

White Paper

Nexsan's Flexible Storage System

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Nexsan Storage: Purpose-Built for the Midmarket

The IT and Storage Mid-market

Although it's a commonly used term, "midmarket" has no standard definition; however, it can usefully be given some specific context and parameters if looked at from the perspective of some common attributes that exist within and across its three sub-tiers: the bottom, middle, and top.

- **The bottom tier of the midmarket** is comprised of organizations that are a step above a small business and that are beginning to adopt increasing levels of operational sophistication. From a data center and storage point of view, they generally would be able to serve all their data needs with a single small to medium-sized storage array. These organizations typically do not use advanced storage management capabilities but, like all businesses, are interested in highly available, high performance storage that is simple to manage.
- **The middle tier of the midmarket** is obviously a step up from the bottom tier and is exemplified by businesses that have multiple, sophisticated applications that each in turn may well have varying demands (in terms of performance, availability, protection, recovery, etc.) to serve their users. Typically, multiple processes and procedures will be used for storage management in a storage infrastructure that is often tiered, albeit often relying on individuals' knowledge and experience to do so. Data protection (backup and disaster recovery) is far more frequently consolidated. This tier will also probably have multiple servers which are already (or soon will be) at least somewhat virtualized. These organizations will be likely be managing capacities in the hundreds of TBs and consequently find performance, reliability, and manageability to be critical to their business objectives.
- **The top tier of the midmarket** is filled with organizations that are more proactive in designing infrastructure, with service level management resulting in the definition of standard service levels which translate into management data classes and policies. Policy-based storage management processes are usually standardized, compliance is managed, and enterprise content management is linked to storage optimization efforts. This tier frequently has multiple consolidated and virtualized servers with extended virtualization and storage resource management (SRM) and will commonly have a tiered storage infrastructure to meet performance and protection requirements, including an archive for legal and business protection. At this tier, performance, reliability, and manageability are at the peak of business criticality as measured by the value each application contributes to the business and how the infrastructure supports them (meaning such organizations also often have a measure of the potential impact if services are unavailable). This tier will be managing hundreds of terabytes and even petabytes of data.

Because the midmarket is not one homogenous mass, [Nexsan](#) has developed product offerings for each of the mid-market tiers, focused on delivering the appropriate features and functions that are foundational to the success of each tier. Since Nexsan develops its own IP, it is able to design and deliver a customized blend of enterprise class storage features to each of these separate tiers without adding superfluous functions and capabilities that would be costly as well as unnecessary.

Midmarket Business: Just because a company is not a global enterprise does not mean its IT needs are less demanding, less complex, or less focused on return on investment; a lesser scale of business is not a sufficient determinant of any less complexity, growth, or a need for advanced (enterprise) functionality. Indeed, in many ways, midmarket organizations (of whichever sub-tier) have more challenges due to their unique considerations:

- Midmarket users have invariably always been more constrained in terms of resources in general (budget and specialist personnel in particular) than their enterprise brethren. Additionally, recent global economic malaise has created equal and opposite requirements in midmarket organizations to contain costs yet simultaneously retain sufficient agility to nimbly grow their businesses. In brief, such organizations are looking for both excellent *financial* and *functional* value.
- While the businesses that midmarket storage supports are smaller than at the "mega-IT shops," the same kinds of application needs are still present—everything from custom apps to accounting, from R&D to HR,

and from collaboration tools to e-mail—but just on a smaller scale; this means there's less opportunity and desire for separate systems and a need for everything, including storage, to be able to serve many purposes (a requirement that is made more crucial by the need to react as business needs change over time). In other words, midmarket organizations are seeking storage that is *flexible*.

Further IT Changes: At the middle and top tiers of the midmarket, virtualization and cloud computing have both emerged as tools that can help consolidate resources while at the same time provide a flexible infrastructure that can scale and elastically morph to meet changing business application demands without overspending on redundant and wasteful infrastructure. This has created a shift in usage and management behavior; it has also changed the priorities for what must be considered in order to obtain optimum value when building out a storage infrastructure.

