

SELLING TAPE OR SELLING OUT

Why selling your used tape can cost you in the end.

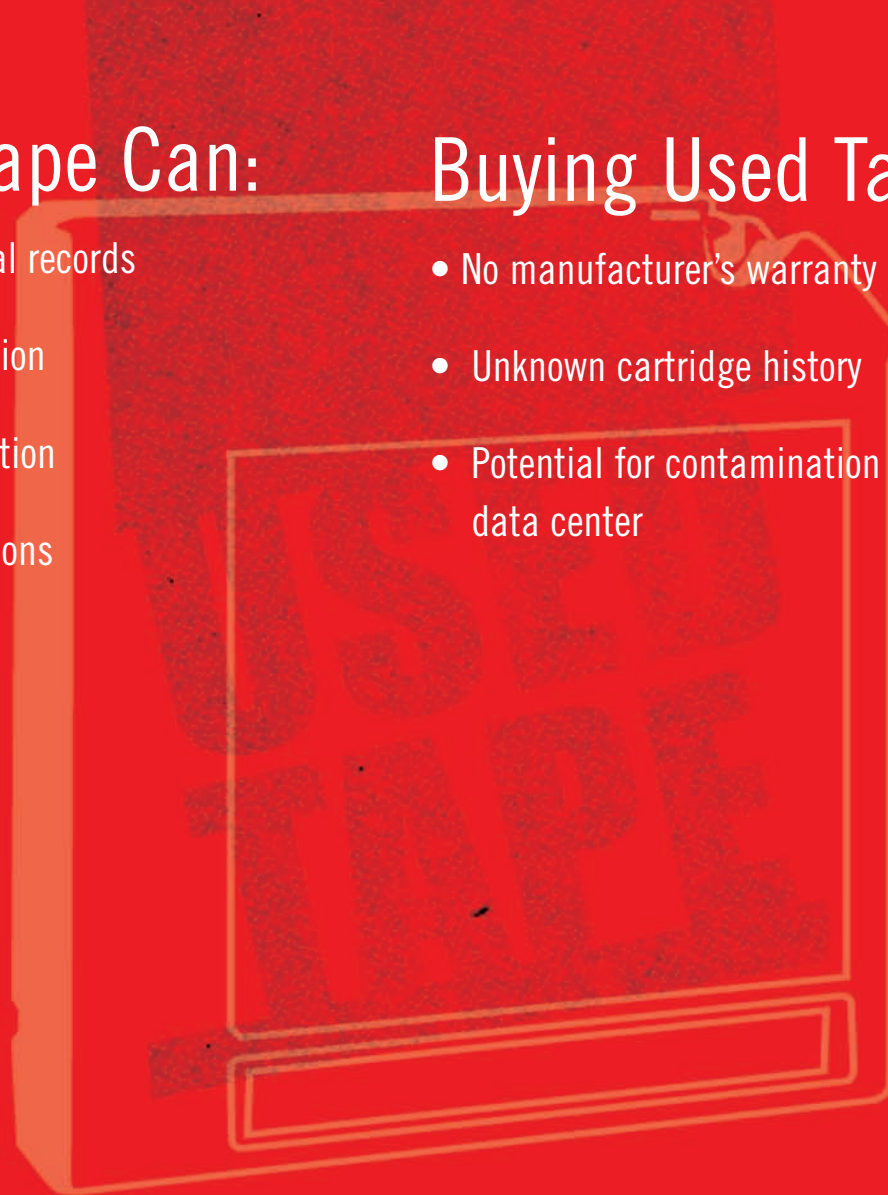
Selling your used tape may seem like a good financial decision, but did you know that it can put your company at risk?

Selling Used Tape Can:

- Expose confidential financial records
- Disclose personnel information
- Reveal corporate IP information
- Result in compliance violations

Buying Used Tape Provides:

- No manufacturer's warranty
- Unknown cartridge history
- Potential for contamination to be introduced into your data center



Don't let your confidential data walk out the front door.

“Recertification” does not guarantee that your data has been erased. And if your corporate data ever falls into the wrong hands you could expose your company to the following risks:

- Competitive Risk: data is one of the most valuable assets in your ability to compete in the marketplace.
- Sarbanes-Oxley Risk: selling used tape could violate IT internal controls and lead to a deficiency under Sarbanes-Oxley.



What is “Recertification?”

Recertification is not a standardized process; it means different things to different companies. So if you choose to sell your used cartridges, it doesn't mean your re-used cartridges will be resold blank. Some cartridges, for example, can be degaussed to erase data, but high capacity media such as Ultrium, 3590/3590E, 9840 and 9940 cannot be degaussed because it erases the factory-written servo pattern. If degaussing is not used, a test pattern could be written to the complete length of the tape to remove the data. The likelihood of all recertified tapes going through an effective rewriting process is doubtful because of the amount of time it takes to complete the process.

