



It's 10 PM — *Do You Know Where Your Tape Is?*

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Management Summary

People lose things all the time. I have a friend who managed to lose his key ring between parking his car on the street and entering my house – a distance of less than 50 feet. Another friend can't seem to hold onto his *Palm Pilot*. In the last two years, he has replaced the Palm Pilot five times after discovering that he left it behind in a taxi or airplane. One taxi driver told me that the most common item left behind in his cab is the umbrella (which is great news for umbrella manufacturers). On one business trip, I had my American Express card in my pocket to pay for my parking ticket at the terminal, and the next minute it was gone – lost someplace in the Central Parking Lot at Logan Airport on my way to retrieve my car..

Sometimes losing things, like an umbrella, is annoying; sometimes losing things makes you very nervous. You hope that the person who finds your key ring that you lost somewhere around your house does not decide to try to steal your car or break into your house. You hope that the person that finds your Palm Pilot doesn't decide to use your logon ids and passwords that you have stored there to have fun roaming through your bank accounts. (Of course, you should not store your passwords there – but let's face it, most of us do.) And I hoped that the person who found my American Express card in the parking lot choose not to use it before I called up American Express to cancel my card.

Every month there is a story about data getting "lost". It seems that data gets "lost" a lot. Remember the story about the laptop assigned to government official that was stolen from his car? The laptop contained sensitive information, such as social security numbers, of United States veterans. Then there was the story about the disk drive that was removed ("lost") from the research lab in California. There is the story about the tapes that were being sent to a remote vault for safekeeping. However, it seems the tapes got "lost" on the way. Then the bank had to let everyone know that the tapes were lost since they contained account numbers for clients. In fact, several of these clients were members of Congress.

Losing tapes can be annoying. If the data contained on the tape is not sensitive information and the data can be easily reproduced, then losing that tape is not very important. However, if the lost tape contains sensitive, confidential, privileged information, then you have every right to be nervous. In fact, you should be *very* nervous. You now have to tell all of your clients that their information is "lost".

You can, and should encrypt tapes that contain confidential information. Encryption protects the contents of the tape from being viewed by the unscrupulous person that has found the tape containing the account numbers of clients of a large United States bank. Nevertheless, you *may* still need to tell your clients that their information is lost. It is encrypted, but it is still lost.

We will never be able to prevent things from getting lost. Humans can accidentally load packages on the wrong truck, or leave packages behind. Fortunately, we now have the technology to track items and know where they are at any time. That technology is now available for tapes. Now, when a tape gets misplaced, it can be located. That should make a lot of executives sleep easier at night.

Read on to find out how Imation's *DataGuard rf Tape Tracking System* uses Radio Frequency Identification (RFID) and cell phone technology to allow "lost" tapes to be found.

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A Little Bit About RFID...and Charlie

RFID technology relies on RFID tags (comprised of an integrated circuit and antenna) that are attached to objects, or even animals and people to track their locations. There are two kinds of RFID tags – active and passive. Passive RFID tags have no internal power source. The passive tag uses the electrical current from the incoming transmission to “power up” and transmit a response. Active tags have their own power source, which is used to generate the outgoing signals.

RFID technology has been commercially available for many years. It has been used in car keys since the 1990s. If the key has the wrong RFID, the car will not start. It is used by large retail corporations, such as Wal-Mart, and the United States Government to track inventory. The Massachusetts Bay Transportation Authority, affectionately called the *MBTA* by the locals, runs the subway and bus lines in Boston. The Boston subway system was immortalized in 1959 when by the Kingston Trio sang about *poor Charlie* who entered the Boston subway system. He could not get off since he did not have the right fare to exit the train. You probably have heard the familiar chorus:

*Did he ever return?
No he never returned
And his fate is still unlearned.
He may ride forever
beneath the streets of Boston.
He's the man who never returned!*

Last month, the MBTA replaced their aging token system with new RFID cards to collect fares; these cards are called *Charlie Cards* in memory of poor Charlie. If Charlie had a Charlie Card with him, he could have easily gotten off the subway.