Nexsan: An Emerging Midmarket Leader

Over recent years, Nexsan has demonstrated both its desire—and its real world ability—to develop into a strong market contender. As well as its sales (some 27,000 units sold to over 10,000 end-users), this is demonstrated by the company's loyal channel (of over 600 partners, which is 100% of its sales) and the live S-1 filing (which precludes any specifics about company performance in this paper). Nexsan's approach has always been to provide something that delivers greater performance, reliability, and ease of management in all three tiers of the midmarket, but simultaneously to offer it flexibly, scalably, and with obvious economic advantage.

Nexsan's products range from a few TB to multiple PB, can run block and file, offer a range of virtualized storage features (mirroring, replication, tiering, thin provisioning, deduplication, and snapshots, for example), and score highly in terms of density, performance, ease-of-use, reliability, and—a point of particular differentiated strength—energy efficiency via the graduated AutoMAID functionality. However, Nexsan's market play (its value proposition to be more formal and the reason users have been, or will consider, using its products) is more about its overall approach than about any individual product or feature.

The founding principles of the company have not changed: purpose-building enterprise class features and function into arrays targeted for the three tiers of the midmarket. With its foundation in place, Nexsan is now positioning for its next growth stage. As an example, to ease its expansion into new users, it is now going to conform to industry naming norms; the names for its existing products (SASBoy, SATABoy, and SATABeast, as well as DATABeast and The Edge) are being replaced on its new introductions with more standard conventions. While it's somewhat sad to see the passing of such corporate "personality," it is a pragmatic step towards broader consideration—after all, users are looking for function, not fun. The name changes are part of Nexsan's new branding look and feel—one that is crisp and modern—and it has also clearly worked hard to both define and refine its message for clarity and simplicity.

Overall, it is clear that Nexsan provides products that are purpose-built for any sized midmarket organization with fast-growing storage needs. It combines this with a focus on appropriate support levels and extremely advanced functionalities, and ensures that such functionalities are easy for resource-constrained IT organizations to exploit in order to deliver on the promise of its new tag line: "A Different Kind of Storage Experience."

Nexsan's Flexible Storage Platform

Nexsan's new E-Series continues an intense focus on delivering against midmarket needs. The E-Series products are Nexsan's highest performing system offerings to date and offer extreme density and power savings as well as advanced features, simplicity, and ease-of-use along with surprising affordability. Together with such practical elements as a range of capacity points and the ability to mix drive types, the strong value proposition of this new product line (which will no doubt also benefit from extensions over its lifecycle) is being summarized by Nexsan with "three Es:"

- **Easy:** to select, configure, purchase, deploy, manage, and support
- **Efficient:** power-efficient, space-efficient, and cost-efficient

- **Enterprise-class:** sophisticated features purpose-built for the midmarket

Products and their attributes are clearly crucial in the storage market, but they are not everything. Time and time again, it is the brand promise, the experience, and the overall value proposition of a company's offerings that make the difference between relative success and relative failure. For Nexsan, success does not entirely rest on this new go-to-market messaging simply because Nexsan has such a committed current channel and user base; *however*, any real dramatic growth of market share *does* rest largely on Nexsan having correctly divined what users really want and making a sufficiently attractive complete package for its chosen user. Before turning to evaluate whether Nexsan's three Es are relevant and encapsulate the appropriate functional attributes, it's worth taking a quick contextual look at the overall market dynamics.

Market Dynamics

Today's storage market dynamics are clear: there is continuing and rapid growth of data volumes (35-50% or more per annum is a commonly heard number in the midmarket). Such volumes need to be provisioned and managed efficiently and economically with constrained resources (whether budgets, people, and/or data center space). The increasing consolidation of servers via virtualization has actually placed more stress on storage infrastructures, both in terms of capacity and performance; the only thing that's really consolidated in the storage world recently is the number of vendors (for both end-users and the channel)!

