

The Tape Value Proposition For 2019

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The magnetic tape industry has made many strides in the past decade and has several distinct benefits and advantages compared to other storage solutions which are summarized below.

Tape Value Proposition - 2019	
Function	Remarks - Current State of the Tape Industry
Price/TCO	Tape Has the Lowest Acquisition Price \$/GB, HDD TCO 4-15x Higher Than tape.
Performance – Access Time	Much Improved - Active Archive, Fastest Data Rates, RAIT, Smarter and Faster Robotics, Access Time to 1 st Byte Features (RAO, TAOS) Have Arrived. Few HDD Gains Ahead.
Recovery	Faster Recovery for Large Data Sets and Files Than HDD.
Capacity	Tape Cartridge Capacity Max. @20TB (60TB compressed) with 200X More Area Than HDD @14TB. Lab Demos Demonstrate Native Cartridge Capabilities to Reach 100s of TBs.
Scalability	Tape Adds Capacity by Adding Media, HDDs Add Capacity by Adding Drives.
Reliability	Tape (BER) 1×10^{19} HDD (BER) 1×10^{16} Tape BER is 1000x Higher Than the Best HDD.
Energy Usage	Tape Uses Much Less Energy Than HDDs, Can Move Tape Data w/o Electricity.
Portability	Tape Media Easily Portable During Electrical Outage, HDDs More Difficult to Move.
Encryption/WORM	All Tape Drives offer Encryption, Optional on Some HDDs But Seldom Used.
Cybersecurity	Tape Air Gap Prevents Cybercrime Attacks, Strong Defense Against Malware.
Media Life	>30 Years for all Modern Tape, Avg. ~4-5 Years for HDDs.
Recording Limits	No Foreseen Limits for Tape, HDDs Facing Areal Density and Performance Limits.
Cloud Storage	Tape Improves Cloud Reliability and Security, Lowers Storage Costs, Unlimited Capacity Scaling.

Source: Horison, Inc.