



## ADIC Continues Tape Leadership Role — Delivering Automation Solution to Mid-Range

Analyst: David Reine

### Management Summary

When a family with young children begins the search for a new home, one of the most important factors in the search is the local school system. Parents are always concerned about the quality of education that their children receive. Factors that are considered are sometimes quantitative, such as the number of pupils in the classroom or the student/teacher ratio. Another may be the number of math and science specialists. Sometimes the questions are more qualitative regarding the curriculum or the attention to the specific needs of individual students. In any public school classroom, for example, there will be some students who come from well-to-do homes and others who lack resources. Many school systems will implement programs to provide in-school meals or waive fees for extra-curricular activities for those who cannot afford them. Others may provide special projects or activities for those with special aptitudes or athletic skills. Unfortunately, many times, the average students, those in the middle, lack the physical or academic skills to make the team, and do not qualify for financial aid.

A similar situation exists within the Information Technology (IT) community where enterprises are often categorized according to size for the attention of their systems providers: small businesses, mid-range companies, and Fortune 500 enterprises. We have always, and will always, see the major vendors developing products for the largest enterprises, chasing the large pot of gold at the end of the technology rainbow. More recently, we have seen these same vendors, along with a host of others, chasing after the plethora of smaller businesses that have sprung up across the internet. Although the individual rewards are small, there are so many of these smaller businesses that the ROI for systems configured for them is great. This leaves the middle ground, the mid-sized business, to have to settle for a network of entry-level systems, each with a relatively low-cost but complex infrastructure, or a stripped-down enterprise system with excellent functionality but an unduly high cost. If we look at the storage market, specifically tape, we see a similar story. Except here, **ADIC has broken new ground for the mid-sized enterprise with a new automated tape library, complete with the configurability and functionality that a mid-sized enterprise needs to control the total cost of ownership issues.** If you wish to learn more about ADIC's new *Scalar i500*, please read on.

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## Mid-Sized Data Center Issues

First of all, let's establish one point loud and clear: **Tape is not dead!** Far from it, tape is alive and well and living throughout enterprises of all sizes. It no longer exists everywhere as the sole backup resource as it once did, but it remains a vibrant medium for backup, recovery and archiving. While many businesses are evolving to a D2D2T environment to enjoy the benefits that can be achieved in a disk-to-disk backup architecture, **tape, the "T", still represents the most economical vehicle for backup, archiving and disaster recovery for a vast majority of enterprises, with a lower total cost of ownership (TCO) than alternative storage media.** The main issue for the mid-sized data center is to find a tape library tailored to the unique size and functional requirements that it needs with the right cost profile. Trying to force-feed an enterprise-class library automation system into this environment simply doesn't work – the cost structure is too high. On the other hand, trying to cobble together enough capacity using a mélange of entry-class tape drives and autoloaders isn't a good solution either. The cost of the individual components might be satisfactory, but the TCO of managing and maintaining this complex of heterogeneous storage devices will easily crash your patience as well as your budget. What are the underlying storage problems that keep you up at night? These are the issues, in no specific order.

- **Reliability** – It is important that all of the files scheduled for the overnight or weekend backup be saved *completely* and *correctly*. Even more important, the data center must be able to rely upon their library for an accurate recovery when a file is lost. Problems with recovery will cost your enterprise in both time and money.
- **Growth** – When you combine the storage requirements generated by the adherence to industry and governmental regulations, along with the evolving capacity needed to handle customer expansion, mergers, and acquisitions, the need for a *scalable* tape automation platform becomes preeminent. How can your enterprise manage these rapidly expanding storage requirements? How quickly can your existing library respond to the changing environment around it? Can users from a variety of heterogeneous servers gain access to it? It is essential to have a platform that can sit on a storage area network (SAN) and add capacity on-demand to meet management service guarantees.
- **Time** – How can the staff reduce the number of hours required to manage a network of servers, all with backup requirements? In addition, if the overnight backup has to be completed prior to 8:00 a.m. in order to provide data access to first shift mission-critical applications, you have no wriggle room. The library must be able to support the

fastest commodity drives, with the capacity to add more of them, in order to have the flexibility to scale data throughput, as well as cartridge slots.

Your storage requirements are constantly evolving. *Is your tape library?*

## The Scalar i500 Library

The ADIC *Scalar i500* is an intelligent midrange library platform designed with an integrated server-class controller, running ADIC's *iPlatform*<sup>1</sup> library architecture for enhanced serviceability and *iLayer* tools for built-in midrange management. The Scalar i500 delivers outstanding scalability with capacity on demand to eliminate the problems caused by a limitless proliferation of information.

The Scalar i500 comes in a variety of pre-configured, rack-mounted base models, so that the right model can be delivered to the right place at the right time. (See Exhibit 1, at the top of the next page.) In addition to the flexibility provided by a choice of base models, ADIC also provides even more scalability through the installation of additional 9U expansion modules, each with support for four more *LTO* drives and 92 additional cartridge slots. A fully-configured Scalar i500 will support up to 18 *LTO-2* or *LTO-3* drives<sup>2</sup> and up to 404 cartridge slots, connected to the server network via Fibre Channel or an LVD SCSI interface. Your enterprise can install an entry-level Scalar i500 in a workgroup or in a remote office and expand it to a midrange data center installation, via a fast, efficient, and above all, easy mount procedure. This preserves the investment that your enterprise has made in hardware, software, and training. All of the tape cartridges and drives operate as a single library and are served by a single, self-aligning, continuous robotic system to provide for high performance, high reliability and easy service access, with a mean-time-to-repair (MTTR) of 30 minutes. In fact, the Scalar i500 can inventory 128 cartridges in 25 seconds.