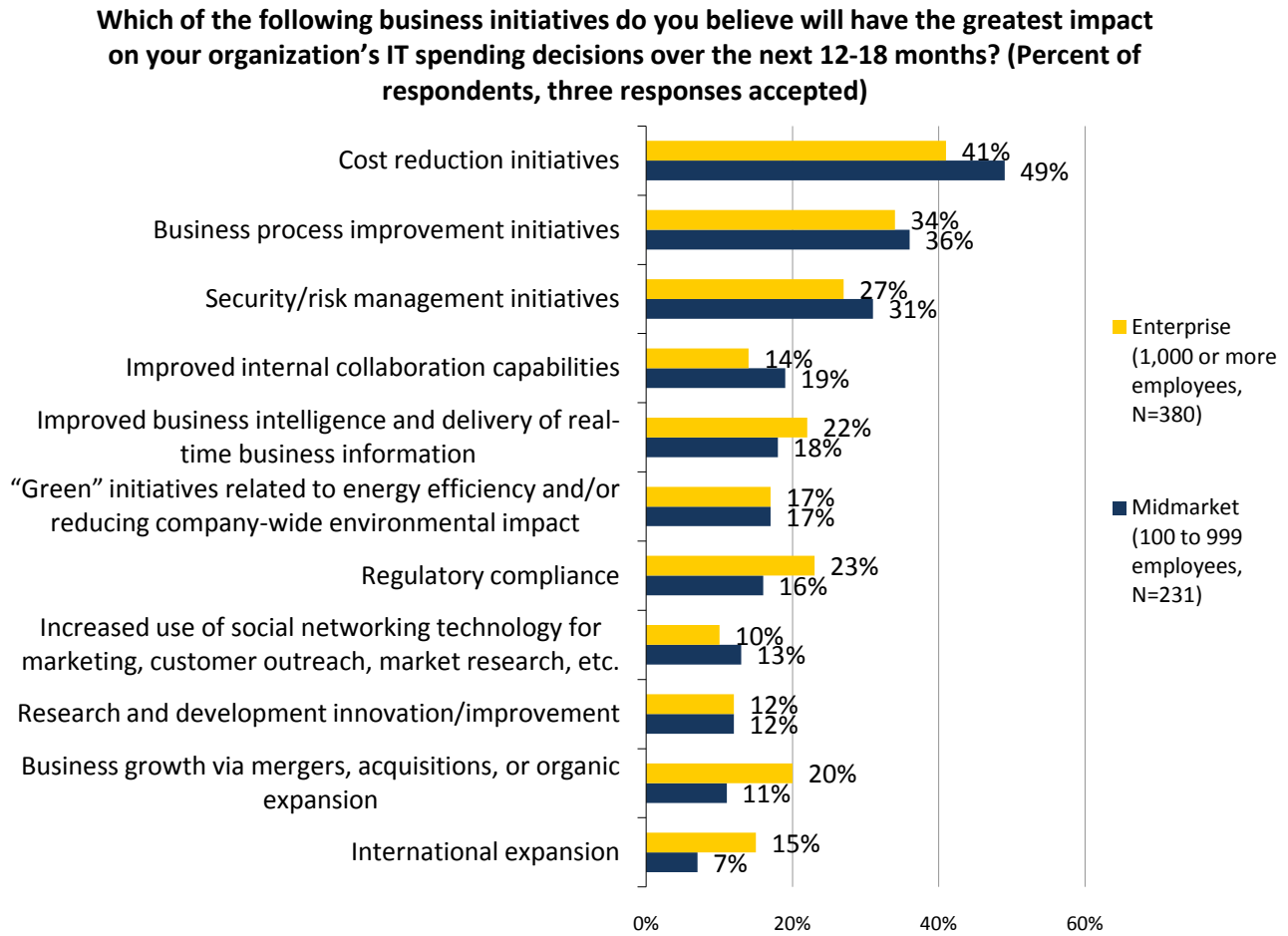
And yet storage systems are expected to do a whole lot more than a few years ago. Unstructured data represents a huge proportion of what is being stored and created and phrases such as "unified storage" or "cloud storage" get thrown around as if they are panaceas (indeed, they may have their place), but *the number one focus is the critical need for users to align their IT (and therefore storage) initiatives with their business objectives* in order to deliver measurable results in top line, bottom line, and risk-reduction initiatives.

