



STK Announces Availability of New Library — Targeted at Backup/Restore Requirement

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Management Summary

Data centers today are being stretched thin in an attempt to control the ABCs of the three most important infrastructure activities within every Information Technology (IT) environment: Archiving, Backup/Recovery, and Consolidation. Every day, the data security demands are extended in terms of the number of terabytes that the IT staff is mandated to protect, without any commensurate increase in staffing. Mergers and acquisitions extend the number of customers and the number of vendors, increasing the database. New federal regulations, such as Sarbanes-Oxley and HIPAA, are gaining acceptance as de facto standards for corporate governance and IT best practices increasing the amount of data to protect. Therefore, even if your enterprise isn't expressly targeted, it makes sense to examine enterprise vulnerability. This is especially true for some of the new privacy and data sharing laws that have recently been enacted. On January 1, 2005, S.B. 27 – California Civil Code Section 1798.83 – went into effect. This bill, referred to as the *Shine the Light Act*, imposes specific disclosure and notice requirements on businesses that share customers' personal information with others for marketing purposes, where those customers were residents of the State of California.

A series of pervasive questions need to be addressed.

- *How can the data center modify existing enterprise procedures to backup the enterprise within a static window of opportunity without increasing human resources?*
- *How can the enterprise support expanding proprietary mainframe demands and the commodity open systems servers that are proliferating within the same environment?*
- *How can the data center expand the existing tape library to provide higher capacity and more throughput while protecting the investment that the enterprise has sunk into this mechanical marvel?*

One company has addressed this dilemma head-on – StorageTek (STK).

STK has modified their existing family of L-Series Tape Libraries with the introduction of the *L1400M*, a library based upon, and replacing, their earlier *L700e*. By basing new capabilities upon an existing model, STK has protected the investment that the enterprise data center has made in StorageTek, while at the same time expanding its capability. STK has also extended the flexibility and growth characteristics of the *L700e* to enable the data center to share this valuable resource between both their proprietary and commodity environments. If your data center needs to dynamically share library resources between *T9x40* cartridges and an open systems community using *SDLT* and *LTO* tapes, please read on.

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A Stressed-Out Data Center

The ultimate measuring stick of the worth of the data center manager is the manner in which he or she evolves the data center to keep pace with the changing demands of the enterprise, while remaining under tight budget control. The continuing proliferation of new servers into the processing environment has contributed to rapid data growth, exceeding the capability and the capacity of the existing environment. The implementation of a sound Information Lifecycle Management (ILM) policy can help to identify the differences between primary and secondary data, but additional physical resources will still be required to handle the increased workload. No matter how you look at the enterprise, data has stretched IT resources to the very bone.

The requirement to secure and preserve enterprise data has never been so clear or so loud. The “how” is not so clear. The server environment in many enterprises has been redesigned. This has resulted, for some, in a storage area network (SAN) interconnecting multiple open systems servers and storage devices, including both disk arrays and tape libraries. The tape library – the vault that holds all of the historical data for the entire enterprise - is bulging at its very seams. Not only has the existing library reached its cartridge limit, it is also clear that the increase in the amount of data being backed-up on a daily and weekly basis has outstripped the capability of the library to successfully complete its important mission within the timeframe allocated.

Three applications, when implemented, have had a positive impact on data center operation:

- In order to control costs, the data center needs to reduce the number of systems and storage administrators. Multiple systems must be **consolidated** into more efficient configurations;
- Secondary historical data, which is rarely accessed, must be **archived** to the library;
- A larger/faster tape library must be acquired in order to streamline the **backup/recovery** processes.

These infrastructure applications all are aimed at reducing or eliminating the problems causing pain throughout the enterprise. (See Exhibit 1, at top pf the next column.) The return on any new investment (ROI) must be able to be measured in terms of healing these pains and returning reliability to the data center.

Exhibit 1 – Data Center Pains

- The danger of an incomplete or failed backup through badly integrated backup/recovery procedures;
- The cost of over-provisioning the enterprise tape library to ensure that the data center staff always has sufficient resource to complete the task;
- The management of multiple devices doing the same function as a result of a data center complicated by mergers and acquisitions;
- The lack of a single controller for managing the backup and recovery process; and
- Obsolete hardware lacking the flexibility to transition to the newest technology.

