

The Impact of Lost or Stolen IT Assets

In *Predictions 2007: Prospering in an Era of Hyper Disruption*, industry analyst firm IDC reports that worldwide spending of information technology (IT) will grow 6.6 percent in 2007, up from 6.3 percent in 2006. Although increased IT spending bodes well for the global economy, individual businesses are not investing enough in tracking the location and movement of their costly IT equipment, making them vulnerable to theft, or at the very least, misplacement.

The number of lost IT assets and related data is staggering, eclipsed only by the impact on those individuals or organizations whose proprietary information was stored on these assets.

According to the U.S. Department of Commerce, employee theft costs about \$50 billion annually. The FBI estimates that one out of every 10 laptops will be stolen within the first 12 months of purchase. Of these, 90 percent will not be recovered. Gartner Research calculates that a single lost laptop can cost an organization more than \$6,000 just in terms of the hardware, software, and labor required to restore lost data. There's also the lost productivity of the employee while waiting for a replacement laptop. On top of that, the average value of intellectual property on a laptop in the United States is estimated at \$28,000.

Examples of companies and individuals impacted by the loss of IT equipment or data:

- ◆ Bank of America lost a backup tape in 2005, compromising the security of 1.2 million account holders.
- ◆ In 2006, a laptop and computer storage devices containing the personal information of about 28.6 million military veterans were stolen from the U.S. Department of Veteran Affairs.
- ◆ Chicago Public Schools had two laptops stolen in April 2006, impacting 40,000 current and former employees.
- ◆ At California Polytechnic State University, a physics professor had a laptop containing the names of 3,020 students stolen from his home.
- ◆ A laptop was stolen from the YMCA of Providence, Rhode Island containing 65,000 records with personal information, such as credit card numbers, checking account information, social security numbers, medical information, and information about children.

These are a just a few examples of a growing list of organizations that have been impacted by the loss of IT assets and proprietary information contained within these assets. The expense of replacing these assets, especially when coupled with the productivity loss experienced by the companies, is tremendous. Equally significant is the negative publicity and subsequent loss of credibility and trust that impacts organizations in these types of situations.

Why Automating the Management of IT Assets is Beneficial

While preventing IT asset theft or loss of data may be the most compelling reason to invest in a solution designed to automatically manage and track assets, there are other factors prompting companies to explore and invest in asset tracking technology. They include:

Inventory Processing

Organizations that conduct inventory manually and log their information in spreadsheets spend valuable time and resources on labor-intensive processes that are prone to human error and disrupt employee productivity. If they fail to maintain a current and accurate inventory count, it could hamper their accounting processes and lead to superfluous purchasing. Automating this process saves employees time and saves the organization money related to labor costs.

Tracking Mobile Assets

Many IT assets and peripherals are moved from one department or facility to another and become misplaced. Often there aren't processes and systems in place to hold people accountable for the IT assets they use or move to another department, which can result in an organization purchasing more equipment unnecessarily. And, with an upsurge in company-issued laptops, mobile phones and PDAs for a mobile and telecommuting workforce, there is an increased likelihood that these mobile assets will be stolen, lost, or damaged if they are not closely tracked both on and off the premises.

Cannibalization, Warranties and Claims

Cannibalization of IT equipment occurs very regularly for most organizations, and can be done so without regard to whether the equipment is leased. Leased equipment should be able to be quickly identified and staff members should be able to determine proper configuration of memory, disk, etc. to avoid end of lease penalties. Similarly computers need to be evaluated before warranties expire and claims are sent in to maximize cost savings.

Government and Legal Compliance

To comply with IRS regulations or mandates such as Sarbanes-Oxley, companies must track and report depreciation of fixed assets - such as routers, switches, desktop computers and copiers - and reconcile the assets claimed on paper with those in their actual possession.

Globalization

As companies expand internationally and their offices, and thus equipment, become widely dispersed, managing IT assets and data becomes a more necessary and challenging undertaking. To avoid incurring customs penalties, companies must be able to accurately account for the products they are importing or exporting. With asset management processes in place, companies have real-time visibility into the movement of their assets and can create automatic audit trails for customs and other government-mandated reports.

Companies are increasingly recognizing the multitude of benefits that come with switching from a manual to an automated IT asset management system. In addition to providing real-time visibility into the status and movement of their assets, which reduces the chance of loss or theft and improves inventory control, automated asset management systems can also deliver historical asset data that enables companies to improve their reporting and better plan for future utilization.

