



Migrating Off Oracle[®] Tape Libraries

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Tape – Past, Present, Future

In 1969, four former IBM employees started Storage Technology Corporation – Jesse Aweida, Juan Rodriguez, Zoltan Herger, and Tom Kavanagh. While startups are a common thing today, they were somewhat revolutionary in 1969. The four felt that IBM was missing a large market opportunity in tape and, based on the early success of the company, later renamed StorageTek, they were right. That revolutionary spirit and approach led to the development of some outstanding technology and established Boulder County as the “Silicon Valley” of tape storage.

There were ups and downs in the company’s history, including three years in Chapter 11 bankruptcy, but StorageTek’s tape technology efforts were largely successful. In 2005, when it had reached \$2.1B in revenue, the company was purchased by Sun Microsystems, and five years later, in early 2010, Sun Microsystems was acquired by Oracle Corporation. Those acquisitions have proven fateful for the StorageTek® SL3000 & SL8500 tape library (now referred to as the Oracle® StorageTek® SL3000 & SL8500) and the Oracle® T10000 tape drives often found in the Oracle® StorageTek® SL8500. The now doubtful future of those technologies has led to the creation of this white paper. In the rapidly advancing world of technology, a failure to develop is a failure to survive.

Roughly four years before Storage Technology was founded, Gordon Moore observed that the number of transistors per square inch in dense integrated circuits had doubled every year since their invention. “Moore’s Law” predicted that this rate of advancement would continue into the foreseeable future. A decade later he revised the forecast to doubling every two years. Moore’s Law is probably one of the most quoted predictive laws used in technology and has been applied to other fields as well. It makes the point that technology advances at a somewhat predictable pace, but there are exceptions. Often, certain technologies “leapfrog” ahead while others fall behind. Tape technology shows interesting examples of that.

The only tape technologies in broad use today are LTO, IBM® TS Tape Technology and Oracle’s T10000 Tape Technology. LTO seems to be the most consistent of these technologies for adhering to Moore’s law with a longer track record and fairly consistent release dates and capacity/performance increases.

Drive	LTO1	LTO2	LTO3	LTO4	LTO5	LTO6	LTO7	LTO8
Year	2000	2003	2005	2007	2010	2012	2015	2017
Capacity	100GB	200GB	400GB	800GB	1.5TB	2.5TB	6.0TB	12TB
Performance	20MBs	40MBs	80MBs	120MBs	140MBs	160MBs	300MBs	360MBs