There are clearly some immediate areas within storage that need to be addressed if it is to be a compliant and valuable contributor to the "new [virtualized or fluid] IT." In order to understand exactly why, a little history is needed. Commercial computing took hold when one single infrastructure stack executed one specific application for one specific purpose. The original mainframe was a glorified calculator. Centralized computing was predictable and controllable, albeit expensive, but it could be managed: one processor system and one IO subsystem. Decentralized (or distributed) computing was developed largely to try to solve the economic challenges of centralized computing (essentially CAPEX) and yielded low-cost, commodity servers—which were promptly plugged into proprietary, large, expensive, monolithic storage boxes. Servers became cheaper and more interoperable while storage remained proprietary and expensive. In the old days, the server was the thing that cost all the money. You picked your server by your OS. You picked your OS by your application. Storage was a peripheral. Today, servers are cheap and interoperable while storage is frequently outlandishly expensive, complex, incompatible, and difficult; in many respects, it is the last bastion of IT awkwardness: the peripheral tail wagging the purposeful dog!¹

Things, storage things, have to change. The need to simultaneously address IT costs while also improving outcomes is demonstrated clearly in recent ESG research. As Figure 1 shows, both these business initiatives are not only at the top of the list of what will impact IT spending decisions, but also the relative importance of both is even higher in the midmarket than in the enterprise market. This is significant for vendors in two ways: first, it re-emphasizes that the midmarket has a unique balance of needs; second, the market opportunity is highlighted for vendors that can address these needs. Nexsan's focus on (and this is colloquially expressed!) providing "more bang for the midmarket buck" is clearly an appropriate approach.

¹ See: ESG Market Report, [The Future of Storage in a Virtualized Data Center](#), January 2011.

Figure 1. Business Initiatives That Will Impact IT Spending Decisions, by Company Size



Source: Enterprise Strategy Group, 2011.

As a dedicated midmarket player, Nexsan has recognized the need to have strong delivery on both financial *and* functional value. And, as noted at the start of this paper, for those values to be particularly suited to the midmarket, they must be capable of being achieved by different tiers of the market, for multiple applications, and in environments with constrained resources. Nexsan's answer is its "Flexible Storage Platform," anchored on the three-legged stool of "Ease, Efficiency and Enterprise-class."

