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Upstart tops NAS vendors

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*In the second edition of the Diogenes Labs-*Storage *magazine Quality Award for NAS systems, top NAS vendors like Network Appliance and EMC scored well, but BlueArc emerged as the surprise winner.*

BlueArc Corp., an emerging vendor that has toiled in relative obscurity since 1998, steps into the spotlight in our 2007 Diogenes Labs-*Storage* magazine Quality Award NAS survey by beating out larger, more recognized competitors and winning the enterprise award. We spoke with many enthusiastic BlueArc Titan SiliconServer users, which suggests the victory isn't a statistical anomaly. The result has ended Hitachi Data Systems (HDS) Corp.'s string of victories for enterprise storage Quality Awards at three. While HDS' enterprise NAS entry led the pack last year--and its enterprise storage arrays have taken top honors twice--there wasn't a high enough number of HDS survey respondents for consideration this year.

"We shopped around for a couple of years," says Ken Juneau, IT lead at Meteor Studios, a Montreal video visual-effects studio. "Finally, we got the BlueArc in and everything has been smooth." For nearly three years, the system has stood up to the company's rigorous application environment and surpassed reliability expectations. "I've been very satisfied with everything so far," says Juneau.

Network Appliance (NetApp) Inc., whose name is almost synonymous with NAS, fell to third this year among enterprise finalists with its FAS900/FAS3000 systems. Sun Microsystems Inc., which is far less-frequently associated with NAS systems, placed a respectable second with its StorEdge 5310 NAS appliance/StorageTek 5320. EMC Corp.'s Celerra and Hewlett-Packard (HP) Co.'s StorageWorks Enterprise File Services (EFS) rounded out the overall rankings in the enterprise NAS category (see the "Overall rankings" graph within the "Rankings of enterprise NAS," PDF).

Click here **for a graph showing the rankings of enterprise NAS (PDF).**

But NetApp wasn't left empty-handed in this year's survey. Among midrange NAS systems, NetApp's FAS200 repeated its "grand slam" of 2006 by coming out on top in every rating category. "There never really has been a reason to move from our existing environment," says Deepak Upadhyay, senior IT architect at Cadence Design Systems Inc., San Jose, CA. "That's why we tend to enhance with the latest and greatest from NetApp." Although the firm may shop around from time to time, Cadence Design Systems has more than 150TB of capacity on both enterprise-class and midrange NetApp NAS storage systems. "We do tend to test bleeding-edge [technology] with them pretty much all the time," adds Upadhyay.

Unlike the enterprise category, which saw two new competitors emerge (BlueArc and Sun), the midrange category had the same four finalists as last year. EMC's NS Series moved from third place to a solid second, followed by HP's ProLiant DL series servers and Dell Inc.'s PowerVault 7xxN.

NAS satisfaction
Based on the survey results, it's fair to say NetApp has again fielded the strongest lineup from top to bottom. EMC, HP and NetApp were all finalists in both the enterprise and midrange groups and, among the three,

NetApp ranked highest in both classes (just as it did in 2006). When we asked respondents if they'd buy the same system again--a retrospective assessment rather than an indication of future buying intentions--NetApp topped all midrange and enterprise NAS vendors (see "Would you buy this product again?" in the "Rankings of enterprise NAS," and "Rankings of midrange NAS," PDF). Among enterprise NetApp users, 86.9% of respondents said they'd make the same purchase decision, while 90.9% of its midrange users would buy again. The only other vendor to receive a rating higher than 80% was HP (85.2%). BlueArc had a "yes" rate of 77.3%. EMC NS Series added more than 10 percentage points to last year's rating, with 76.5% of its users saying they'd purchase the product again. We find the "buy again" results to be a strong indicator of overall customer experience, as it reflects a user's entire experience with the vendor.

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Click here **for a graph showing the rankings of midrange
NAS (PDF).**

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This year's range of category scores was very similar to last year's, with the majority of scores falling between 6.0 and 6.75. This indicates a generally high level of satisfaction for all systems. Some caution is required when comparing year-to-year numerical scores because many variables come into play, but it's still worth noting that EMC's scores increased considerably in both the enterprise and midrange categories. As in 2006, this year's midrange scores were higher than the enterprise scores.

On our rating scale of 1.0 to 8.0, 4.5 is a neutral rating; scores below that figure reflect a negative impression. Although we occasionally get such ratings in our surveys, that wasn't the case in the 2007 NAS survey. In fact, the lowest overall score was a 5.70 (HP's enterprise NAS product). While relatively lower than other vendors, that score is still substantially above neutral and reflects overall satisfaction.