The question is, how are cartridges being certified? What criteria are they being measured against? What data remains on the tape? There is no single comprehensive test available that can verify what a cartridge has been exposed to technically, physically and environmentally.

Furthermore, our testing of “recertified” cartridges showed that many of the tapes we obtained were merely put through a load test—the tapes were loaded in a drive—there was no actual testing of the full length of the tape. The end result is that customers purchasing used tape cartridges are actually testing the tapes themselves when they use them for the first time in their storage environments.

Secure Tape Destruction: The Wise Choice

The best way to help ensure that your data doesn't fall into the wrong hands is to opt for secure tape destruction. Secure destruction makes sure your confidential and sensitive data are completely destroyed through incineration at a waste-to-energy facility or utilizing a tape grinding process. Imation can refer you to local destruction companies or we can work with you to coordinate everything from on-site pick-up to secure handling and eventual destruction in an environmentally sound facility. Contact your Imation account manager for more information on this safe, effective method for ensuring the security of your data.

Recertification vs. Secure Destruction

	Recertification	Secure Destruction
Can expose confidential records	Yes	No
Can disclose personnel information	Yes	No
Can reveal corporate IP information	Yes	No
Company data may leave the premises unaccounted for or unprotected	Yes	No
Data is degaussed	Not always possible or effective	Tape degauss and/or grinding/incineration process
Cartridges may be sold to my competitor	Yes	No
Could face IT control risks that may lead to a Sarbanes-Oxley internal control deficiency or violate data privacy regulations	Yes	No
Certificate provided	No, your data is not secure	Yes, certificate of destruction provided

Are you getting used? Here is a cost effective way to spot used tape cartridges.

If you suspect that your dealer fulfilled a recent new tape purchase with used tape, contact Imation at tapeanalysis@imation.com. We will analyze the cartridges and let you know whether the cartridges you received have been used before.

Some dealers may sell used media and claim that it is new. The practice of misrepresenting products as new is rare (and illegal), but we have seen this happen in the marketplace. Beware of the following words when you shop for data storage media:

- used
- recycled
- refurbished
- reconditioned
- factory-certified
- better-than-new
- next-to-new

Visual cues commonly associated with used tape:

- Some used cartridges may be stamped with “100% tested” or “tested 23804,” which indicates a specific test date
- Shipment invoices state the cartridges are recertified
- Cartridges may be individually labeled as recertified or used
- The master shipper carton may contain a mix of different media brands, which could signify a blend of used media
- The master carton is labeled “recertified” or “inspected”
- Cartridges may contain a dot (as if marked by a permanent pen) on the back of the cartridge
- A security seal is applied to the plastic case. The seal is similar to the original manufacturing seal but is applied by the reseller
- Poor quality or unprofessional packaging

Bill of Lading Descriptions

Be aware of transportation codes (National Motor Freight Classifications) that may be confusing for end users purchasing and receiving new products. The NMFC for tape cartridges is 181825-01. Unfortunately, this standard freight description states: Tape, magnetic other than audio (sound) or video recording, in boxes: New or reconditioned. This does not indicate that the product is new or used.

Bill of lading materials from Imation will always state: “TAPE, MAGNETIC, O/T AUDIO (SOUND) OR VIDEO RECORDING, NEW.” Please refer to your dealer or distributor invoice to look for new or used descriptors.

Don't Get Used, Specify NEW on Your Purchase Orders

The Myths and Realities of Used Tapes

Selling used tape to be recertified and re-sold to another organization is a practice some IT departments have begun to employ. While selling used tape may produce a very small amount of revenue for the company or IT department, the competitive and security risks of this practice far outweigh any benefits. The possibility of recovering data from “recertified” tapes and the risk of violating government privacy and compliance regulations can be far more damaging to a company’s reputation and finances.

The risks to the buyer are just as great. In exchange for a small savings on the cost of a tape, buyers of used tape cartridges risk higher costs in terms of using unreliable, unpredictable media, higher tech support costs and the very real possibility of introducing risks into otherwise protected environments.

In reality, there is no industry-standard process for “recertifying” or “recycling” tapes. Used tape purveyors may employ one of three practices: degaussing, rewriting or minimal testing/preparation.

Degaussing is the process of erasing data through magnetization. Unfortunately, degaussing isn’t always possible, particularly on new tape formats such as LTO Ultrium, 9840, 9940, 3590 and 3590E. These cartridges contain factory-written servo patterns that are destroyed by the degaussing process, rendering the cartridges useless. And, even for those formats that can be degaussed, the process may not completely erase data, particularly if the magnetic field used in the process is not powerful enough. Readable data may, in fact, still be found on tapes that have been degaussed.

