



LTO NewsBytes



Mark Twain supposedly wrote "it's not the things that people don't know which hurt them; it's the things they know which ain't so."

There's been some talk about failure rates for tape restores. Some have sited that 71% of tape restores fail which is a myth. The funny thing is that this figure is commonly attributed to Gartner, which never produced a paper with that statistic. Curtis Preston, Mr. Backup at BackupCentral.com, thoroughly researched and explained this misquoted statistic in a recent blog post at [Backup Central](http://BackupCentral.com).

The Truth About Backups

The truth is that most backup and restore failures are not due to hardware failures whether the backup was to disk or to tape. Most backup problems are attributed to administrative or software miscues.

Tape Technology Reliability has Soared Over the Last Decade

LTO technology employs a number of systems to help provide high data integrity including read after write verification to help ensure the data has been written accurately, servo tracking mechanisms to provide precision head and tape alignment, up to 250,000 mean time between failure hours, and advanced media formulations that can allow up to a 30-year shelf life or more! With about 4 million worldwide LTO tape drive shipments and 200 million LTO cartridge shipments, the technology has been well tested and well received.

Tape Has Better Bit Error Rates

A key measurement of disk and tape reliability is undetected bit error rates (BER). [LTO tape has been shown](#) to have up to two orders of magnitude better BER than enterprise SATA disk¹. LTO tape has been shown to have a bit error rate of 1×10^{17} with enterprise SATA disk at 1×10^{15} . To put this into data storage terms for LTO tape, that would be one bit error in 100 petabytes compared to 1 bit error in 1 petabyte for enterprise SATA disk.

Disk and Tape Play Key Roles in the Storage Hierarchy

Disk can provide fast recall performance to help address service levels that demand quick response to customer inquiries. Tape, being offline and portable, can provide the ultimate data protection needed to protect valuable data assets against the corruption and threats that can attack online data such as software errors, virus, hacker, or disgruntled employee. As the disk data ages and becomes infrequently accessed it should be moved to tape to help conserve the energy needed to power and cool the spinning disks and to reduce overall storage costs. Tape has been shown to have about 15 times lower cost than disk for long term storage of data (see the Clipper Group white paper on long term archive TCO [here](#)).

A tiered hierarchy of disk and tape storage can best address the varied storage objectives of performance, cost and energy control, security, compliance and data protection.

To learn more about LTO and LTFS technology visit www.trustitto.com

Tape \$aves your costs - energy - data - company

¹ Source: Tape Storage Future Directions and the Data Explosion
Fred Moore, President, Horison, Inc. 2011

The LTO Program is reaching new milestones, making news, and exhibiting at storage conferences worldwide. Come visit us in 2012:

IBC	Sept. 7th - 11th
DV Expo	Sept. 19th - 20th
Storage Decisions	Sept. 24th - 25th
Inter BEE	Nov. 14th - 16th

Go to the Source: LTO Ultrium Website

Interested in the latest on how to address challenges with big data and big archives? What about the TCO for VTLs and physical tape? Or maybe it's learning more about how tape can help you get the most for your video storage or even a simple primer on LTFS...

The LTO website has an excellent "archive" of resources such as white papers, presentation and webinars that can help you address some of the most significant storage decisions. Visit the [LTO Ultrium website](#) to learn more.



**Use LTO-5 Technology with
Tape Drive Encryption,
Your Smart Bet for Data Protection!**

For more details, check out white papers, articles and other useful information at www.ultrium.com

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