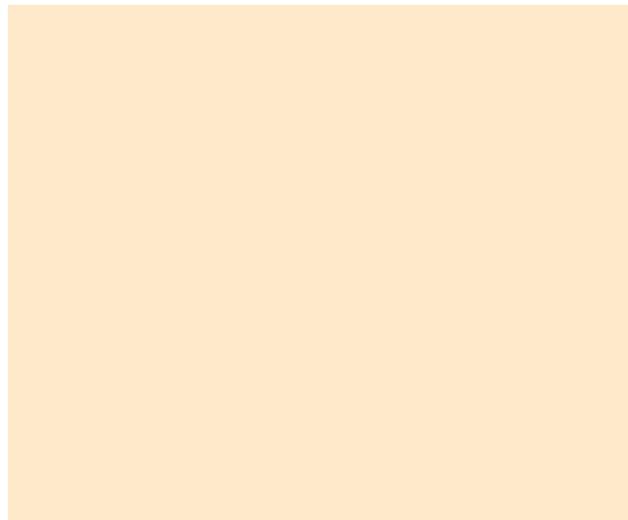
While they devote much attention to tracking salable inventory, numerous companies drop the ball when it comes to overseeing technology assets.

Are companies tracking these assets? Many aren't.

Does it matter? As companies have moved into distributed computing environments, technology assets such as network hardware, servers, desktop computers, notebook computers, and the software that resides on them have become common. Tracking and managing these assets helps ensure that their intended returns are realized—to say nothing of the losses that can occur when they aren't tracked, such as redundant purchases of technology products, theft, and property taxes paid on idle hardware.

In the past, when technology was absent, companies used cumbersome accounting practices. The tedious, manual fixed-asset systems of bygone days limited how many fixed assets a company's available staff could reasonably track.

To maintain a manageable number of fixed assets on the accounting records, companies used to set dollar limits on assets that would be depreciated by applying the materiality concept—namely, that accounting should separately recognize only those events that are relatively important for understanding a company's financial statements. If an asset's acquisition cost was below a predetermined level, it would be expensed in the current period.



Despite today's high-tech economy and the potentially limitless assets that can be tracked, many organizations still use these methods.

Why don't they track technology assets? These days, using a technology asset tracking system is possible and offers real advantages. Computers, whether they are laptops, desktops, servers, or network devices, provide economic value. They contribute to the processes that deliver an organization's products.

To their detriment, many organizations don't even know what hardware and software items they own. Nor are they aware of where these assets are or what person-

nel are using (or perhaps not using) them. Moreover, most total cost of ownership (TCO) estimates for technology assets, like the personal computer, describe the cost of acquiring the hardware and software as only about 20% of the total cost of owning them.

The more significant costs of owning technology assets derive from activities related to maintenance, downtime and downtime prevention (virus protection), security, Help Desk support, training, network infrastructure, and disposal. Therefore, it's important for an organization's accounting function to track technology assets to gain an understanding of how the remaining 80% of the TCO of these assets is being incurred.

### **REALIZE THE BENEFITS OF ASSET TRACKING**

The value of technology assets becomes doubtful when they sit in storage; await installation, repair, or delivery to the end user; or are inaccessible due to security lock-downs or damage by viruses. This downtime results in lost productivity and increases the cost of owning the asset; therefore, the asset must be tracked and managed.

Management accountants should also bear in mind that, to be an asset, technology assets must be the result of a past transaction. They may have been:

- ◆ Purchased and depreciated over time,
- ◆ Purchased and expensed at the time of purchase,
- ◆ Leased, or
- ◆ Inherited or donated.

Accounting departments keep records of technology assets that were purchased and depreciated over time until the assets are sold or retired. Whether leased or expensed, however, these assets rarely make an appearance on the balance sheet. We found one company that expenses technology assets with purchase prices of less than \$5,000, while smaller companies set the limit at \$1,000 or less.

The Purchasing Department may have a record of past purchases, and Accounts Payable will have a record of payment, but the specific assets may not be tracked simply because they aren't being depreciated. The initial transaction to acquire these assets is just the beginning of their total cost throughout their life cycle.

