

Managing the information that drives the enterprise

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The fourth Diogenes Labs-Storage magazine Quality Awards are for tape libraries, and users have indicated a high level of satisfaction for these backup mainstays, citing Sun StorageTek and Spectra Logic as the top libraries. By Rich Castagna and Phil Goodwin



TOP TAPE LIBRARIES REVEALED

RECENT DIOGENES LABS-STORAGE MAGAZINE QUALITY AWARDS HAVE RUN counter to conventional wisdom as lesser-known vendors and products have trumped established market leaders. But the underdogs didn't prevail in the tape library category of our awards, where Storage Technology Corp. (StorageTek, now Sun Microsystems Inc.) scored a solid one-two punch—ranking first in the enterprise-class category and second in the midrange category.

Looking at the results from our various Quality Awards—StorageTek's ranking in this tape library survey, StorageTek's win among midrange disk arrays and Sun's strong second-place showing among enterprise-class storage arrays—one would have to conclude that the Sun/StorageTek combination bodes well for storage users. It should be noted that the Sun libraries included in our survey are OEM versions of StorageTek libraries.

**HEALTH NET'S CRAIG HOLT LIKES THE
SCALABILITY OF HIS STORAGETEK SL8500,
WHICH CAN EXPAND
TO 6,000 TAPES IN A SINGLE FRAME.
"THE UPWARD SCALABILITY,"
SAYS HOLT, "IS PHENOMENAL."**

However, StorageTek's strong showing in both categories doesn't overshadow Spectra Logic Corp.'s first-place win in the midrange libraries category. In a field populated by much larger competitors, Spectra Logic users indicated strong satisfaction across all categories of our survey. The high approval ratings bolster the perception of the company as having innovative technology and engineering acumen, even though it may not enjoy the larger market presence of some of its competitors.

[Storage Inc.]”

The majority of responses to this survey fell between 5.2 and 6.5, a broader range than in previous surveys. We were impressed by this relatively high norm. Tape libraries are mechanical devices that one might expect to break more frequently than all-electronic systems, and we therefore expected lower overall scores. Moreover, this range was significantly higher than another key component of data protection—backup and recovery (B/R) software. With backup generally

INITIAL QUALITY, AS WELL AS ONGOING QUALITY, HAS BEEN A SORE SPOT FOR MICHAEL SLEEMAN, DIRECTOR OF TECHNOLOGY AT HANBURY EVANS WRIGHT VLATTAS & CO.

Survey specifics

Our survey of tape library users yielded 554 product evaluations from 383 respondents. Although StorageTek predictably had the largest number of responses, total responses were well distributed across all major manufacturers and consistent with market share.

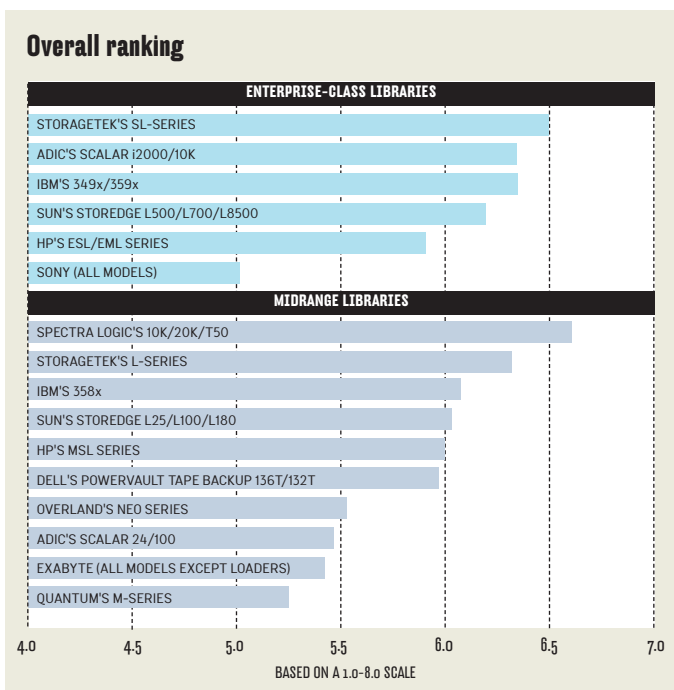
Tape libraries are commonly sold through channels, and 57% of systems were purchased from a VAR—the highest percentage we've seen to date. “We work with a third-party, and the VAR has been instrumental,” says Michael Bembenek, director of IT in the infrastructure program management group at Dublin, CA-based Sybase Inc. “We employ them to keep track of the records and to expedite meetings with Overland