While a number of asset management technologies exist, Radio Frequency Identification (RFID) is rapidly emerging as the solution of choice for organizations of all sizes and industries. When RFID is paired with asset management software, the technologies deliver a comprehensive and cost-effective solution that automates asset management processes, provides 24/7 visibility to IT assets, and empowers companies with detailed accounting of their asset movements.

RFID 101 for Better IT Asset Management

RFID uses radio frequency to remotely store and retrieve information from RFID tags. RFID is similar to barcodes, but with greater functionality. RFID tags can be placed on nearly any object and read from a variety of distances based on the type of tag, using either handheld RFID readers or a fixed RFID reader combined with an antenna. And, RFID overcomes some of the limitations of barcodes because RFID tags do not need to be in the line of sight of a reader to be read, making for a much faster and more accurate inventory-taking process. For example, rather than having to turn over a piece of equipment and scan the barcode with a barcode scanner, users of RFID can wave a handheld RFID reader past the equipment and it will read the tag, even if the tag is hidden underneath the equipment. What typically takes minutes can take seconds with RFID.

How RFID Works

An RFID system consists of the following components:

- ◆ Programmable RFID tags that contain unique identification information
- ◆ An antenna that enables the reading and writing of data on the RFID tag
- ◆ Readers that scan the tags and read their information
- ◆ RFID software that makes sense of the information on the tag

RFID tags can be passive, battery-assisted or active. Passive tags have no internal power source; whereas battery-assisted and active tags are usually powered by a small battery to help tags transmit data to and from a reader. Battery-assisted and active tags typically have longer read ranges but are more expensive due to an onboard battery and their internal complexity. Tag choice typically boils down to a company's specific application and budgetary constraints.

RFID readers essentially play the same role as a barcode scanner. However, whereas a barcode scanner generally captures information one barcode at a time, an RFID reader can capture multiple tags within its transmission field almost simultaneously. There are two types of RFID readers: mobile and fixed. Mobile readers are usually employed as peripheral devices on a handheld terminal. They can be carried to the scanning location and can be used "in the field" or in remote locations. Fixed readers may support one or more external antenna, and when RFID-tagged items pass by the antenna (a portal on a doorway, for example), the reader automatically captures data from the tags.

Information collected by RFID readers must be correctly interpreted before it can be of much use to an organization's business processes. When multiple tags are within a reader's transmission range, the result is a cacophony of responses with data that must be managed and processed in an orderly manner. This is where RFID software comes in. The exact function that RFID software performs varies according to the application that it is designed to support. A comprehensive asset management application, for example collects the tag data, makes sense of it, and translates it into actionable information for managing assets.

Table 1. Choices for systems to track and manage IT assets (from least to most automated), and the advantages, disadvantages and costs of each:

Type of Tracking	How it Works	Pros	Cons	Cost
Manual	Information entered into spreadsheets; 100% manual process	Can use existing technology; simple to use; low training curve	Labor- and time-intensive; decentralized information; high error rates; low dependability; version control difficult	Technology investment is low, however the continual labor investment is high
Barcode-Based System	Barcodes placed on high-value equipment; typically handheld devices scan the barcodes; line-of-sight needed to scan; software captures the scans, date and time	Many systems exist; automation is used to capture the data; data is stored in an application	Labor- and time-intensive to scan; line-of-sight required; can be disruptive	Technology investment is slightly higher than 100% manual and the ongoing labor investment is still high
Passive RFID + Asset Management Software	Tags placed on assets; no line-of-sight required for scanning; used to capture data about asset location and status in near real-time	Automated process to take an accurate inventory; highly accurate; no line-of-sight needed to scan; 1-10 foot read range; movement captured in near real-time	Up-front capital investment typically required; some up-front system design work needed; slight learning curve to system	Technology investment is higher (\$1-3 per tag) than barcodes, however ongoing labor is reduced
Battery-Assisted Passive RFID + Asset Management Software	Tags placed on assets; no line-of-sight required for scanning; used to capture data about asset location and status in near real-time	Automated process to take an accurate inventory; highly accurate; no line of sight needed to scan; 25-100 foot read range; movement captured in real-time	Up-front capital investment typically required; some up-front system design work needed; slight learning curve to system	Technology investment higher (\$8-10 per tag) than passive, however ongoing labor is reduced due to longer read ranges
Active RFID + Asset Management Software	Tags placed on assets; no line-of-sight required for scanning; used to capture data about asset location and status in near real-time	Automated process to take an accurate inventory; highly accurate; scanning performed automatically; no handheld needed; 50-1000 foot read range; near real-time capabilities	Large up-front capital investment typically required; infrastructure needed to build system; slight learning curve to system	Technology investment higher (\$25-80 per tag) than battery-assisted or passive, however ongoing labor is reduced more due to real-time location capability and longer read ranges