Sales-force competence

We've found a high correlation between a vendor's scores in our sales-force competence section and its overall rating. Such was the case this year, with BlueArc and NetApp leading the enterprise and midrange groups, respectively (see the "Sales-force competence" graphs in the "Rankings of enterprise NAS," and "Rankings of midrange NAS"). Ironically, BlueArc's 6.73 in sales-force competence was its second-lowest category score, while NetApp's 6.63 was its lowest category score. Eighty-six percent of BlueArc respondents purchased their systems directly from BlueArc, while 60.6% of NetApp midrange users bought their systems from NetApp--which suggests that NetApp does a good job training its resellers. BlueArc's highest score for sales-force competence (6.95) was for the statement "The vendor's sales support team is knowledgeable." Coincidentally, NetApp's midrange NAS product received its highest score in sales-force competence for the same statement, but with a slightly lower score (6.79).

"At the beginning, we didn't really trust them," says Meteor Studios' Juneau, noting how other vendors tried to instill doubt about BlueArc's financial stability. Despite some uncertainty, BlueArc sold the firm on the strength of its product's performance. "We're techie guys," says Juneau. "We don't really look at how they're doing on Wall Street."

In contrast, second-place vendors had their best showings in the sales-force competence category. Sun scored a 6.61 in the enterprise group, while EMC scored a 6.44 among midrange vendors. Sun users apparently like the firm's sales reps, awarding them a 6.69 for "My sales rep is knowledgeable," "My sales rep keeps my interests foremost" and "My sales rep is flexible." EMC received a 6.75 for the statement "My sales support team is knowledgeable."

"I would rate our local sales team very high," says Dan Lah, systems analyst at Eli Lilly and Co., Indianapolis, and the tech lead for all NAS installations in the U.S. Lah manages approximately 150TB of NAS capacity, all on EMC systems. Already an EMC Symmetrix customer, Eli Lilly and Co. also turned to EMC for its file storage, but it wasn't simply a matter of convenience. "It's a good product," says Lah. "It wasn't just because we were an EMC shop."

Product features

BlueArc touts its Titan SiliconServer systems as "highly scalable" and users apparently agree, giving BlueArc its highest score in the enterprise product feature section (7.14) for "This product scales to meet my needs." These

users were also complimentary of the product's management functionality, giving it a 7.05 for the statement "This product's management features meet my needs."

"Personally I'm a command-line guy," says Meteor Studios' Juneau, "but I like the GUI on this [BlueArc] because it works really well." Juneau also likes the consistency between command-line and GUI operations. "Everything you do in the GUI, you can do on the command line."

NetApp's FAS900/3000, which came in second to BlueArc among enterprise NAS systems (see the "Product features" graph in the "Rankings of enterprise NAS"), received its highest score for the statement "This product's snapshot features meet my needs" (6.79). NetApp was exactly a point lower (6.14) than BlueArc on the scalability statement.

Among midrange systems, NetApp's 6.90 for product features was its second-highest section score (see the "Product features" graph in the "Rankings of midrange NAS," p. 26). It received ratings of 7.0 or higher on four statements. These were "This product's snapshot features meet my needs" (7.16), "This product's management features meet my needs" (7.09), "Overall, this product's features meet my needs" (7.03) and "This product's remote replication features meet my needs" (7.00). EMC's NS Series finished second in the midrange product features category, receiving its highest score (6.44) for "This product's mirroring capabilities meet my needs." It also got a solid 6.37 for "Overall, this product's features meet my needs."

Initial product quality

In the enterprise and midrange groups, two of the highest survey scores were registered for initial product quality (see the "Initial product quality" graphs in the "Rankings of enterprise NAS" and "Rankings of midrange NAS"). BlueArc received its highest section score (6.90), while NetApp posted the highest score (7.08) in any section for any vendor. In this category, we asked respondents to assess their experience with the product's ease of setup, defects, professional services and value. Out of the six statements posed in this category, NetApp's FAS200 scored a 7.0 or higher on five of them. The highest rating (7.28) was for "This product is easy to use."

"The product itself gets up and running pretty fast, and you can learn to administer it fast," says Fazil Saiyed, systems and storage engineer at Anixter Inc., Glenview, IL, referring to the company's NetApp FAS3050C that's being used in a mixed configuration supporting CIFS, iSCSI and Fibre Channel. "The process is nearly identical whether we use iSCSI or Fibre Channel," adds Saiyed. "It's just basically making the association from the SnapDrive software to the Network Appliance."

Ease of use must be something of a theme for NetApp FAS200 users, as respondents gave the statement "This product is easy to get up and running" a 7.19. Ironically, "This product offers good value for the money" was the only statement where NetApp's FAS200 scored below a 7.0. Even so, its 6.90 score was the highest of any enterprise or midrange product for this statement. The other three statements for which NetApp received a score of 7.0 or higher were "This product requires very little vendor intervention" (7.06), "I am satisfied with the level of professional services required for this product" (7.06) and "This product was installed without any defects" (7.0).

BlueArc's "value statement" score (6.80) was the best among enterprise products, with Sun's 6.69 a respectable third. BlueArc's best score in this section (7.05) was for "This product is easy to use." It also scored a 7.0 for "This product was installed without any defects."

Product reliability

The product reliability section characterizes how well a product has held up over time in actual use. We asked respondents to tell us how well the product delivers related to issues such as service levels, patch management and upgrades. Our previous surveys have revealed that patch management is an area of least satisfaction for users. Once again, this statement was a strong predictor of the overall order of finish.