At the end of the useful life of hardware that was acquired through a lease agreement, asset tracking can facilitate the return process to the vendor. The tracking system should alert managers to what technology items are due to be retired and tell them where the hardware currently resides. The tracking system should also alert managers about what software and confidential data

**Table 1: Tracking Technology Assets**

TECHNOLOGY ASSET OWNED BY ORGANIZATION	PERSONNEL USING ASSET/LOCATION	LOCATION OF ASSET	LOCATION OF DATA PERTAINING TO ASSET
<b>Hardware</b>			
7 Dell Pentium PCs	Employee and contractor names and IDs, cost/profit center ID, department, business unit.	Physical and Internet protocol (IP) addresses that identify secure rooms, branches, campus sites, homes of employees, hotels, in transit, and storage.	Central repository created by the installed asset management solution, e.g., Altiris, Tivoli, Unicenter, ZENworks, etc.
9 ViewSonic Monitors	Employee and contractor names and IDs, cost/profit center ID, department, business unit.	Physical and Internet protocol (IP) addresses that identify secure rooms, branches, campus sites, homes of employees, hotels, in transit, and storage.	Central repository created by the installed asset management solution, e.g., Altiris, Tivoli, Unicenter, ZENworks, etc.
1 inactive server 3 HP laptops 3 Brother printers	Not currently in use.	IT (facility that establishes and maintains physical addresses).  Network and/or Server Administrators that establish, maintain, and view IP addresses.	Central repository created by the installed asset management solution, e.g., Altiris, Tivoli, Unicenter, ZENworks, etc.
<b>Software</b>			
Licensed/unlicensed, approved/unapproved installations of operating systems, client/server applications, and applications developed in-house.	Employee and contractor names and IDs, cost/profit center ID, department, business unit.	Server, desktop, and laptop serial numbers where the software is installed.	Central repository created by a hardware and software inventory tracking system such as Altiris, Tivoli, Unicenter, ZENworks, etc.; physical and IP addresses.

reside on leased computers so this material can be removed before the leased item is returned. All this can make a cumbersome end-of-lease process easier.

Occasionally organizations inherit assets through business succession or receive them as donations. Donations are commonly made to schools and houses of worship. Often, managers don't track the assets since no obvious "transaction" occurred. It's just as important to track assets that were inherited or donated, though, since their hardware and software standards may not be consistent with those of existing technology. This can cause increased support costs, downtime, and integration conflicts.

Regardless of how technology assets are acquired, tracking them can help ensure that the benefits they were intended to bring are actually realized. What's more, tracking technology assets allows a company to gain a firm understanding of the activities that exist to support

them, namely the Help Desk and its varying tiers of support; security and authentication; software and hardware support; network support; virus and spyware protection; and moves, adds, and changes that staff make to them. This understanding can improve the accuracy of activity-based costing (ABC) systems in allocating the costs associated with technology overhead.

### COLLECTING DATA ABOUT TECHNOLOGY ASSETS

Thorough tracking of technology assets can answer the following questions:

- ◆ What software and hardware exist within the organization?
- ◆ Where do the software and hardware reside?
- ◆ Who is using the software and hardware?

Software programs that track hardware and software inventory also capture data that exists in the individual

hardware components and software profiles. There are many asset tracking solutions on the market that provide robust asset-management functionality, such as Altiris, IBM's Tivoli, CA's Unicenter Service Desk, and Novell's ZENworks Asset Management. (Novell Inc. recently acquired Tally Systems. Tally's TS.Census is now Novell's ZENworks Asset Management.)

An additional technology that has emerged over the past few years is radio frequency identification (RFID). Attaching RFID tags to hardware, particularly mobile hardware such as laptops and notebooks, allows companies to track assets that are susceptible to theft. These assets don't always attach to the active network so may not be scanned regularly by the asset tracking software.

Once the data is captured by the software program, it's housed in its own central repository created by the software solution. This captured data, along with readily available organizational information about employees, contractors, and physical addresses, can answer the above questions. It helps to keep track of what technology the organization owns, where it is, and who uses it—as well as the organizational information and records about current locations of technology assets—in one repository (see Table 1). This adds value to decisions made throughout the assets' life cycle.

## THE LIFE CYCLE OF TECHNOLOGY ASSETS

Technology assets pass through four distinct phases during their life cycle:

- ◆ Procurement,
- ◆ Delivery,
- ◆ Support, and
- ◆ Retirement.

