

Storage Value Synopsis

T9x40 Tape Drive Upgrade Using the Storage Value Tool (SVT)



Key Benefits

Reduce media spending

- Reduce the number of cartridges you need and lower your purchasing requirements by using larger capacity cartridges.

Lower hardware maintenance

- New equipment maintenance terms are more favorable. After the upgrade, fewer drives may be needed for the same performance.

Reduce offline cartridge storage

- Fewer cartridges reduce the number of transfers to/from the archive site.

Reduce backup window duration and gain faster data recovery

- Improve your backup performance with faster throughput drives.



When considering a drive upgrade from StorageTek™ T9840As or T9840Bs to T9840Cs from Sun Microsystems, it can be hard to weigh all factors, especially when your management wants quantitative justification. How do you know if a tape upgrade is going to yield a positive benefit to your organization? We can help you consider your company's objectives in relation to the total cost of ownership (TCO) and the return on investment (ROI) for the upgrade.

Overview

Shipping since 1998, the T9x40 tape drives are renowned for being highly reliable, high-duty cycle enterprise-class tape storage used within Sun's StorageTek automated tape libraries. They give you a choice between fast access (T9840) and high capacity (T9940). Early versions include T9840A, T9840B, and T9940A which have current technology replacements at higher capacity, higher throughput, and higher reliability. The new technology can reuse existing media at the new technology specifications.

Key questions

How many T9840A, T9840B, and T9940A tape drives are currently installed in your environment?

- The more T9840As and T9840Bs currently installed in your environment, the more likely it is that you can realize an absolute drive count reduction. An upgrade to a drive with faster throughput could enable a reduction of total drives required (particularly in an open systems environment).
- For libraries with 9x40As that are close to maximizing either drive count or slot utilization, upgrading to T9840Cs can delay the need to purchase an additional library because of the increased performance and capacity of the 9840C drives and media.

When were the drives acquired? Were they leased or purchased?

- Older installations that are upgraded to T9840Cs will produce an overall TCO/ROI benefit.
- Recently acquired 9840A drives are less likely to result in a positive business case.
- Leases may seem viable, but pay close attention to the buyout options. A high buyout position in an existing lease will make the business case less financially attractive.

How much media are you buying per year and how much media are you currently using?

- Since a drive upgrade creates surplus cartridges and reduces demand for future cartridges, media acquisition costs are typically one of the largest savings areas.

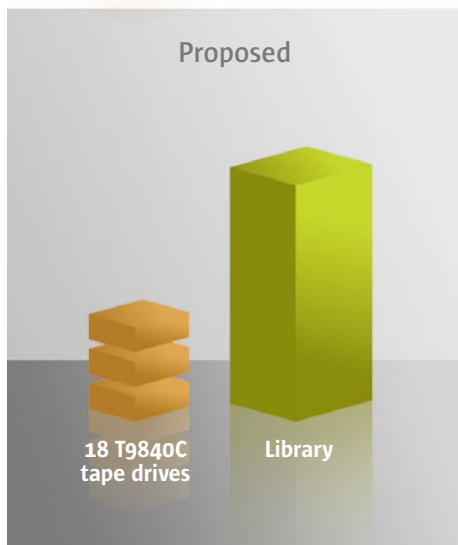
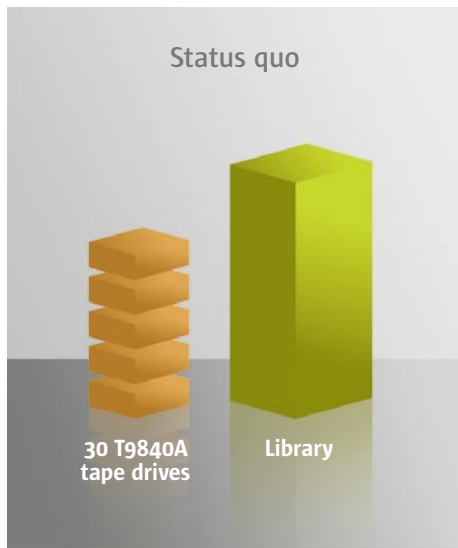
What is your storage growth rate? How do you plan to address it?

- Since a high storage growth rate increases the demand for media, doubling the capacity of each cartridge could cut the demand for future cartridges in half.
- If you are experiencing low storage growth rates with a large media installed base or high media archive rate, consider a T9840A upgrade to a T9840C because the higher cartridge capacity can reduce the floor space or allow library consolidation.

What are your hardware acquisition plans for the next two to three years based on storage growth?

- The higher capacity 9840C drives will often reduce the need to acquire additional 9840A drives, especially if you are looking to improve disaster recovery times.

