

Do You Know Where Your Tapes Are?

Minimize Your Risk to Data Theft and IT Asset Loss

Enterprises are rapidly increasing the amounts of data they collect. Accompanying this increase in data is an alarming amount of incidents involving the misplacement, loss, or theft of sensitive corporate and consumer data. In addition to the possibility of having to replace equipment, the staggering financial costs associated with the loss of proprietary information or private consumer data can lead to devastating consequences.

The scale of IT data breaches are eye opening. In 2005, over 154 million records of U.S. residents were exposed due to security breaches according to Privacy Rights Clearinghouse. In 2007, IBM notified tens of thousands of current and former employees that data tapes containing personal data were lost from its data centers.

After determining that a data loss has occurred, the affected enterprise must take reactive steps to mitigate the effects of the theft. The average cost to investigate the breach and take mitigating steps is on average \$356,000 according to the Computer Security Institute.

With an increasingly litigious society and mounting regulations such as HIPAA and Sarbanes-Oxley, companies now more than ever must show due diligence by incorporating asset tracking and monitoring in their security practice. In today's business climate, knowledge and IT asset management are required to protect enterprises and their customers from the repercussions that can be caused by a foreseeable IT asset loss.

Companies have tried to utilize many technologies to safeguard their assets. Until recently the limitations of technology have made IT inventory and asset management a cumbersome affair.

- Barcode labels and serial number engravings must be documented and stored using manual processes that do little to protect data loss.
- Encryption may or may not protect valuable data if equipment is stolen
- Mobile devices can help build your inventory and perform audits, but cannot monitor your electronic media around the clock.

Bolster Datacenter Security using RFID

Advances in RFID technology and Near-Field Communication have made it possible to continuously monitor IT assets on an automated basis. Using the proper combination of hardware, software, and processes, sensitive data can be monitored and safeguarded using today's technology.

Enterprises can *tag* all sorts of media and IT assets with an RFID-enabled label containing a unique identifier. The unique identifier on the RFID tag can be used to identify a single data tape, DVD, or disk drive containing your sensitive data. This RFID tag can then be stored in a database record containing the backup specific information such as the application, backup date, and other data items that your enterprise thinks is pertinent.

Additionally, since RFID tags are usually placed on paper labels, human readable information can accompany the RFID tag and may also include a bar code label that can be used in another system. RFID labels that include an associated bar code are known as smart labels.

RFID is Safe for Magnetic Storage

BA Systems is unaware of any study that conclusively proves or disproves the negative impact of RFID tags on IT equipment. However, recent studies have failed to uncover any evidence of a negative impact on the reliability of data stored on electronic media.

Actually, RFID tags are currently embedded in many types of IT storage tapes. All Linear-Tape-Open (LTO) cartridges use RFID tags, called Cartridge Memory, or CM, to identify cartridges in automated tape library systems. LTO has advanced beyond its third generation of drives that use Cartridge Memory. Over 50 million LTO cartridges have been shipped worldwide with 1.5 million LTO drives writing data to these tapes with no reported data loss due to RF interference.

Simple Labeling Isn't Enough

The most sensitive data environments demand a system that goes beyond labeling. In order to safeguard against the repercussions associated with

data loss, an evidentiary chain must be established from the moment a tape is created.

A modern data center may have many operators and system administrators. Enforcing accountability the IT staff can help minimize the threat of data loss. A comprehensive media tracking solution must be able to track your assets during their lifespan:

- Asset Introduction (Initial Check-In)
 - Tapes Created After a Backup
- Asset Usage (Check-Out)
 - Tapes Pulled for a Restore Operation
- Asset Replacement (Check-In)
 - Tapes Returned After a Restore Operation
- Asset Destruction (Final Check-Out)
 - Destruction of Old Data or Purge

A media asset's lifespan may involve multiple staffers pulling a database backup tape for an emergency data restore, or destroying a tape in compliance of an executive order. According to many regulations, these actions must be accurately recorded. A robust and thoroughly defined tracking system must provide the systems necessary for storing a media asset's lifespan, evidentiary chain, in addition to being able to read and write RFID tags.

- Check-In Station used to tag, assign metadata, and enter media assets in the system
- Real-time Monitor that tracks media at its resting place 24 hours a day.
- Check-Out Station used to pull media assets when necessary, associating their removal with a member of the IT staff.

The MediaSentry asset guardian is a first of its kind asset tracking and management system designed specifically to meet the demands of securing sensitive IT assets.