regarded as the most error-prone and troublesome component of storage environments, software and media apparently bear the brunt of the blame, while tape libraries aren't considered a significant source of most problems. Users accept that a certain level of maintenance will be required for these devices, so perhaps their expectations are adjusted accordingly. “We work them pretty hard and they break occasionally, but they're mechanical devices,” notes Dan Sitler, lead software programmer at Hobart Corp., Troy, OH.

Sales competence

None of our surveys, thus far, has revealed a significant difference in user satisfaction when the system is purchased directly from the manufacturer vs. from a VAR. This proved true with tape libraries as well, although responses indicate that a VAR is more likely to be a supplier of a tape library. StorageTek users purchased 50% of their SL-Series systems from VARs, the second lowest percentage in the survey (48% of IBM Corp.'s large libraries were sold through VARs). For Spectra Logic, however, 78% of survey respondents purchased their systems through VARs.

In the sales competence ranking section, the midrange Spectra Logic 10K/20K/T50 received its highest scores for “My sales rep is flexible” (7.09), “My sales rep is easy to negotiate with” (6.91) and “The vendor's sales support team is knowledgeable” (6.91). The company's overall sales competence score of 6.79 was the highest score in any section for any product. Although these scores reflect favorably on Spectra Logic resellers, it also reflects well on the company's VAR training and support programs. Although StorageTek's SL-Series came in first in this section for enterprise libraries, it was its lowest score out of all the categories. StorageTek's L-Series also placed second among overall midrange library vendors (with a 6.32),



MANUFACTURERS DEVOTE SIGNIFICANT RESOURCES TO IMPROVING TAPE LIBRARIES' USER INTERFACES WITH TOUGH SCREENS, COLOR AND OTHER USABILITY FEATURES.

where 53% of systems were purchased through VARs. Across the board, sales competence ratings were generally quite high, with three enterprise-class and four midrange systems garnering a score of at least 6.0.

The tape library market is crowded and competitive, so companies have many options when shopping for a device. A specific technology may often be the driving force that steers an organization to a

particular vendor. Hobart's Sitler recounts that the company considered Exabyte Corp. and StorageTek among others before settling on an IBM library. "They were one of the original LTO people," says Sitler, "and our consultants told us that was the way to go." Although Sitler liked StorageTek's LTO offerings, size was a factor in the decision. "The StorageTek units we were looking at were bigger and therefore more expensive, and really couldn't be justified on that basis," he says.

In another instance, the size of a StorageTek box helped clinch a sale. "The size of the [StorageTek] library allows us to share it and leverage it among many different servers," notes Craig Holt, a senior systems engineer at Health Net Inc., Folsom, CA. "That one library is able to replace a number of the smaller libraries we have."