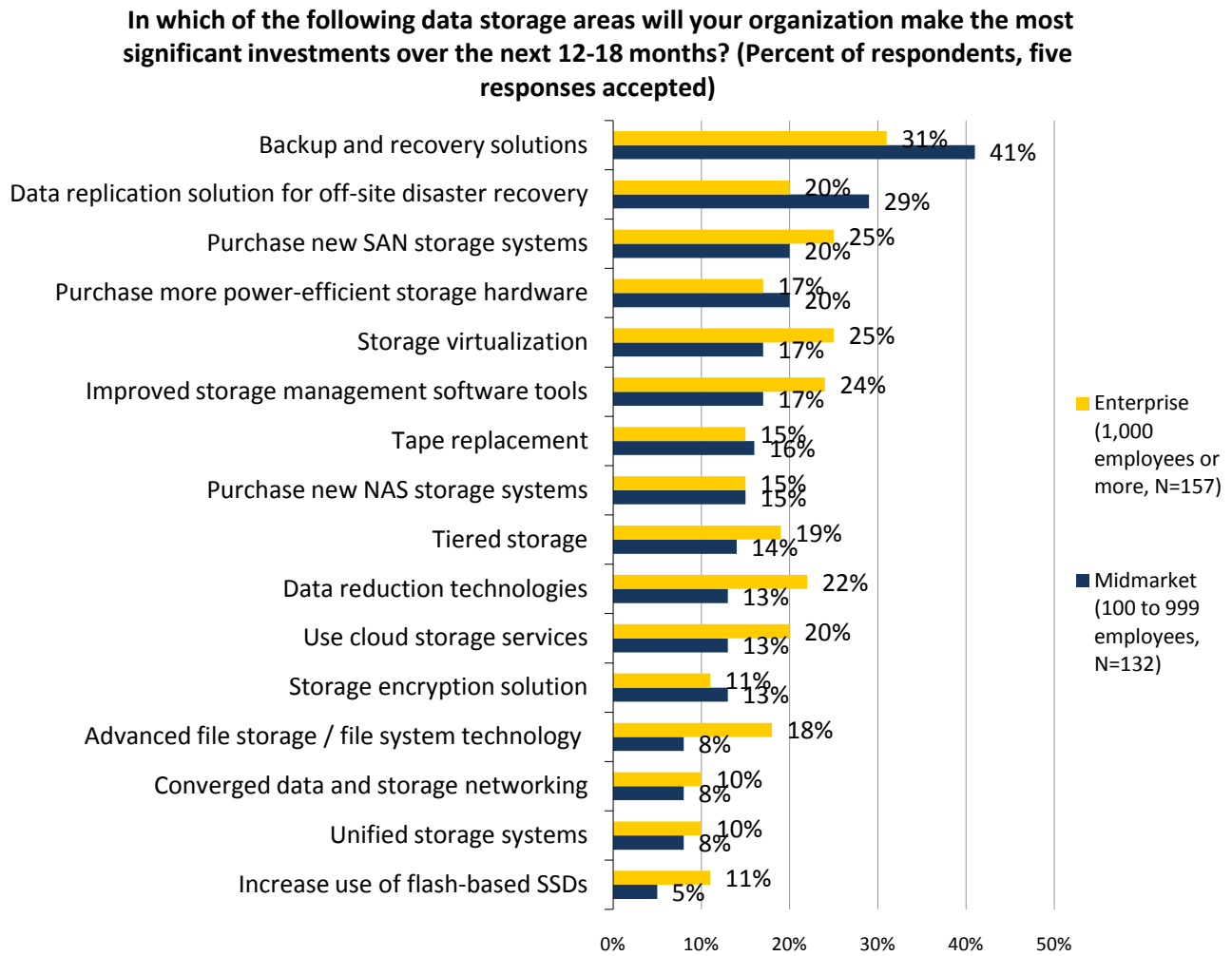
Flexible Storage and Nexsan's Three Es

As more and more storage developments surface, it is turning out that many of the perceived rules about storage—especially in terms of the need for complexity when it comes to delivering value—may not be rules after all. Even so, many vendors have made bold claims over the years; thus, when Nexsan uses a phrase like "designed for the enterprise, priced for everyone else," should users simply be skeptical or should they be interested?

But what exactly are these data demands and why does this all matter? The answers are rooted in three things: economics, data growth (combined with a notable shift from structured to unstructured data types), and storage management. The intersection of these three fundamentals creates opportunities. Users of all sizes are faced with massive (and often uncertain) increases in the amount of data they have to store and manage, a problem compounded by the fact that the data growth is usually at a rate that exceeds the rate at which the cost of traditional storage is declining. Users therefore have a tremendous range of demands and choices put upon them; storage was once just about buying more capacity as needed and successfully backing it up on some regular cadence. Today, new expectations, applications, unstructured data growth, and data protection needs mean that all users—the midmarket is no exception—have to provide a plethora of technological capabilities.

Interestingly, back in the peak of mainframes, storage management was accomplished with software in the operating systems known as Systems Managed Storage. With the advent of Open Systems, some 300 storage management products have been created to try to accomplish what was so effectively done in the mainframe. Lacking any real agreed standards, *storage* management in the Open System server (or the stack as it is known) did not achieve the level of efficiency necessary to drive optimal value. Consequently, most storage vendors implemented storage management capabilities into their arrays (array managed). This helped for a time, but today new changes are being forced upon storage infrastructures as server virtualization and cloud computing have become high interest areas. With virtualization software providers often including storage management capabilities in the stack and with storage resource managers (from Symantec, for instance), users are finding that the array storage management may not always be the optimal approach. Nexsan is agnostic and delivers storage systems for either stack-managed or array-managed environments ... or, indeed, a hybrid of both. Such flexibility is crucial given the wide range of storage management tools and functions that IT must be able to give its business; Figure 2 clearly shows that flexibility is a valuable commodity in midmarket storage simply because such users cannot afford (whether in terms of money or management) to invest in multiple storage systems. Figure 2 also re-confirms the distinct needs of the midmarket—and therefore the need for purpose-built midmarket storage.