Each phase presents challenges as well as opportunities to achieve the intended benefits of the assets.

### Procurement Phase

During the procurement phase, managers make decisions about how to obtain the products they need—whether to purchase, lease, expense, or redeploy them from another location within the organization. To make this decision effectively, they need to know what they already have. At times, they unknowingly purchase hardware or software products that the company already owns.

A technology asset tracking system should prevent unnecessary purchases and allow managers to redeploy assets that are sitting idly in their own or other departments. These products may be parked unused in secure storage locations or in vacant offices anywhere in the company.

Another key aspect of the procurement phase is the purchase of licenses and maintenance on software applications. With a clear understanding of what software exists and how many installations there are, decisions can be made to “true up” (or down) a license agreement or maintenance contract appropriately.

For example, based on the experience of one of the authors, an organization that had purchased more than 10,000 licenses of a major e-mail application was paying nearly \$500,000 in annual maintenance. After a significant reduction in employees one year, the Purchasing Department was told that the true number of licenses requiring maintenance was now much less than the original 10,000. After the current number of e-mail application installations was analyzed, the company determined that the payment should be \$375,000. The vendor agreed and accepted the lower payment.

Being in compliance with a license agreement can prevent the costly fines associated with having unauthorized copies installed within an organization. In the U.S., if a company is determined to be out of compliance with its license agreements, it's liable for civil damages of up to \$150,000 for each case of infringement and may face criminal penalties as well.

An example of an antipiracy statement is found on the Adobe Systems, Inc., website ([www.adobe.com/about/adobe/antipiracy/penalties.html](http://www.adobe.com/about/adobe/antipiracy/penalties.html)): “There are significant financial and legal penalties for software piracy. Illegal distribution and use of software can result in prison terms of up to five years and felony charges with fines up to US\$250,000. In civil litigation against those who illegally distribute Adobe software, Adobe can obtain the higher of its lost profits, the infringer's profits, or statutory damages of up to US\$150,000 per product infringed, plus Adobe's attorney fees.”

## Is Your Organization Missing Out?

It may be time for management accountants to step up to the plate and argue the case for acquiring a technology asset tracking system that can provide a variety of benefits:

1. Assists in redeploying idle hardware and software.
2. Prevents redundant purchases of technology already owned.
3. Prevents theft.
4. Guides management to purchase software licenses and maintenance plans appropriately.
5. Helps an organization gain proceeds from sales to the after-market.
6. Brings savings on property taxes paid on idle hardware.
7. Cuts maintenance costs for unused software.
8. Alerts technicians to systematically cleanse confidential information from hardware to be sold, redeployed, or returned after being leased.
9. Speeds up the end-of-lease process.
10. Provides understanding of the total cost of ownership of technology products.
11. Keeps track of downtime, which increases lost productivity and costs of owning the technology.
12. Helps the Help Desk resolve problems.
13. Helps management allocate costs by tracking technology assets owned by departments.

Criminal penalties are typically for the unauthorized reproduction or distribution of 10 or more copies of software with a total retail value exceeding \$2,500. To ensure compliance, organizations need to have a process and technology in place to oversee the purchasing, installation, and tracking of software applications. If the organization has installed illegally acquired software, it may face severe penalties.

The Business Software Alliance (BSA) settles with numerous companies each year for software license non-compliance. In most cases, the BSA receives an anonymous call or e-mail from within a company that piracy may be an issue. Typically, companies comply with the investigations and perform self-audits to reveal the degree of noncompliance.

Also during the procurement phase, the individuals in IT who oversee the architecture of the platforms that are present across the network must also establish standards for the hardware and software that are being acquired (and for those products that are already owned by the organization). Once established, the standards need to be communicated to the Purchasing Department to ensure that only standard hardware and software are acquired. These standards should be based on thorough testing of how the organization's software functions on its selected hardware, across its network, and in conjunction with other software applications running in the IT environment.

Maintaining standards can help lower the TCO throughout the asset's life cycle because support staff is familiar with all the hardware and software in the technology environment. The familiarity with standard technology assets can speed the delivery of new installs, reduce problem-diagnosis time, and decrease downtime when failures occur. Asset tracking can ensure that standards are met because it helps identify software that isn't approved for use within the company due to technical constraints.