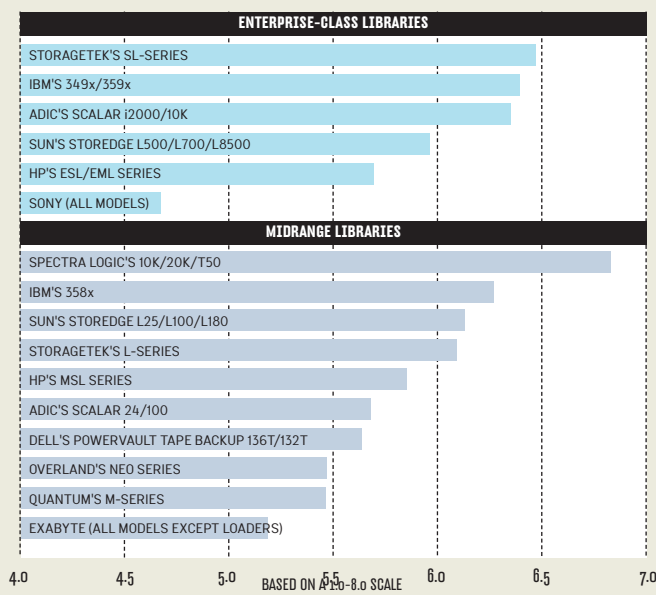
Product features

The most important features of tape libraries are related to flexibility of configuration and usability. In our survey, we asked users about their experience with the user interface, tape insert/eject and scalability. In this category, Advanced Digital Information Corp.'s (ADIC's) Scalar i2000/10K bested StorageTek's SL-Series (which was fourth with a score of 6.50) as the highest rated enterprise product. ADIC's 6.69 rating was the highest among all products, both midrange and enterprise, for this section. In fact, this score was the highest of any section score among enterprise products.

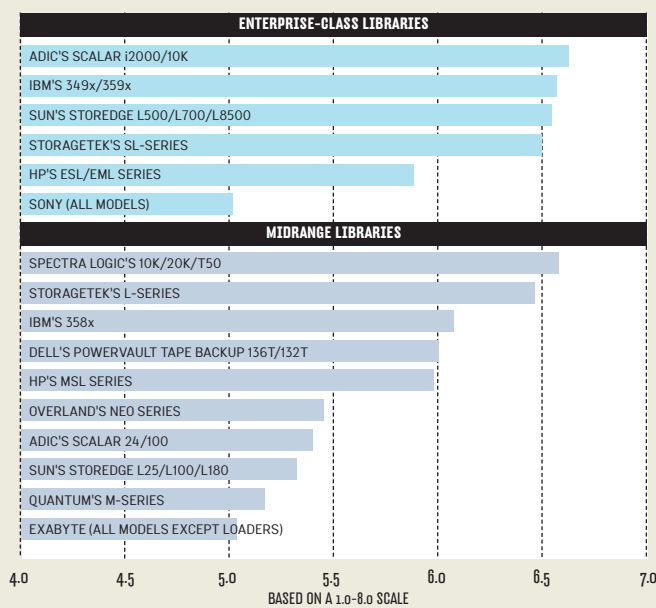
Spectra Logic's 10K/20K/T50 scored a 6.60 to lead the midrange library pack.

Library upgrades frequently involve time-consuming and difficult "box swaps." Manufacturers have spent considerable engineering effort to improve scalability. The highest rated products in this aspect were ADIC's Scalar i2000/10K (7.04) in the enterprise class, and Spectra Logic's 10K/20K/T50 (6.57) among the midrange products. For the statement "Overall, this product meets my needs," ADIC's Scalar i2000/10K led all products with a 6.96. Manufacturers also devote significant resources to improving tape libraries' user interfaces with touch screens, color and other usability features. In response to the statement, "I like this product's user interface," ADIC's Scalar i2000/10K again nabbed the overall high score with a 6.58; on the midrange side, Spectra Logic nearly matched that score with a 6.57.

Sales competence ranking



Features ranking



Health Net's Holt says a tape library's user interface is an important feature that can ease—or frustrate—system management. With both Hewlett-Packard (HP) Co.'s Enterprise Systems Library (ESL) and StorageTek's SL-Series libraries installed, Holt favors the SL's interface. "The StorageTek library is controlled by a separate server that has a full-blown interface a user can access, instead of just a front-panel control that's available on our HP libraries," he notes.

Tape libraries that can cost-effectively scale to meet growing data demands also receive high marks. Although generally satisfied with the Overland NEOs he has, Sybase's Bembenek cited some difficulties with scaling. "The design wasn't very modular where you could just keep adding tape drives on top of each other," says Bembenek. The company recently evaluated Overland's disk-based REO backup appliance, which addresses some of its scalability issues.

Initial quality

The initial quality portion of our survey assesses how easy a product is to install, configure and place into service. Initial quality was the highest rated section in the survey. Even as the lowest rated product among enterprise products, Sony Electronics Inc. scored well above its other section scores with a favorable 5.86. Six out of the 10 midrange products had scores that exceeded 6.0, which was more than in any other section.