Figure 2. Storage-specific Investments Over Next 12-18 Months, by Company Size



Source: Enterprise Strategy Group, 2011.

Without going into detail here, the headline attribute of Nexsan's Flexible Storage Platform is simply that it can address all the needs shown above whether users choose a "stack managed" approach, an "array managed" approach, or a combination of the two. And, in so doing, a midmarket user can configure a system that will support a wide range of uses from general Microsoft applications to virtualization and cloud implementations, as well as data protection and disaster recovery or bulk storage and archive, with technical and financial efficiency. Whatever the "flavor" and functional attributes, Nexsan's solutions are designed to be deployable fast and easily, to be extremely power and space efficient, offer industry leading reliability and performance, and yet remain affordable. This compelling story is good enough to motivate a growing customer base to consider, and to purchase, Nexsan.

Ease

As noted, many midmarket organizations are resource constrained, so anything that makes storage management easier is a positive thing. The reason is simple: despite growing amounts of data and increasing complexity of applications and environments, staffing levels are not changing in lock-step. As ESG's research has found,² a majority of users report that they are holding the line in terms of expected IT staffing in 2011 versus 2010:

- Only 8% reported expecting a significant change up or down
- 43% expected no staffing change
- A further 33% of respondents will only add a small number of staff

The net effect is to accelerate the trend toward IT generalists as a limited staff resource has to stretch thinner in order to cover all the expanding needs of IT. Indeed, in other research,³ ESG specifically asked how users would describe their IT organizations' ability to support their storage technologies and processes with their existing staff levels: 49% of midmarket users admitted a moderate lack of administrators capable of supporting their storage technologies and processes. This outweighed the 47% that reported having "sufficient" support ability.

Against this backdrop, tools geared to make storage easier should be well received; amongst Nexsan's capabilities are easy, wizard-driven set-up tools; the "Active Drawer Technology;" and centralized (which can be mobile as needed, of course) web-browser-based management. Nexsan has also built specific features into its hardware that allows storage administration directly from a VM Hypervisor, which greatly simplifies tasks while reducing complexity and room for management error for the limited number of available administrators. Integrating storage management functionality directly into the virtualization hypervisor can improve each individual's management productivity significantly and therefore permit the same number of staff to manage more storage capacity, allowing midmarket businesses to grow their infrastructure without the need to add new people.