MediaSentry is comprehensive in that solves all aspects of the media asset tracking challenge:

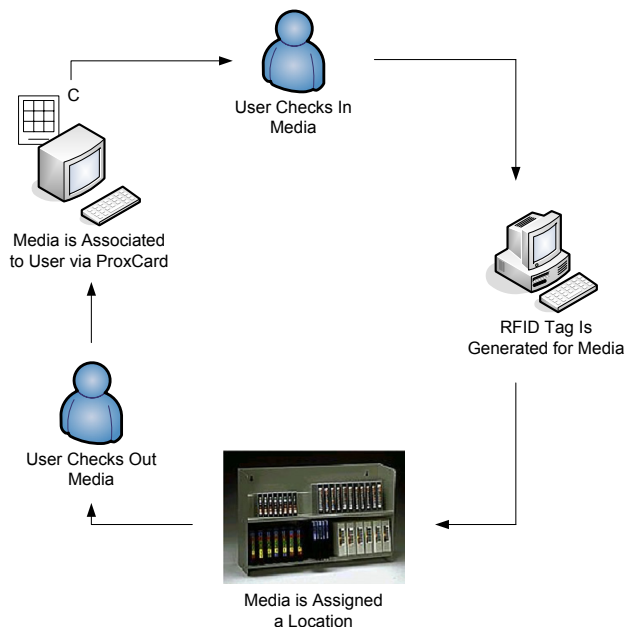
- Tag Inventory Processing Station (TIP Station) used to introduce new IT assets into the media inventory.
- 24/7 Automated Monitoring using Smart Shelf technology.
- Location Identification Ownership Station (LID0) used to associate checked-out media with specific members of the IT staff.

MediaSentry is a first-of-its-kind proactive step in safeguarding sensitive media assets.

Elegant, Efficient, Practical

Most asset tracking systems use barcode or RFID enabled mobile devices to scan an asset into inventory. After the data tape or backup media is scanned, the item is placed on a shelf or in a vault for storage. This process is cumbersome, and requires a manual procedure that is prone to error. Additionally, this process does nothing to account for the unauthorized removal of items from storage. An Enterprise will not realize that an item was illegally removed until performing a manual audit which may be a costly and time consuming experience.

A fundamental difference between the MediaSentry and other systems is the usage of RFID-enabled shelves that can be monitored at all times. BA Systems has designed a modular RFID active shelf that allows the MediaSentry system to scale as needed based upon the growth of an Enterprise's media library.



In order to build the full evidentiary chain of a media asset, the following systems need to be in place:

When items are placed into or removed from storage, the MediaSentry quickly recognizes that an event has occurred. If an item is being added to inventory, the real-time monitor will check the IT asset's RFID tag against a database to determine if it belongs on a specific shelf. When an item is removed, MediaSentry instantly flags the item as being removed. MediaSentry then validates its database to verify that the item has been checked-out by the proper staff. If not, an alert is automatically sent to the appropriate personnel via email, pager, or application notification.

Conclusion

Using the latest in RFID technology, the MediaSentry excels in protecting media assets and fulfills the needs of today's most demanding data center environments.

The MediaSentry system is the only real-time media tracking system that can constantly monitor media in its resting place. This capability provides instant notification when the unauthorized removal of IT assets occurs.

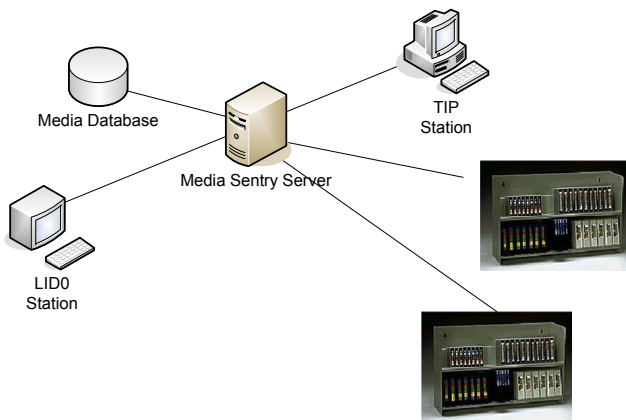
The capabilities of check-in, check-out systems, and smart shelf technologies help your enterprise:

- Introduce new media assets with a simple tracking system.
- Track the entire lifespan of media assets from backup creation to destruction.
- Enforce accountability by associating IT staff identity to media assets during backup and restore operations.

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Modular, Scalable

Organizations archive an ever increasing amount of information. It is not uncommon to find companies storing terabytes of data within a month's time.

The MediaSentry is the most scalable media-centric tracking system available. As the size of your media library increases, new shelf modules can be dropped into place. These new modules connect with the MediaSentry server using standard components. When new shelves are added to the system, the MediaSentry is reconfigured to monitor these new modules. When the IT staff introduces a new media asset, the asset is automatically assigned its new location when it is placed on the shelf.