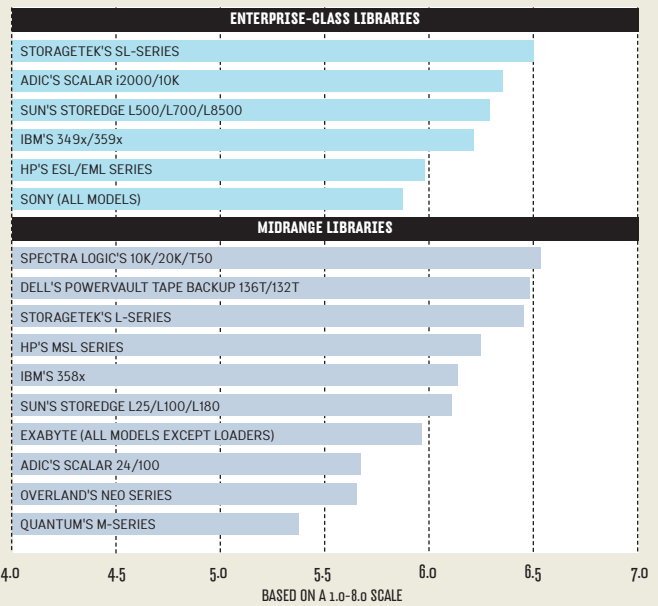
One particularly compelling statement in the initial quality section is "This product offers good value for the money." Even though StorageTek is rarely the low price leader, its SL-Series products were rated highest among enterprise products (6.59); StorageTek's midrange L-Series also led the other midrange products for this statement with a 6.44. Users also believe ADIC offers a good value, giving its enterprise-class i2000/10K products a 6.45 rating.

Because B/R is a labor-intensive task, we wanted to see which product minimizes the ongoing effort, so we asked users to respond to the statement "This product requires very little daily intervention." Respondents rated the StorageTek SL-Series highest among enterprise products and best overall with a 6.69. Spectra Logic's 10K/20K/T50 products topped all midrange libraries with a 6.57 rating for this statement.

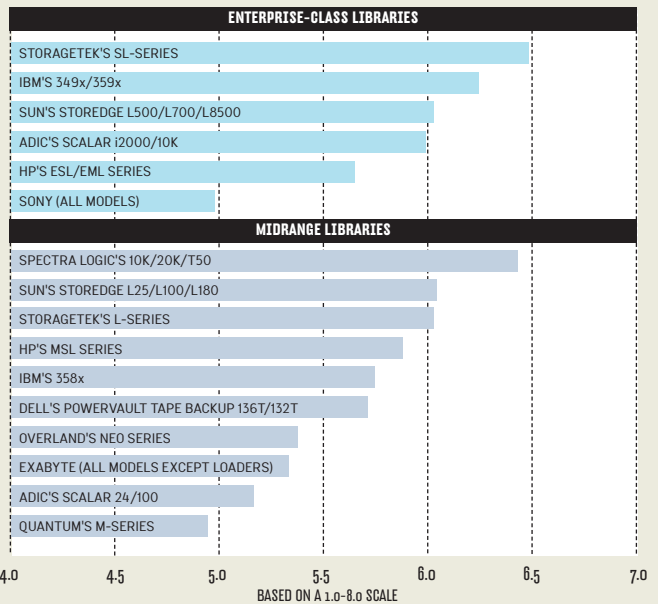
Initial quality, as well as ongoing quality, has been a sore spot for ADIC Scalar 24/100 user Michael Sleeman, director of technology at Hanbury Evans Wright Vlattas (HEWV) & Co. in Norfolk, VA.

"I tried to make sure everything was going to work ahead of time—I didn't want any problems," says Sleeman. In preparation, he confirmed with ADIC that its system was compatible with his backup application and interface card, but Sleeman's problems began almost immediately. "They sent me three different drives; after the third one, they sent me a whole new library," he says. Worse yet, the three ven-

Initial quality ranking



Reliability ranking



dors blamed each other's products for the compatibility difficulties. "It's always somebody else's problem," laments Sleeman.