The Fluensee Solution: A New Breed of RFID-Enabled Asset Management

Although RFID has potential to be the ideal technology for tracking IT assets, not all RFID solutions are the same. Further, RFID technology without asset management software only tells the user that a tag has been read. It doesn't provide the information necessary for an organization to gain a holistic view of their assets, and as a result, better track their movements and manage how they are used.

Some companies have enterprise-class management software that tells them the location of their assets, but only when these assets are plugged in and are on the company's network. If these same assets are unplugged from the network, or if they've been physically removed from the building, this software cannot track the assets. RFID-enabled asset management software provides 24/7 visibility to assets, whether they are in the building, plugged into the network, or in a remote location and off the network.

Fluensee AssetTrack™ is one example of asset management software that is being increasingly employed by organizations to improve their tracking capabilities and knowledge. Fluensee AssetTrack is cost-effective RFID-enabled software that allows users to monitor and track the movement and status of valuable IT assets in real-time, resulting in more accurate physical inventories with less manual labor. This software application works in conjunction with a myriad of RFID tags and readers to provide an end-to-end asset management solution. Because it is completely platform- and hardware-independent software, it is flexible and scalable, and can evolve as a company's needs develop and change. The software is also browser-based, meaning that it can be easily deployed on a central computer and doesn't need to be loaded on each desktop or laptop to use the application. It can simply be accessed throughout the entire organization using a common internet browser such as Internet Explorer. IT assets can also be tracked from multiple contact points throughout the company, including locations in the field or from the homes of telecommuting employees. This helps to reduce training and deployment costs of the application.

Software such as AssetTrack provides access to historical data, validates asset utilization, maintains asset inventories, allows users to identify deviations from expected asset location or condition, and when combined with the appropriate RFID hardware, triggers automatic alerts when deviations occur.

Scalable and flexible, AssetTrack is built on a very robust, independent platform, making it possible for organizations to migrate from barcode-based systems because it reads barcodes *as well as* RFID tags (and can do so simultaneously). The system remains flexible as an organization grows and its needs change. Companies wishing to migrate from a legacy system to an RFID-enabled asset management system can integrate AssetTrack with the existing system; thereby preserving their investment, while enhancing their asset tracking processes.

Examples of RFID-Enabled IT Asset Management

RFID-Enabled Asset Management to Improve Inventory Processes

Before turning to Fluensee for an RFID-enabled asset management solution, one international technology outsourcing company based in India, with 6,000 employees and annual revenues of about \$187 million, relied upon manual processes to take physical inventory of its IT assets. The company was unable to provide automatic audit trails or monitor its assets in real-time as they moved from project to project. Due to its limited asset visibility, the company also faced the risk of customs penalties for inaccurately accounting for assets that were exported.

By turning to a solution combining Fluensee's AssetTrack and Motorola XR Series fixed readers, the company now has a system that has enabled it to quickly identify and report on its IT assets, while minimizing the human interaction in the asset tracking process. The time to perform physical inventories has been significantly reduced, along with the legal liability risk associated with inaccurate asset accounting. The company reports that it now has more accurate data, which helps it better manage its asset inventory. Additionally, it has reduced its annual stock-taking man hours, and drastically cut the total days required to update its master asset schedule. The company expects to receive a return on its investment in less than 16 months and expects to save \$1.19 million within the next five years.

Using RFID to Automate Shipping and Receiving

Fortune 500 company and leader in network computing, Sun Microsystems Inc. (NASDAQ: SUNW), participates in hundreds of tradeshows and events around the world. Because the company attends, sponsors and exhibits at so many events, the Sun Events Group must ensure that the necessary IT equipment arrives on time, in excellent condition and at the correct location. This adds up to thousands of pieces of equipment being shipped from a central Sun warehouse to and from more than one hundred different locations around the globe each year, and leaves considerable room for error. Before turning to Fluensee, Sun relied on manual processes to track equipment shipped from and received at its docks. This was time-consuming, not to mention vulnerable to human error.