Alternatively, rewriting involves overwriting usable data with non-usable data, often a pattern of ones and zeros. While thorough rewriting of a cartridge does cover up the majority of old data, the process is time consuming. For example, completely rewriting a 9840 cartridge would take a re-certifier approximately 40 minutes (more time is needed for larger capacity cartridges).

The likelihood of all recertified tapes going through an effective rewriting process is doubtful because of the amount of time it takes to complete the process. For example, if a re-certifier rewrote 60,000 9840 cartridges, the process would take approximately four and a half years to complete using one drive. Even if the re-certifier were to dedicate 20 drives to this project, it would still take more than two months of uninterrupted rewriting to complete.

Servo/Degauss Ability

Imation Product Type	Comments	Magnetic Tracking	OK to Degauss
DC100/1000		NO	YES
DC-2XXX		NO	YES
DC-MC-3000		NO	YES
Travan 1		NO	YES
Travan 2		NO	YES
Travan 3		NO	YES
Travan 4		YES	NO
Travan 5		YES	NO
Travan 7		YES	NO
DC-6XXX		NO	YES
Magnus		NO	YES
MLR-1/SLR-32		YES	NO
SLR-1/DC6320		NO	YES
SLR-5		NO	YES
SLR-6		YES	NO
SLR-7		YES	NO
SLR-40-50-60-75-100-140		YES	NO
DDSX		NO	YES
DAT		NO	YES
AIT	MIC Chip	NO	NO
Mammoth		NO	YES
34X0		NO	YES
3590		YES	NO
3590E		YES	NO
9X40		YES	NO
LTO X		YES	NO
DLT X		NO	YES
SDLT X	Optical Servo	NO	YES

Myth #1

Earning revenue from selling used media is good business.

Reality

While making money by selling used tape might seem compelling, the security and competitive risks that can adversely affect a company's reputation and finances are far greater. Selling used tapes can also put a company at risk of violating governmental regulations for privacy and records compliance.

Myth #2

Saving money by buying recertified media is a smart business practice.

Reality

Using recertified tape will cost more in the long run. Users of recertified media have no way of knowing the care and handling history of each cartridge, its life expectancy and reliability. And, because those factors vary from one cartridge to another, predictability and reliability of the overall system is degraded. Failures and re-runs become more likely and less predictable, driving up support costs and disrupting core business processes.

Myth #3

Recertified tape cartridges have the same life expectancy as new tape.

Reality

Recertified tape's archival life expectancy is unknown because no reliable information is available as to the age or condition of each tape cartridge. And while new tape has an expected archival life of 15 to 30 years and is under a manufacturer's warranty, recertified tape is not covered under a manufacturer's warranty.

Myth #4

Recertified tape cartridges contain no data from previous uses.

Reality

Recertified cartridges can often contain data left behind by the former owner. Degaussing doesn't guarantee data erasure and may not be applicable to newer types of media. Rewriting is a very time consuming process and a re-certifier may not invest the resources to completely rewrite the tape cartridge.

Myth #5

Recertified tape is as reliable as new tape.

Reality

The "unknowns" of recertified tape are plentiful and plenty worrisome: unknown expected archival life; unknown care and handling history; unknown storage conditions; unknown debris on the tape surface; unknown quality control standards; unknown technical specification. Adding to the unknowns—no technical service support, no problem resolution support and no manufacturer's warranty.

Myth #6

When my company orders tape cartridges, all of the cartridges supplied are new.

Reality

Unless you ask for it by name, you may not be getting new cartridges. Specifying "new" on the purchase order is the best way to ensure new tapes will be delivered.

Myth #7

I can tell if my tape is new or not—it's very obvious.

Reality

Don't be so sure. Most recertified media has been repackaged to look like it's brand new. If you are unsure if your tape is new or used, call the manufacturer or contact Imation at tapeanalysis@imation.com to allow our lab to review and identify whether it is new or used.

Used Tape Financial Model

Purchasing Used Tape		
Tape	New	Used
3590E "K"	\$56	\$38
9840	\$65-70	\$41

On a \$56 cartridge you may pay \$38 with a voided manufacturer's warranty and unknown history.

- Average age of used tape = 4.5 years
- Life expectancy of typical tape cartridge = 10 years
- You should have paid \$28 (\$56 x 50%)
- Your initial loss = \$10**

- Dealers push used tape due to huge profit potential. End users face increased risk.
- Dealers may warrant used media, but they will just replace the bad tape, not diagnose the root cause and advise on corrective measures.
- Cartridge history isn't available. Cartridges could contain debris, handling damage, excessive errors, another company's data and minimal remaining useful life.

Who gains in this scenario?