For every Scalar i500 larger than the smallest 5U system, users can select a capacity-on-demand configuration that includes extra tape storage positions that are physically present in the library but not activated. Users then add capacity non-disruptively by purchasing a software authorization key, adding tape positions in increments of 46. The 9U expansion modules also support capacity-on-demand growth – each expansion module can contain 0, 46, or 92 authorized tape positions when installed. This enables the data center with the flexibility to support a storage capacity of as little as 7.2TB of uncompressed data, via *LTO-2*, or as large as 232TB of compressed storage, via *LTO-3* cartridges. In addition, the Scalar

<sup>1</sup> See **The Clipper Group Navigator** dated April 14, 2005, entitled *The ADIC i2000 – More Than Just Another Tape Library* at <http://www.clipper.com/research/TCG2005021.pdf>.

<sup>2</sup> Support for SDLT drives is TBD.

### Exhibit 1 – i500 Building Blocks

- **5U Base System** – 2 LTO drive positions and 36 cartridge slots;
- **14U Base System** – up to 6 LTO drives and up to 128 cartridge slots;
- **23U Base System** – up to 10 LTO drives and up to 220 cartridge slots; and
- **9U Expansion Module** – up to 4 LTO drives and 96 cartridge slots.

i500 will support a throughput of 35MB/ sec with a single uncompressed LTO-2 drive, or as high as 10TB/hour with 18 LTO-3 drives. This gives the midrange data center staff the flexibility to size the library to the backup window, ensuring mission-critical application access to the data needed.

### The iLayer Solution

One of the features that makes ADIC's *Scalar i2000* enterprise library so attractive is the integrated iLayer management approach that allows you to set-up, manage, and service it more easily than conventional libraries<sup>3</sup>. With the availability of the Scalar i500, ADIC has delivered these features at a cost and scale that makes them attractive to midrange users.

The Scalar i500 was designed to be installable and serviceable by the data center staff. To enable this, ADIC has added a broad range of setup, access, and service wizards to enable fast and easy access. The iLayer software solution for the Scalar i500 provides support for native partitioning, mixed media, and connections to SANs scaled to it. ADIC has implemented a proactive remote monitoring complete with alerts to prevent most problems and remote diagnostics to resolve them faster. **The remote alerting function has been designed to report exceptions before they cause an interruption to service.** A partial list of monitored events is itemized in Exhibit 2, below. ADIC's approach to diagnostics is tailored to cut the number of service calls in half and reduce the resolution time by 30%. With thousands of events and conditions being initiated

### Exhibit 2 – Scalar i500 Remote Alerts

- **Faulty Media/Drives** – based on error rates and history;
- **Expired Cleaning Tape** – to prevent shortened drive life;
- **No Magazine in I/E Station** – to prevent a system hang;
- **Outdated Drive Firmware** – to prevent operational problems; and
- **Off-Line Partition** – could prevent backup job being initiated.

both by sensors and by logic, the Scalar i500's *Relational Diagnostics* analyzes system logs and emails a full data report to the service team, identifying issues and next steps to be taken. **The ADIC service team then has the opportunity to proactively call the data center with the resolution to a problem that the data center staff did not know about - before a service interruption could occur.**

The iLayer management software provides native support for the leading Storage Resource Management (SRM) tools, such as EMC's *ControlCenter*, through an industry standard SMI-S interface<sup>4</sup>. It also provides support for disk, allowing users to employ multi-tier Information Lifecycle Management (ILM) environments, such as D2D2T, to reduce the TCO of the SAN.

### Conclusion

We often look to industry leaders for breakthrough technology to improve the process, the way we do things, or the price/performance. Many times we are disappointed, as the industry leader rides on the coattails of success and does not innovate until forced to by the challenge of competitors breathing down their collective neck. This is clearly not the case with ADIC. As an industry leader in intelligent storage solutions, ADIC has recognized a gaping hole in the midrange tape automation arena, and in their own product set as well, and has moved to fill it.

With November availability, **the Scalar i500 is the first midrange, open systems library to provide the flexibility to grow from 36 slots to more than 400.** With capacity-on demand expansion to minimize acquisition costs and provide unique TCO benefits from both hardware modularity and software support, it supports proactive monitoring of all system components. With a potential throughput in excess of 10TB/hour, the Scalar i500 can make short work of any backup. Moreover, with a sophisticated system management suite installed, the data center can keep the Scalar i500 operational to ensure a successful and timely completion of any backup or recovery procedure.

If you have been struggling with a patchwork of heterogeneous tape backup platforms and insufficient systems management software and are looking for a complete, integrated solution, look at the Scalar i500 from ADIC. It may enable you to archive your problems and sleep a little longer tonight, knowing that your data center is well protected.



<sup>3</sup> See bulletin on Scalar i2000 referenced in footnote #1.

<sup>4</sup> Any application which supports SMI-S tape profiles will be supported.

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- ***The Clipper Group can be reached at 781-235-0085 and found on the web at [www.clipper.com](http://www.clipper.com).***

### ***About the Author***

***David Reine*** is Director, Enterprise Systems for The Clipper Group. Mr. Reine specializes in enterprise servers, storage, and software, strategic business solutions, and trends in open systems architectures. He joined The Clipper Group after three decades in server and storage product marketing and program management for Groupe Bull, Zenith Data Systems, and Honeywell Information Systems. Mr. Reine earned a Bachelor of Arts degree from Tufts University, and an MBA from Northeastern University.

- ***Reach David Reine via e-mail at [dave.reine@clipper.com](mailto:dave.reine@clipper.com) or at 781-235-0085 Ext. 123. (Please dial “123” when you hear the automated attendant.)***

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