Sun turned to Fluensee to automate the shipping and receiving functions. As a result, the company knows immediately when its IT equipment is shipped to a show and can view the status of the equipment at any time during the shipping process. As Sun Engineer John Wetherill explains, "We're no longer physically entering data into a system and generating paperwork, which is clearly a big time savings for us. Automating our operations with Fluensee's asset management solution has also helped us reduce the number of errors that happened more frequently with our previous manual data entry process."

With Fluensee's sophisticated proactive alerting feature that provides managers with better information to make better decisions, the Sun Events Group is now armed with a powerful tool to streamline shipping and receiving operations, maximize inventory control and reduce costs, while saving time and resources for more strategic functions.

Schooling Educational Institutions in RFID

One Denver-based high school is using Fluensee's AssetTrack to automate the tracking and management of laptops, servers, digital cameras, DVD players and computer peripherals issued to students by the school. Before AssetTrack, the school's IT department relied upon a barcode-based system and spreadsheets to track the status of IT equipment. When a student brought in a laptop that needed repair, it was a tedious and error-prone process to fill out the work tickets and track the status of the work being done. The school experienced difficulty tracing whether the work had been paid for by the students, and when the warranties were due to expire on each piece of equipment.

By implementing Fluensee's asset management system enabled by RFID, the high school has decreased the time and labor spent tracking down and inventorying equipment and determining its status. With an automated system and a robust database of its school equipment, the school knows exactly how many assets it has and where those assets are located.

Considerations Before Using RFID for IT Asset Management

RFID is a cutting-edge solution that answers age-old business problems. However, before moving forward on an RFID-enabled management solution, organizations should thoroughly examine their business processes and needs.

What is the Business Need?

The first order for any business is to fully understand what it will take to implement an automated asset management solution? If those driving the project fail to understand the business need for implementing an automated asset management system, it will be difficult for them to persuade the individuals or departments responsible for approving the implementation. To get their hands around the solution and problem, companies should begin by determining the desired ROI. Also, they must understand the cost and time involved with implementing an automated asset management system. It is often helpful for companies to speak to different vendors that offer asset management solutions, and even interview their customers.

Is RFID Right for Me?

RFID may seem too advanced for some organizations. If they have only a handful of assets to manage or their assets are not of high value, they might want to stick with a barcode-based system, since it is a less expensive option. These organizations can easily upgrade to a flexible RFID-based solution when the time is right. The first step in moving ahead with RFID and asset management software is to develop a firm grasp of its components, benefits, challenges and applications. For companies that want to save long-term time and money on asset management, it is necessary to understand which assets need to be managed. Many organizations are amazed that once an efficient system is found, how much easier it is to track their IT assets.

Is this Solution Scalable?

If an organization is ready to take advantage of the automated asset-tracking benefits of RFID, it should absolutely invest in a scalable solution that will grow and evolve with its needs. Some RFID-based solutions have a sweet spot in terms of the number of assets they can capably manage, number of sites they can support, etc. Organizations should evaluate their current and future needs and map them to the competencies of the solution prior to investing in the technology. This way, they can avoid any unexpected and costly overhauls or rip-and-replace situations down the road.

How Flexible is this Technology?

RFID and asset management technology is anything but stagnant, so it can be risky and expensive for organizations to invest in proprietary technology, as opposed to a more open solution. Since proprietary technology only works with certain systems, it diminishes the pool of software and hardware options available to an organization. As a result, it might not be able to mix and match the best technologies for its particular situation. Organizations should focus on finding technologies that can support their needs today, but be flexible enough to address their needs tomorrow. Ideally, companies should find an RFID-enabled asset management solution that is flexible enough to work with barcodes, passive, battery-assisted, and active RFID, is hardware and platform agnostic, requires little integration and is compatible with their existing IT systems.

Summary

By investing in and implementing an automated asset management solution, companies can profit from 24/7 visibility of the status and location of their IT assets. This control significantly diminishes the potential for stolen, misplaced or mismanaged assets, which means companies can focus their efforts on managing and growing their business, rather than mitigating the damage caused by the inefficient use or loss of IT assets and proprietary information. RFID is the technology of today and the ROI from RFID-enabled asset management is materializing quicker than ever. For instance, on average, companies that have invested in Fluensee's RFID-enabled asset management solution see a return on their investment within the first 12 months.

For more information on RFID-enabled asset management for IT assets, please contact:

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