BlueArc's highest score (7.0) in this section was in response to "This product requires very few unplanned patches." However, users were apparently not as pleased when patches were required, as they gave BlueArc its lowest score in this section (6.50) for the statement "Patches can be applied nondisruptively."

But Meteor Studio's Juneau hasn't been disappointed with the reliability or patch management of the firm's

BlueArc system. "It has never gone down," he says, and "we've only had scheduled maintenance and that's like a two-minute reboot. It's very reliable."

Sun, the second-place enterprise vendor in this category, had similar ratings. Its best score was for "This product meets my service-level requirements" (6.69), but it received a 6.13 on the nondisruptive patch issue.

Midrange NAS vendors met the same fate as their enterprise brethren. NetApp scored 7.0 or higher on every statement in the section except for the nondisruptive patch statement, where it received a 6.03. Among midrange products, EMC came in second to NetApp in the product reliability section, and received a 6.0 or higher on almost every statement. However, it, too, stumbled a bit with a 5.59 rating for the nondisruptive patches statement.

Technical support
The technical support section--which addresses users' experiences with their vendors' technical support--was the second lowest-rated section for BlueArc (6.73) and NetApp (6.75), as well as most of the other vendors (see the "Technical support" graphs in the "Rankings of enterprise NAS" and "Rankings of midrange NAS"). Apparently, users are satisfied but not thrilled with their technical support. However, BlueArc's enterprise product scored a 7.0 in this section for two statements: "The vendor supplies support as contractually specified" and "The vendor takes ownership of the problem." Among midrange products, NetApp's FAS200 had its highest score (7.10) for "The vendor supplies support as contractually specified."

"It's always been pretty consistent," says Lah of EMC's support of Eli Lilly and Co.'s Celerra and NS Series storage systems. "The 'sev 1' critical issues are treated very well; in my opinion, EMC does a great job on those."

In previous surveys, we've found technical support from third-party vendors to be as good as or better than the manufacturer's support. In this NAS survey, that wasn't the case. Both BlueArc (6.25) and NetApp (6.44) had their lowest scores in the section for the statement "Vendor's third-party partners are knowledgeable."

Even when scores were relatively lower, users can take comfort in the apparent fact that it's hard to go too far wrong with any of these products or suppliers. The market perception that NAS is easy to implement and manage was validated in our 2007 survey.

Products included in the survey

The following products were included in the Diogenes Labs-*Storage* magazine Quality Award II for NAS survey.

Enterprise
BlueArc Corp. Titan SiliconServer, EMC Corp. Celerra, Exanet Inc. ExaStore EX200FC/EX400FC/EX600FC*, Fujitsu Eternus NR1000 F500*, Hewlett-Packard (HP) Co. StorageWorks Enterprise File Services (EFS), Hitachi Data Systems Corp. Lightning/NAS Blade for TagmaStore USP and Network Controller* , Network Appliance (NetApp) Inc. FAS900/FAS3000, Panasas Inc. ActiveScale Storage Cluster*, Silicon Graphics Inc. (SGI) InfiniteStorage NAS 2000/3000*, Sun Microsystems Inc. StorEdge 5310 NAS appliance/StorageTek 5320

Midrange
Dell Inc. PowerVault 7xxN storage server, EMC NS Series, Exanet ExaStore EX200S/EX400S/EX600S*, Fujitsu Eternus NR1000 F200/F300*, HP ProLiant DL series server, IBM Corp. System Storage N5000 series*, Isilon Systems Inc. Isilon IQ*, NetApp FAS200, SGI InfiniteStorage NAS 330*, Sun StorEdge 5210 NAS appliance*

*Didn't receive a sufficient number of responses to be included in the survey results.

About the survey

The Diogenes Labs-*Storage* magazine Quality Award II for NAS is the fifth installment in our annual series of survey-based service and reliability awards. The Quality Awards identify products that have proven their quality and reliability in actual use. The results are derived from a survey of qualified *Storage* readers, assessing products in five categories: sales-force competence, product features, initial product quality, product reliability and technical support. Products were rated on a 1.0-8.0 scale, where 8.0 is the most favorable possible score.

In total, the survey generated 396 valid responses (compared to 387 in 2006). Users rated 846 systems this year, substantially more than the 523 systems evaluated a year ago. The survey has a 5% margin of error with a 95% confidence factor. Forty-five percent of respondents evaluated two or more systems. The most frequently evaluated systems were Network Appliance (NetApp) FAS900/3000 (141), EMC Corp. Celerra (131), EMC NS Series (124) and NetApp FAS200 (74).

The demographics of our respondents were fairly balanced, but leaned somewhat toward smaller organizations. The largest group of respondents was from organizations with less than $50 million in revenue, but the second largest group had more than $10 billion in revenue. IT services was the most represented industry, followed by financial services, manufacturing and government. Thirty-six percent of those surveyed were storage managers or storage administrators, while 8% were CIOs or CTOs.