Reliability

Our product reliability section focuses on ongoing operations. In our disk array surveys, patch applica-

tion issues caused the most dissatisfaction among respondents. This was also true for tape libraries. Of the 16 product finalists in our survey, only three scored a 6.0 or higher for the statement "Patches/updates can be applied to this product non-disruptively." StorageTek's SL-Series and Sun's StorEdge L500/L700/L8500 systems (identical products), each managed to score 6.0 for this statement among enterprise systems. Spectra Logic's 10K/20K/T50 midrange products scored best with a 6.36. All other products were below 6.0, with Sony libraries (4.96) and Quantum Corp.'s M-Series (4.91) bringing up the rear in their respective enterprise and midrange categories.

Failed backups not only make maintaining storage significantly more difficult, they also place data at risk. Therefore, we asked users to respond to the statement "This product is rarely the cause of backup failure." Here again, StorageTek's SL-Series enterprise products (6.36) and Spectra Logic's midrange 10K/20K/ T50 products (6.43) distinguished themselves among otherwise disappointing scores; no other product scored above 6.0.

Error handling is an important aspect of maintaining a tape library, as well as a measurement of product reliability. Though happy with his IBM 3583 library, Hobart's Sitler would appreciate some improvements in its error-notification functions. "I would have it e-mail when it had an error rather than just put something onscreen," he says. Sitler uses Tivoli Storage Manager (TSM) with his 3583, but notes that "a lot of times there are lower level errors before TSM notices and it would be nice to hear about those."

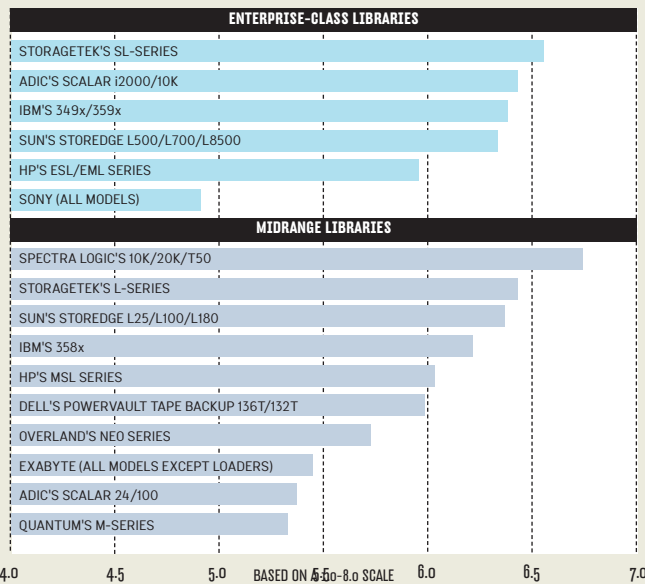
Technical support

In previous surveys, technical support wasn't a significant differentiator among vendors. For tape libraries, however, there was a wider range of scores suggesting that technical support may be a factor in vendor selection. Eight support-related statements were included in the survey.

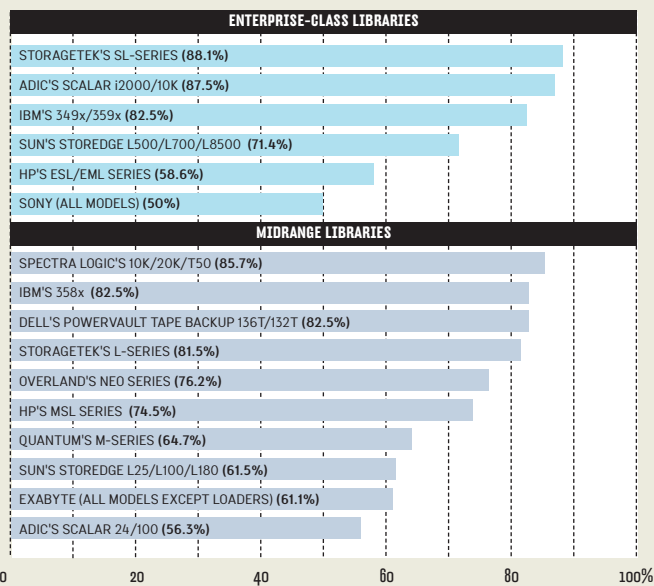
Among enterprise products, four vendors scored 6.0 or higher on every item in the support section: ADIC, IBM, StorageTek and Sun. Although five midrange products averaged higher than 6.0, only two scored 6.0 or higher on all eight statements: Spectra Logic and Sun. Spectra Logic was the only vendor to score 7.0 on any support issue, and did so twice for "This product is easy to service" and "The vendor takes ownership of the problem."

