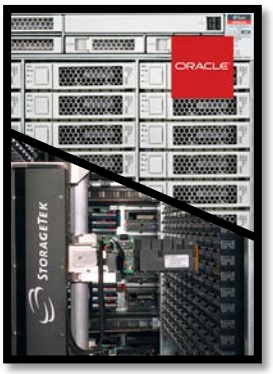
TOP 5 BENEFITS OF USING STORAGETEK TAPE FOR TIERED DATA PROTECTION



According to a recent ICG survey, tape is the last line of data protection for 82 percent of data centers. This figure may come as a surprise, but consider the advantages of tape when protecting business-critical data, and it becomes much less surprising. Consider five of the most important advantages of tape technology when choosing between tiered data protection with disk *and* tape versus the often ill-advised strategy to "go tapeless."

1) Tape archiving lowers the cost of data protection

A recent Clipper Group study compared the acquisition and maintenance costs of tape versus disk over a 9-year period. The study begins with 1 PB of capacity, growing 45 percent annually. In 9 years, equipment and maintenance costs for the disk system totaled more than $38 million while the tape system cost just under $1.5 million, or 26x less! Modern tiered data protection systems take advantage of this huge cost difference in two ways: 1) by utilizing tape for retaining full backups for disaster recovery and 2) by utilizing tape for long term retention of user files in an archive – significantly slowing the capacity and bandwidth growth of the disk-based storage used to back up those files.

"Simply put, the more tape that you have in your mix (as a percentage of your archive's backend capacity), the less expensive will be your total cost for storing the data."

David Rheine and Mike Kahn
The Clipper Group
"Revisiting the Search for Long-Term Storage – A TCO Analysis of Tape and Disk"

2) Tape data is decoupled from sources of corruption on the network, reducing risk

According to Alberto Pace, CERN's head of data storage, "If a hacker with a grudge managed to break into CERN's data center, he could delete all 50 petabytes of the disk-based data in minutes. To delete the same amount from the organisation's tapes would take years." There are also internal threats to consider. In 2011, approximately 40,000 Gmail users nearly lost everything in their e-mail accounts due to a software bug that corrupted multiple copies of e-mail data on Google's disk storage systems. Fortunately for Gmail users, Google recovered all of the accounts from tape.

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Alberto Pace
Head of Data Storage, CERN
"Magnetic Tape to the Rescue"
The Economist, Dec 2013

3) Tape storage density is growing faster than disk, driving down cost/TB

New tape technology is enabling upwards of 10 TB of uncompressed data to be stored on a single cartridge, a feat that required more than 6,000 cartridges as recently as 1997. According to the Information Storage Industry Consortium (INSIC) 2012 Tape Technology Roadmap, tape areal density is expected to continue increasing 33% per year through 2022. Meanwhile, hard disk areal density increases have slowed considerably, with expected growth of 10-20% per year. With faster increases in storage density, tape systems will continue to offer far lower cost per TB than disk systems.

4) Tape is robust and portable

A tape cartridge's inherent robustness and portability make it an ideal "last line of defense" for protecting business-critical information. An NHK World news story aired December 9, 2013 reporting that many data centers in Japan lost valuable information as a result of the 2011 Tsunami. Local Japanese governments now regularly backup encrypted data to tape for safekeeping hundreds of kilometers away.

"We store another copy of the most important data on digital tape."

Google Data Center Guided Tour

5) Tape uses much less energy

The Clipper Group study concluded that in 9 years, the disk system required nearly 35 million kWh of electricity, the equivalent of 24,000 metric tons of CO_2 and electric bills totaling more than $4.8 million. The tape system required 105 times less electricity!

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