Efficiency

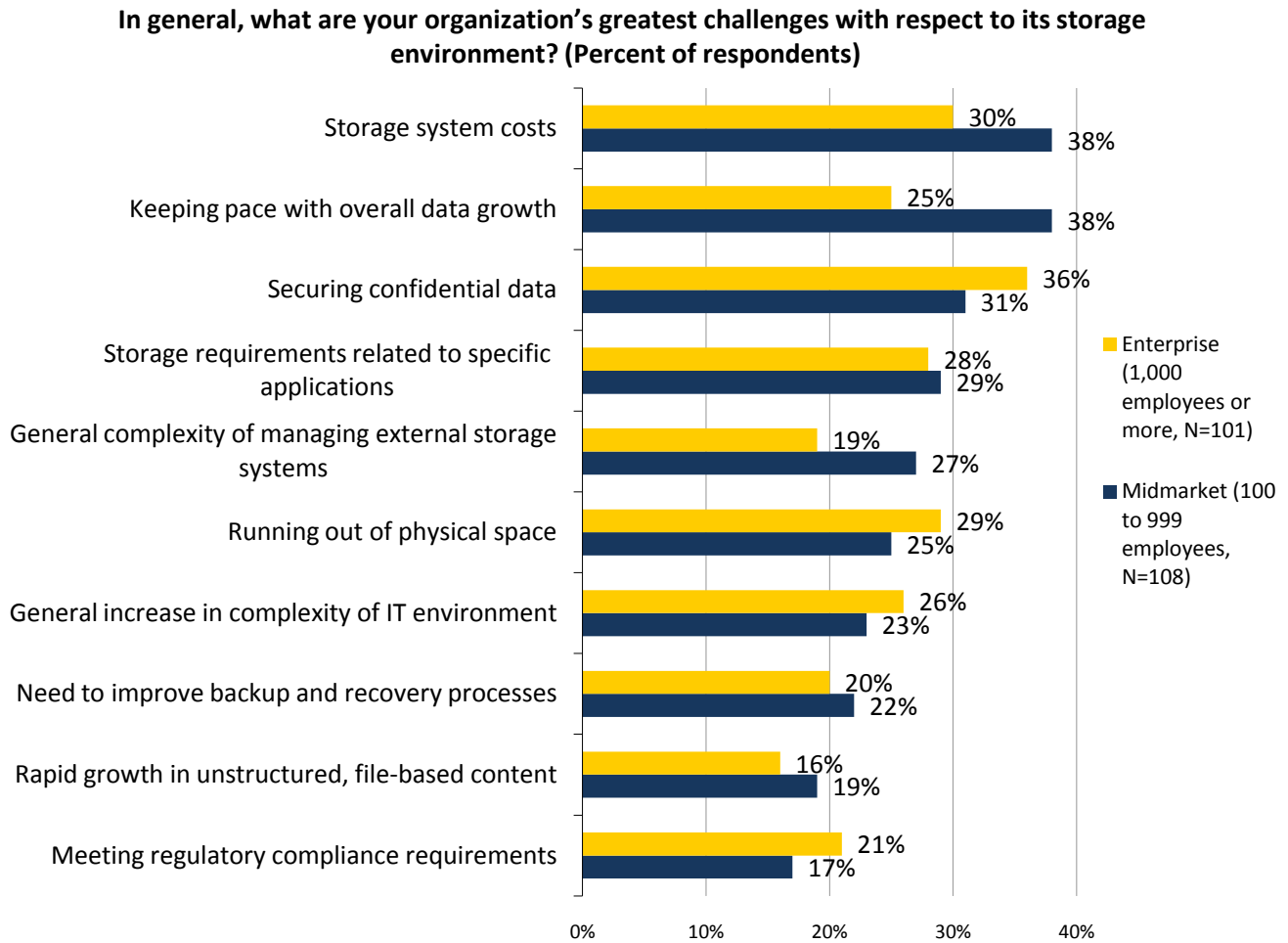
It has already been noted that *generally* reducing costs is a crucial business initiative for IT. And indeed, year after year, ESG research finds that the greatest *specific* challenges within users' storage environments are the sheer growth of data (indeed, "managing data growth" registered as the number two overall IT priority in ESG's [2011 IT Spending Intentions Survey](#)) and the resultant costs to cope with that. Figure 3 shows these two factors are joint number one for the midmarket, an even greater emphasis than for enterprise users (the chart also highlights many of the other storage challenges that Nexsan's storage can help to address). A mismatch with the rate at which budgets are increasing means that the growth can only be managed with tools to address both the amount of physical capacity needed for a given amount of actual data (CAPEX) and the associated operational costs of running whatever storage is installed (OPEX).

Nexsan offers useful and important tools on the CAPEX side of the equation. Features like thin provisioning and deduplication, plus integrating high-capacity drives, can all help to minimize capital expenditure. While these are not unique to Nexsan, it delivers these capabilities at an extremely attractive cost per GB.

² Source: ESG Research Brief, *The IT Labor Dynamic: A Leading Indicator of Services Opportunities?*, January 2011.

³ Source: ESG Research Report, [Scale-out Storage Market Trends](#), December 2010.

Figure 3. Top 10 Challenges in Storage Environments, by Company Size



Source: Enterprise Strategy Group, 2011.

Additionally, it is on the OPEX side of things that Nexsan really excels; the company offers industry-leading density which saves on [expensive] data-center space and combines this with such features as its “Cool Drive Technology,” which is an ultra-efficient and variable fan cooling approach that minimizes the power needed to cool the drives. This works hand-in-hand with Nexsan’s well-known AutoMAID feature, which is a granular (4 levels) power reduction technology that can automatically save significant amounts of electricity—and thus the commensurate CO₂ emissions—with little or no impact on performance.