Since networks are vulnerable to clashes between software applications and software containing malicious code, it's important for software asset tracking systems to identify applications that are installed throughout the active network. Based on this identification, now housed within the central repository of asset data, asset managers can label standard software applications. Any applications found to be installed on the network that are considered nonstandard would need to be uninstalled.

### Delivery Phase

The delivery phase of the life cycle can also benefit from asset tracking. For delivery technicians, installing the software can be a time-consuming manual process, especially when a company-wide upgrade is needed. With more modern tools and with the use of technology asset tracking data, however, technicians can more easily install software across the network electronically to specific users on specific computers.

Electronic verification of a complete installation of the software on a hardware device can also be accomplished. Allowing hardware delivery technicians access to asset tracking data can facilitate the delivery of new hardware by letting them know which computers have already been installed and which ones may need new or replacement components. As a technology asset tracking system detects hardware on the network, it retrieves detailed

information about specific hardware components, such as memory, storage, installed devices, etc. Asset managers are then able to query the repository to identify those hardware systems in need of upgrades or new devices. Once identified and subsequently installed or upgraded, follow-up scans by the asset tracking software should verify the new components.

### Support Phase

Most of a technology asset's life is spent in the support phase of the life cycle. By knowing what software and hardware devices exist, where they are, and who is using them, desktop and server support staff can diagnose problems more quickly. The ability to access technology asset information through a tracking system allows Help Desk staff to resolve many problems during the first call rather than having to escalate the call to more expensive and technical staff in second- and third-level support groups.

Providing accurate technology asset data can also assist management accountants with the allocation of costs to support technology products and the departments that utilize them. Knowledge of the number and types of computers owned by a department or business unit is a necessary basis for allocating total technology support costs that are provided centrally.

### Retirement Phase

Management needs to make decisions about the eventual replacement and retirement of technology assets. Once a technology asset is slated for replacement, how should it be retired? Often, new replacement hardware or software is installed, but management doesn't address what to do with the old, uninstalled technology that's no longer detectable by asset tracking software. The default strategy may be to let the old technology assets sit idle.

If an organization leaves technology items in storage or vacant offices indefinitely, meaningful proceeds from sales in the after-market may be lost. Accountants may also perpetuate payment of property taxes on the idle hardware and maintenance on unused software.

What's more, hardware to be retired may still contain critical and highly sensitive files with private customer, medical patient, and employee information or trade secrets. A recent research study by David Salierno ("Researchers Examine Threat of Used PCs," *Internal Auditor*, April 2005, p. 21), found that, of 100 personal computers purchased on eBay, data from organizations—which included universities and multinational corporations—

was still installed on more than half of the systems.

It's important to fully cleanse the software and data from the hardware before selling or redeploying it, thus preventing the unauthorized use of software licenses and the exploitation of private information. Once assets have been removed from the active network, they won't be detected by the asset tracking system; however, the need to retire or possibly redeploy the asset remains the responsibility of the asset managers.

In the retirement phase of an asset's life cycle, many companies dispose of old hardware by donating it to schools and houses of worship. It's a good policy to contact the nonprofit organization first to make sure it wants the equipment. Otherwise, ill will may be created because the group may have to pay for upgrades to make the donated hardware usable and for support and training if staff is unfamiliar with the hardware and software.

An alternative approach is to contract with a vendor that specializes in preparing hardware for retirement or to be sold in the appropriate after-markets. In our experience, it's possible to have hardware cleansed, have a "death certificate" (the evidence that a specific computer has been wiped clean of software and data) issued by the approved vendor, and sell the hardware through a third party, with the proceeds going to the organization. The proceeds can then be used by the organization or donated to schools and houses of worship so they can buy the technology of their choice.

## REDUCING THE COST OF OWNERSHIP

Through the use of an asset tracking system, the total cost of technology ownership can be reduced. While some accounting departments are accustomed to following antiquated processes to "expense-and-forget" technology assets, eliminating the dollar threshold for assets not being depreciated can be justified. It may be time for management accountants to step up to the plate and argue the case for acquiring a technology asset tracking system that can provide a variety of benefits to their organizations. ■

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