Example Scenario



Key assumptions:

The following assumptions were used in this hypothetical model:

Global assumptions:

- Planning horizon: 3 years
- Data growth rate: 35 percent compounded
- Cost of capital: 10 percent
- Acquisition method: purchased
- Percent of offsite cartridges moved offline (offsite/vaulted) and back: 80 percent
- Staffing: two FTE operators

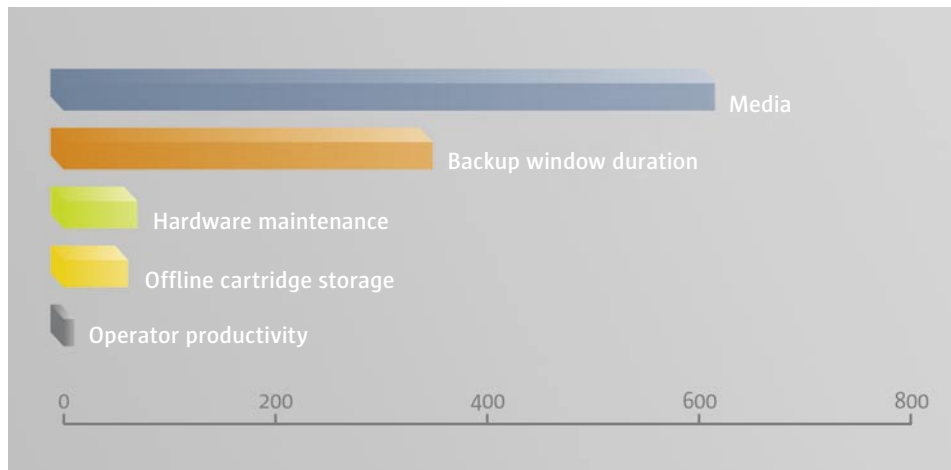
Status quo assumptions	Proposed assumptions
30 x T9840A with 12,000 cartridges (initially)	18 x T9840C (reuse 12,000 cartridges)
Maintenance inflation rate: 7%	Maintenance inflation rate: 0%
Average data recovery time: 1 hour	Average data recovery time: 0.8 hours
Backup window: 6 hours/day	Backup window duration: 4.5 hours/day
	Operator productivity improvement: 5%

Results:

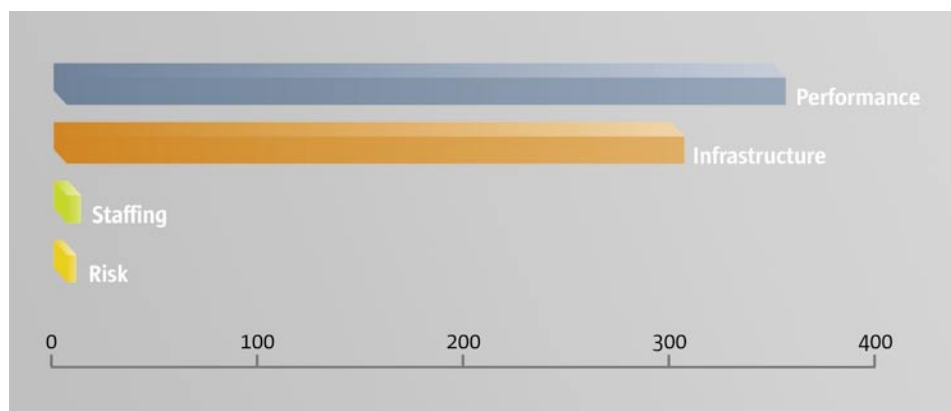
Top five value drivers	Net present value (K)
Media	\$618
Backup window duration	\$357
Hardware maintenance	\$80
Offline cartridge storage	\$73
Operator productivity	\$10

Financial metrics	
Investment, thousands	\$672
Return on investment (ROI)	102%
Net present value (NPV), thousands	\$688
Internal rate of return (IRR)	51%
Payback, months	21
Cost of three-month delay, thousands	\$17

Key Advantages



Value Meter



Summary

In summary, by upgrading T9840A drives to T9840C drives at our hypothetical facility, the following major benefits could be realized:

Media

- Fifty percent reduction of overall cartridge requirement from 25,230 units to 12,615 units due to increased cartridge capacity.
- Savings of \$618,000 because only 615 additional cartridges are required over the three years and 12,000 of the initial cartridges can be reused.
- No cartridge change or upgrade, unlike switching to another drive technology.

Backup window duration

- Savings of \$357,000 by reducing backups from 6 hours to 4.5 hours, due to increased drive speed.

Hardware maintenance

- Savings of \$80,000 in lower maintenance fees due to fewer, newer drives.
- Lower maintenance inflation rate over next three years because of new technology.

Offline cartridge storage

- Number of cartridges required decreased by 12,615.
- More data can be stored in the library and less data needs to be stored offline, due to increased media capacity of 9840 cartridges after conversion.
- Fewer transfers of archived tapes from offsite to library.
- Less vaulting costs.

Operator productivity

- Fewer cartridges to manage onsite and in library.
- Fewer transfers of archived tapes from offsite to library and back.
- Savings of \$10,000 with an assumption of two FTE operators and a 5 percent increase in productivity.

While not illustrated in this purchase-based example, a lease could shorten your payback period and lower your initial investment.

Other potential value benefits include faster data recovery speed and reduced business risk. Like the other value drivers, these areas depend on your exact situation and environment.

The Storage Value Synopsis, created using the Storage Value Tool, “the Tool,” provides an illustration of the potential ROI, TCO and other financial results a customer may achieve by implementing various storage solutions. The results shown are based upon application of the assumptions described to the particular data input. Actual results may vary depending on factors including the accuracy of the assumptions and the data. The information provided by the Tool is directional only and is not a Sun proposal or guarantee of results. The Tool is not intended to provide financial, accounting, legal or tax advice. Sun does not guarantee the timeliness or completeness of the information provided by the Tool or warrant any results from your use or reliance on the information.

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