Architectural Benefits

Any solution to the data center information morass must offer to the enterprise enhanced flexibility, excellent performance, and the management capability to control the entire backup and recovery infrastructure, including all of the integrated hardware and application software. This appears to be STK’s aim with the introduction of the *L1400M Tape Library* with its standard *Backup Resource Monitor (BRM)*, *continuous capacity* feature, *Any Cartridge Any Slot* mixed media technology, and high-performance robotics.

The L1400M is a high-performance automated tape library based upon the proven architecture of the L-Series, specifically, the *L700e*¹. With the L1400M, enterprises can maximize the value of their IT budgets across larger distributed environments. The Backup Resource Monitor greatly reduces the risk of a failed backup and comes standard on every L1400M. **The BRM is a management tool that provides the data center with a single, graphical view into the entire backup operation, from the backup application to the network devices to the tape library and all of its components.** This provides the data center staff with the tools it needs to handle capacity planning, backup failure analysis and problem resolution. The L1400M also comes with the optional *L-Series Library Admin Software*, an

¹ STK has a plan to provide a kit to upgrade installed L700e libraries to an L1400M during 1H05.

embedded web-based library administrative tool.

The *Any Slot, Any Cartridge* technology provides simultaneous non-partitioned support of multiple tape and media types. **It provides the enterprise with the flexibility that it requires in order to adjust the workload of the library between proprietary and open environments, ensuring that the backup application has the correct mix of resources at all times.** It leverages current tape assets; it simplifies technology transitioning; and it supports a seamless consolidation. All of this contributes to a reduced total cost of ownership.

Continuous capacity enables the acquisition of additional resources when they are needed. It reduces unnecessary capital expense and allows for the planning of incremental capital cost. In fact, you can scale capacity in 100-slot increments, non-disruptively, to manage growth and change quickly and cost effectively

Features of the L1400M

The L1400M sits within the STK product family between the SL500 and the SL8500². It should be considered whenever the initial capacity requirements call for a library of at least 400 cartridge slots or for data centers with high-expected growth rates, if the initial requirement is less. The data center should also consider the L1400M, whenever a high number of cartridge exchanges per hour are required or whenever high-performance drives, such as STK's *T9840* or *T9940*, are needed.

The L1400M can support up to 1,344 cartridge slots, with an initial entry configuration as low as 200 slots supported. With a mixed media capability including *SDLT 320* and *LTO-1* and *LTO-2*, as well as the *T9840* and *T9940*, the L1400M can support up to 268.8TB of data with *LTO-2* cartridges. **With the capability of supporting up to 40 *SDLT* or *LTO* drives within a dual-frame, the L1400M has a potential throughput of over 5TB/hour.** The L1400M also comes with a 20-slot cartridge access port (CAP), with a second CAP optional for an additional 20-slots.

In terms of reliability, the L1400M measures up well with a Mean Exchanges Between Failure rating of 2,000,000. The Mean Time Between

Failures is rated at 360,000 hours while the Mean Time to Repair is less than 30 minutes.

The differences between the L700e and the L1400M include the availability of the following features with the L1400M:

- Continuous Capacity;
- Library Partitioning;
- Pass-Thru-Port (PTP);
- Data Mover (Multi-Stream);
- Backup Resource Monitor Software; and
- Extended Library Management Software.

Conclusion

StorageTek is a recognized leader in the data storage solution arena, and they have been for over 30 years. They are not only a leader, but they are also an innovator in all phases of tape library technology, including a broad portfolio of tape drives and management software. With support by more than 75 tape management software vendors, the L1400M provides your data center with the interoperability it requires in order to provide consolidated services to an enterprise network.

The L1400M can also provide your enterprise with the kind of reliability that it demands; the kind of reliability that you would expect from StorageTek. Not only reliability, STK provides the reputation for superior service, not only remedial, but also value-add – to enable the implementation of the solutions that you require.

If you already use STK library products then you are well aware of their reputation. If you currently use another vendor, you need to invest the time for due diligence to compare the capabilities of the L1400M and see how this library can restore a sense of order to the enterprise data center.



² See **The Clipper Group Navigator** dated July 15, 2004, entitled *Tape Consolidation in the Data Center – STK: Ready, Willing, and Very Able* at <http://www.clipper.com/research/TCG2004060.pdf>.

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