Enterprise-class

“Enterprise” capability is another thing that’s somewhat hard to define accurately. A good rule of thumb is that there are very few, if any, product attributes that enterprise storage users have that sophisticated midmarket users don’t want. Indeed, storage capabilities that just a few years ago were only beginning to be adopted by large enterprises—like deduplication, snapshots, thin provisioning and replication—are now becoming standard requirements within the midmarket where users want to optimize their environments. Sometimes those capabilities are delivered from within a storage array itself and sometimes from the operational software stack—Nexsan is pragmatic and works with either approach. The result of Nexsan’s systematic approach is that the features it has built into its storage arrays can also take advantage of the operating environment they are in. For instance, Nexsan’s integration with VMware ESX 4.1 has allowed performance optimization the company states can improve IO performance by 20%; this is obviously valuable as organizations try to address the IO congestion that invariably accompanies server virtualization.

Furthermore, there's also a level of enhanced reliability and system availability that is ever-more crucial as data volumes grow and more and more businesses are operating 7/24. To this end, Nexsan offers very strong resiliency, with dual active/active controllers, no single-point-of failure, and battery-backed cache as examples. Additionally, Nexsan continues to integrate and test everything (including 100% of the drives it ships) at its factory which, together with things like its anti-vibration chassis, contributes to Nexsan experiencing much lower "DOA" and operational failure rates (up to 4X, according to the company's testing) than is the norm with mechanical devices from most other vendors. It's this sort of attention to detail that can make a big real-world difference.

The Bigger Truth

Let's go back to the importance of semantics: "purpose-built" is one of those easy phrases we all throw around that actually has two components—there's the "specially-designed-and-made-for-a-particular-market" aspect and also the sometimes overlooked "with-a-purpose-in-mind" aspect. Nexsan's approach generally, and its Flexible Storage System in particular, look to meet the requirements of purpose-built on both counts.

The company is very clear on its target market and spends considerable effort to ensure its offerings meet the needs of that market; the term "offerings" is used here very deliberately as opposed to just "products." Of course, products are important, but it's the overall package and relationship that buyers also look for. That's everything from the pricing approach, the 100% channel model, and the way software is delivered to the support style that underpins Nexsan in the field. It does not take long talking to Nexsan—and, more importantly, its partners and users (which ESG has done)—to discover that "A Different Kind of Storage Experience" is more than just a marketing slogan.

As ESG has commented before, Nexsan manages to combine both *financial* and *functional* value, which equates to an opportunity for its target users to spend less time and less money meeting their storage needs. By using its own IP, Nexsan has not had to compromise on the sophisticated demands that midmarket users increasingly have. In meeting these demands, it offers a storage *flexibility* that can come as something of a surprise to those that have come to expect less. Its platforms are suited to the vast majority of uses that the vast majority of the midmarket will need the vast majority of the time: data protection, long term bulk storage, secure online disk archive, virtual storage, and cloud storage being good examples. And users do not need an army of knob-twiddling, white-coated, storage-specific administrators to gain all the benefits.

With all these capabilities, there is clearly a lot of market opportunity for Nexsan; the major challenge (as for any smaller vendor) is users' awareness and market reach: the new branding for the company and its focus on the "three Es" should help with the former and it is continuing to add channel partners (already over 600 globally) to address the latter. In the midmarket—and despite a plethora of challengers from industry behemoths to start-ups—the mantle of highly reliable, very functional, eminently affordable, everyday storage for the burgeoning demands of such users is not yet dominated by any single vendor. Nexsan wants to change that and is doing a good job of understanding market needs and driving its R&D to fill in any remaining gaps in its product line so as to preclude users from needing to look elsewhere; it knows that once it has acquired a user, they are more than likely going to become a "raving fan" and continue to do business with the company. This is partly because of the product, but also because Nexsan remains committed to being a company that both its channel partners and resulting end-users *want* to do business with.

Nexsan is indeed all about the Es. To users, this means that the company offers uncompromised, uncomplicated, and ultra-reliable storage (with all the necessary functional bells and whistles) that "just works" for data-intensive environments where people have better things to do all day than manage their storage. Midmarket IT operations managers should certainly consider what the company has to offer.



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