DataGuard rf Tape Tracking System

The *DataGuard rf* Tape Tracking System is a solution designed by Imation to track removable media. Tape cartridges have an external label that contains a multi-colored volume serial number that is read by humans and a bar code that is read by the robotics within an automated library. To use the *DataGuard rf* system, these external labels are replaced with new labels that look like the old labels with one difference. There is a passive RFID tag imbedded in the label. This tag has been specially designed to fit into the external groove of the cartridge, to protect it from damage. Enterprises can choose to replace the labels themselves, or can use Imation Labeling Services

to retrofit their existing cartridges. In the future, another option will be available – cartridges with RFID tags imbedded inside the cartridges will be available.

How It Works

There are several components to the *DataGuard rf* tape tracking system:

- *DataGuard rf*™ Scan Station
- *DataGuard rf*™ Mobile Scanner
- B&L *VaultLedger*® or *Vertices*® Tape Management Software
- *DataGuard*™ Transport and Storage Case
- And, of course, Imation *Volser* Labels with RFID.

DataGuard rf Scan Station

The *DataGuard rf* Scan Station consists of a custom designed antenna pad along with an external reader unit. The system connects to a customer's dedicated host PC and is placed near the tape processing area of the computer room. The system can read up to twenty cartridges stored in the carrying case in a matter of seconds, or can read individual cartridges.

DataGuard rf Mobile Scanner

A hand held reader is available to provide more flexibility for the user. The hand held replicates all major functions of the scan station and is ideal for audits, inventories, and misfiled cart notification. Having trouble finding a particular tape in the computer room? Just put the volume serial number in the mobile scanner and scan the carts or racks. The scanner will notify you when it locates the misplaced tape.

B&L Tape Management Software

The tape management software was developed by a partnership between Imation and B&L software. The software tracks tapes within a carrying case, and can also track individual tapes.

The first option, *VaultLedger*, is designed for those environments that move tapes based on calendar events. It interfaces with tape management backup systems to track cartridges and storage cases and produce numerous reports, allowing enterprises to comply with government regulations.

Vertices is a more comprehensive tape management solution for those environments that move tapes based on pre-defined policies, or need to move tapes to multiple locations. This solution, like *VaultLedger*, tracks media throughout its journey, integrates with common tape management solutions, and produces numerous reports for auditing and compliance.

DataGuard Transport and Storage Case

A terabyte class cartridge carrying case, the DataGuard Transport and Storage Case can hold up to twenty LTO, DLT, 3590, 34x0, 9x40, 3592, and T10000 cartridges. This case dissipates shock, providing a high degree of protection for large-capacity tapes, and is designed to work with the DataGuard rf Tape Tracking System.

Future Enhancements

Imation has plans to release a second generation of this product in the second quarter of this year. The next generation of this system will include a GPS transponder placed inside the case, which will use AGPS (assisted GPS via cell phone technology) to track the location of the cases. GPS technology allows the cases to be tracked down to a street locator. If the GPS signal is unavailable, cell phone technology allows the cases to be located through triangulation. This GPS/Cell transponder is fully rechargeable. Now the IT administrator, through web-based software, can determine where each case is located at any time, even while in transit.

Another option under development is to imbed cartridges with RFID tags inside the cartridges.

Conclusion

Enterprises that have “lost” tapes containing sensitive information have suffered the embarrassment of public disclosure. Many of these enterprises have lost clients after such an event.

Imation has now developed a solution that can easily audit tapes inside the computer room with this first generation. The second generation, following quickly after the first, can track tapes from the moment they leave the computer room until they reach their final destination.

Anyone who ships tapes offsite should evaluate the DataGuard rf Tape Tracking System. Imation has packaged these systems into very reasonably priced kits tailored to the requirements of each data center. These kits are a very inexpensive way to protect your business from lost revenue, and negative publicity. These systems let managers sleep better at night. And, the next time the auditor wants to know where a particular tape resides, the answer is just a mouse click away.



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