For some, support is the make-or-break issue of

Technical support ranking



Would you buy from this vendor again?



their overall product experience. Citing his service struggles, HEWV's Sleeman facetiously says his ADIC library has "a nice case" and "tape loading is easy." But on a more serious note, he adds, "I'm not going back to these guys—it has been disappointing."

For the most part, our survey respondents didn't echo Sleeman's dissatisfaction. Although his StorageTek SL is still relatively new, Health Net's Holt is impressed. "[From] what we've seen so far, StorageTek service and everything is meeting our needs just fine." And Hobart's Sitler has managed to find some peace of mind because of the effective service he receives for his IBM tape library. "I'm pretty happy with it," he says. "I feel like I can go away for a week on vacation and not come back and be snowed under with problems."

Make the same choice again?

We also asked respondents to tell us if they'd purchase the same product again. It's important to note that this isn't a question about buying intentions, but rather a key measure of hindsight. On the enterprise side, 88.1% of StorageTek SL-Series users said they'd buy that product again—this was also the highest percentage among all library vendors in the survey (see "Would you buy from this vendor again?" p. 46). In the midrange arena, nearly 86% of Spectra Logic's 10K/20K/T50 respondents said they'd buy those products again. In previous surveys, the responses to this question often didn't match the rankings of the survey; for tape libraries there was a very close correlation between buy-again numbers and category winners.

Part of a backup solution

Tape libraries are one-third of the B/R solution, with B/R software and tape devices being the other two-thirds. By combining the findings of this survey with those from our B/R software survey, IT organizations can assess what combinations of components are likely to yield the most satisfactory system for their environments. ☉

Rich Castagna is Editor-in-Chief of Storage; Phil Goodwin is president of Diogenes Analytical Laboratories Inc.

Products included in our survey

The following products were included in Storage magazine's Quality Awards tape library survey.

Enterprise-class

- Advanced Digital Information Corp.'s (ADIC's) Scalar i2000/10K
- Hewlett-Packard (HP) Co.'s ESL/EML Series
- IBM Corp.'s 349x/359x
- Qualstar Corp.'s TLS-Series*
- Quantum Corp.'s PX-Series*
- Sony Electronic Corp. (All models)
- Spectra Logic Corp.'s 64K/T120/T950*
- Storage Technology Corp.'s (StorageTek, now owned by Sun Microsystems Inc.) SL-Series
- Sun's StorEdge L500/L700/L8500

Midrange

- ADIC's Scalar 24/100
- Breece Hill Inc.'s 16-/50-/100-PAK*
- Dell Inc.'s PowerVault Tape Backup 136T/132T
- Exabyte Corp. (All models except loaders)
- HP's MSL Series
- IBM's 358x
- Overland Storage Inc.'s NEO Series
- Qualstar's RLS-Series*
- Quantum's M-Series
- Spectra Logic's 10K/20K/T50
- StorageTek's L-Series
- Sun's StorEdge L25/L100/L180

*Not included in survey results because of an insufficient number of responses

About the survey

The Diogenes Labs-Storage magazine Quality Award for tape libraries is the fourth in our series of survey-based service and reliability awards. The Quality Awards are designed to identify and recognize products that have proven their quality and reliability in actual use. The results are derived from a survey of qualified Storage readers, who assessed products in five main categories: sales competence, product features, initial quality, reliability and technical support. Our methodology incorporates statistically valid polling that eliminates market share as a factor. Indeed, our objective is to identify the most reliable product on the market regardless of vendor name, reputation or size. Products are rated on a scale from 1.0-8.0, where 8.0 is the most favorable possible score.

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