Dealer investment:

- Purchase cost
- “Cleaning cost”
- Plan for possible replacement cart

Your risk:

- No warranty
- Unknown cartridge history
- Unknown variable introduced into your data center

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Adopt a “Don’t Get Used” Policy

If you suspect your dealer fulfilled a recent new tape purchase with used cartridges, contact Imation at tapeanalysis@imation.com. We'll analyze your tape(s) free of charge to determine if they have been used before.

Visit www.imation.com/used_tape

- 1) Learn more about the risks of selling or buying used tape cartridges.
- 2) Find out how you can qualify for free tape destruction as part of Imation's Alliance Program.
- 3) Contact Imation to analyze suspect cartridges free of charge to determine if the new cartridges you purchased have actually been used.

Left Behind

Analysis reveals data found on recertified tape.

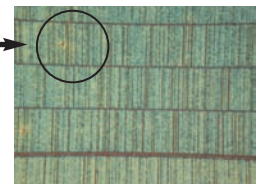
When Imation examined four LTO Ultrium 1 recertified tape cartridges purchased on the open market, the results were shocking. Considerable residual customer data (detectable signals) was discovered on three of the four cartridges. Of the hundreds of thousands of possible data sets, a random sample of eight data samples was reviewed. Remnants of an SQL database were discovered. A subsequent web search lead us to a database that houses DNA sequences.

A second study analyzed a sample lot of forty 9840 recertified cartridges procured from two different suppliers. The results were equally disturbing. In most cartridges the directory was fully intact and in some cases the data map was not erased as part of the recertification process. Analysis also revealed that suppliers only performed a minimal write test—approximately 10MB—on some carts. Shortcuts like this can occur because it would take a re-certifier approximately 40 minutes to rewrite the full length of a 9840 cartridge. Finally, some permanent errors occurred when Imation tested the used cartridges.

Imation also performed a detailed analysis of one cartridge. A look at the MIR showed that the last action taken was a full read of the data, most likely done by the company selling the cartridges. What's more, the re-certifier did not attempt to erase the data, and neither the customer nor the re-certifier executed a data security erase.

The image on right shows a developed piece of 9840 tape that contains customer data found on a tape procured from a recertified tape supplier.

Customer data remaining on a cartridge we purchased as “recertified”



Selling Used Tape Presents Sarbanes-Oxley Risk

Selling used tape cartridges to a third-party vendor can appear to be a compelling financial proposition, but it may lead to a deficiency in your company's Sarbanes-Oxley IT internal control evaluation. Companies may not realize that their corporate data often remains on tape media when it's sold, letting company data leave the premises unaccounted for. Common "re-certification" procedures touted by used tape sellers don't always guarantee that data will be erased before the cartridge is sold to another company.

Sarbanes-Oxley Background

- The Sarbanes-Oxley Act of 2002 was created to help remedy the many corporate accounting failures and falsified financial reports of recent years. It is the biggest securities legislation in 70 years and it established a new Public Company Accounting Oversight Board to set auditing standards. The Sarbanes-Oxley Act (SOX) established many new requirements for SEC-registered companies and the firms that audit them.
- The focus for most public companies is SOX Section 404, which requires public companies to document their financial and IT controls, periodically evaluate the effectiveness of these controls, and report publicly on their evaluation. External auditor firms are required to test and evaluate management's assessment, and to perform their own test of the controls so that they can express an opinion about the company's control process. 2004 was the first year in which companies were required to report on their internal control evaluations.
- When companies or their external auditor find problems with internal controls, they are required to categorize the severity of each deficiency into one of three categories:

Deficiency: Deficiencies are only reported to internal management. Management is expected to take appropriate steps to correct the deficiency.

Significant Deficiency: Significant deficiencies are more serious than plain deficiencies and therefore must be reported to the company's audit committee of the board of directors. Such deficiencies must be corrected, or they may subsequently be moved to the most severe type of deficiency.

Material Weakness: Material weaknesses are the most severe type of deficiencies and as

such, must be reported publicly by the company. Material weaknesses also automatically result in an adverse internal control opinion by the external audit firm. This deficiency can have a detrimental impact on a company's reputation and even on the careers of those responsible for it.

What does this mean for the data center?

Imation recommends secure tape destruction to safely dispose of obsolete or retired tape cartridges. Companies that consider selling their used cartridges may face significant IT control risks that could lead to a SOX deficiency.

- Tape cartridges can contain sensitive data that may be proprietary to your company, your company's clients and/or your business partners.
- Your company's data should not leave the premises unaccounted for or unprotected. You can never be certain that your data has been completely erased despite efforts to degauss or overwrite. Cartridge destruction is the only safe way to ensure information is not leaving the company and getting into the hands of others.



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