

PROCESSOR.

Tech & Trends

General Information

July 20, 2007 • Vol.29 Issue 29

Page(s) 24 in print issue

Know When To Retire Storage Tape Media

Monitoring Solutions Let You Take Action Before It's Too Late

The list of pros and cons to take into account when deciding whether to rely on tape instead of disk storage is long, but cost and low power consumption weigh in tape's favor. Disk storage may be robust and offer many redundancy possibilities to safeguard data; however, tape represents lower data center infrastructure costs, measured by electrical power and floor-space requirements.

"As regulatory compliance and risk management drive potentially massive storage volumes, disk tends to be the status quo," says James Governor, an analyst for Redmonk (www.redmonk.com). "But from a cost and green perspective, it makes a great deal of sense to use tape as part of a broader backup and log management analysis story."

But while tape storage may be reasonably reliable, IT admins are often wary of how storage redundancy and other measures are still not the perfect means to ensure that tape data is never lost or damaged. Besides the costs associated with replacing damaged cartridges or tape, data recovery is a very expensive process, while, of course, there is always the possibility that the data your enterprise is required to store by law under compliance rules ends up being lost forever.

"Identifying problems before they happen is a worthwhile goal for any organization. Data centers are no exception," says Peter Groel, president of MP Tapes (www.mptapes.com). "The cost of a backup failure is lost time; the cost of a restore failure can be immeasurable."

But before the unthinkable happens—losing vital data—some suppliers say they have developed solutions that actively gauge and monitor tape media's state of health. Chip-based solutions can, for example, analyze tape media and alert administrators about bad sectors so they can take action before it's too late.

"Many [tape] failures can be avoided with inexpensive and easy-to-use devices that access the cartridge memory (CM). They can either identify cartridges that are approaching the end of their usable life or tape drives that require maintenance," Groel says. "These devices come with software that processes the information and gives the user clear and precise information. With the availability of such inexpensive tools that

reveal the cartridge quality, there is no longer any reason to blindly trust a data cartridge.”

■ Intelligent Cartridges

Components can potentially offer an abundant amount of information about the history and condition of cartridges and tape. A cartridge memory chip, for example, can indicate the amount of data, number of writes and insertions, errors, and other information about a cartridge and tape.

“A statistical record of the cartridge quality, if it exists at all, can easily vanish when the cartridge is moved. The cartridge memory chip, however, is an integral part of the cartridge,” MP Tapes’ Groel says. “The statistical data contained in the CM can be accessed and the cartridge quality assessed anywhere, whether the cartridge is in a data center, in an offsite storage vault, or at a remote data collection site.”

MP Tapes’ solution, for example, offers a single score number that evaluates tape media. It automatically calculates a tape evaluation score ranging from 0 (very bad) to 100 (very good). This, the company says, allows an administrator to know “within seconds” whether a cartridge is reliable.

. Taking Action

The data derived from the cartridge memory chip also allows admins to pinpoint problems. The cartridge memory chip, for example, can indicate the identity of tape drives that have accessed a cartridge. If a tape backup system is not functional, it’s possible to determine whether the problem is due to the tape or the drive. “By comparing these records, it is simple to determine if it is the cartridge or the drive that is failing,” notes Groel.

Some solutions track tape media by relying on barcodes and other archival systems. TOLIS Group (www.tolisgroup.com), for example, offers management components that track tapes by the unique ID assigned to the first archive written to a tape, says company President and Chief Technology Officer Tim Jones.

“In the event that a tape is overwritten, we update our record for that tape with the new archive’s ID. As part of this, we also track the number of writes, current number of archives, current amount of data, and amount of data written for the tape’s lifetime within our environment,” Jones says. “As for tracking the media content, we store our archive catalog information on the tape with the archives and in a disk-based database. Additionally, our manual method allows us to easily correlate barcodes and archive content at the catalog level.”

However, Jones says the TOLIS Group’s solution is better geared for never-used-before tape. “This may not be the perfect solution in environments where previously used tapes may be recycled from other backup applications since we don’t know the history of the tape in the alternate environment,” says Jones. “Since most of our customers use new tapes when implementing our solution rather than recycling old tapes, that scenario is not one that we run into often.” ■

by Bruce Gain

Factors Impacting Tape Life

Like wear-and-tear and the number of miles driven factor into the likelihood of how long a car will continue to run, variables that are archived on a memory chip can indicate how close a tape cartridge is to permanent failure. Knowing when to retire a tape involves taking into account such data as error statistics, amount of data written and read, number of mounts, and the age of the cartridge. MP Tapes' (www.mptapes.com) memory chip automatically takes all of these variables into account and assigns a total score that indicates when a cartridge is reaching the end of its life cycle and is ready to be retired.

What A Cartridge Chip Can Reveal

A memory chip can offer a wealth of information about the history and condition of a tape cartridge. Information about the cartridge that is automatically updated in real time includes:

- The amount of data stored on the tape
- Date of manufacture
- Last upload
- Number of writes
- Number and types of errors

Sponsored Links

The Data Media Source

We buy tape and provide secure media and/or data destruction and disposal with certification to offer end-of-life solutions with the sale

www.Processor.com/DataMedia

Media Recovery

We have more than 30 years of experience providing secure and reliable data eradication, data destruction, and tape disposal services

www.Processor.com/MediaRecovery2

RecycleYourMedia.com

The secure end-of-life data solution for your new, used, or obsolete media

www.Processor.com/Recycle

Copyright © 2007 Sandhills Publishing Company U.S.A. All rights reserved.