



Drobo Upgrades the SOHO Data Center — Enables Enterprise Features for the SMB

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Management Summary

Is there a more feared word in the English language than *downsize*? We all know what it means and dread the day that it is spoken. When it comes to personnel, downsize means that someone is losing his/her job and someone else will be forced to add more responsibilities to an already packed daily schedule. If you are one of the “lucky” ones who remain, say goodbye to *spare time* and hello to *extra time* doing work. You can only hope that the quality of your work does not suffer from the extra functions that you will be required to perform. We also know what it means when we talk about *downsizing* a product. In order to make a popular product available to a wider audience, management will always look for features that can be removed in order to lower the cost and make that product more attractive to more people. Unfortunately, removing those features often removes exactly what made the product useful in the first place.

This dilemma is most obvious with regard to data center storage. There are any number of enterprise storage products costing up to six figures that were downsized in order to make them more attractive to the small- and medium-sized business community (SMB). In order to reduce the cost without devaluing the enterprise versions, leading storage vendors have removed many of the “enterprise-level” features in order to expand their marketing reach. With many hundreds of thousands of small office and home office (SOHO) businesses across the U.S., and growing rapidly, many of these vendors choose to cripple the functionality or scalability of their SMB-targeted storage devices in order to deliver a low-cost version to this SOHO-to-SMB market (without upsetting the value of their enterprise offerings).

One company that has chosen another path is Data Robotics. Since the launch of their first *Drobo* array in June 2007, Data Robotics has addressed the storage needs of the creative technology professional and SOHO with self-managing and self-healing storage solutions for the desktop and single-server host environments. The product family has received critical acclaim from leading industry publications, technology executives, analysts, and digital media enthusiasts, differentiating from the competition with a unique core technology that revolutionizes and simplifies RAID for a market segment that may not have data center RAID skills and certainly does not have the budget to afford more well-known brands. Using their proven DROBO array as a platform, Data Robotics has *upgraded* their RAID solution beyond the SOHO market and into the SMB market. It did this (1) by adding scalability, flexibility and multi-port iSCSI technology, (2) by supporting multi-host server configurations to an already proven reliable desktop system, and (3) by not adding unnecessary cost. To learn more about how Data Robotics’ new *DroboElite* can provide the expanded storage and protection that your SMB environment requires, please read on.

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SMB Data Center Requirements

There has been a tremendous explosion in data in the past few years. This has been due to several factors that have changed the traditional storage paradigm in the data center and is reflected in the fact that storage requirements are doubling every 12 to 18 months at most enterprises. This is especially true for the SMB data center. The SMB's IT staff, if there is one, tries to meet the business- and mission-critical demands of the data center, while at the same time, attempting to protect all data and adhere to budget constraints. Government regulations and best practices policies require the preservation of an increasing store of historical email and financial data that previously was merely a nuisance, but now is required to keep executives out of trouble and out of jail. This compliance data becomes part of business-critical storage, adding to the volume of data that must be managed. Any new storage solution must be easy to use in order to help simplify the demands on the IT staff. *Moreover, if there is no IT staff, that management task may fall to you.* A storage crisis is just one new application away, or maybe is here already. A storage failure may cause unplanned downtime with an accompanying loss of productivity and revenue. **SMBs need storage solutions that can protect critical office documents, customer data, and other files against device failure and that can enable encryption in order to protect the SMB against loss or theft.**

Is your data center in crisis mode? Not some other data center, *your data center*. Server proliferation, along with the attached storage, is destroying the SMB IT budget. You may have made the decision to consolidate your servers with the latest multi-socket, multi-core platforms, but that does not help the storage dilemma. **With data doubling in capacity every 12 to 18 months, the IT budget for storage will soon be insufficient to meet mission-critical business requirements.** Capital costs are not the only issue, as the cost for storage, on a per TB basis, has been coming down. The costs associated with reliability, management, and overhead, however, are another matter. **The SMB budget demands low acquisition costs, but IT management demands the latest technology and exceptional value over time, meaning**

that the IT staff must ensure that any new solution must be upgradable to protect their investment.

As your business grows, your storage solution must be able to grow as well. However, as storage capacity rises, the number of devices rises, proportionately. The reliability and the availability of any physical device may be the same, or even improve, over time, but the overall expectation for any disk farm is that the data center will experience more failures. **It is not a question of "if a disk device will fail", it is the realization that multiple disks will fail.** Today, many arrays are offered with 1TB SATA disks. In order to protect critical data, the IT staff must implement any number of safety nets, including the implementation of RAID technology to ensure the integrity of your data. As disk devices increase in capacity, the requirement for improved reliability becomes more urgent. However, the requirement for additional management must be kept to a minimum.

In order to enable multiple applications running on multiple servers in a virtualized environment to access all of the data center storage, the SMB must install a storage area network, or SAN. The typical enterprise has deployed Fibre Channel (FC) SAN(s) with all of the functionality – and management headaches – associated with this technology. **Most SMBs, however, do not have IT personnel with the FC training required, so they look for a simpler solution with the functionality that they need to run a successful data center. This environment has been deploying iSCSI SANs to run a more efficient and less costly storage network.**

Another area of concern is scalability and the protection of the data center's storage investment. *What is the scalability of your existing storage solution?* If it cannot grow to meet tomorrow's needs, you must plan today to replace it with a solution that can.

Data Robotics Solutions

Data Robotics is a company that has changed the way that IT professionals and SOHOs store digital content. They have developed automated storage products designed to ensure that data is always protected, accessible and, most importantly, simple to manage. Data Ro-

Exhibit 1 – BeyondRAID Comparison

	RAID 1	RAID 5	RAID 6	BeyondRAID™
Single Disk Redundancy		✓	✓	✓
Dual Disk Redundancy			✓	✓ ¹
Three or More Disks in Array		✓	✓	✓
Instant Expansion				✓
Smart Volumes				✓ ²
Automatic Healing				✓
Data Aware				✓
Mixed Drive Size Utilization				✓
Proportional Rebuild Times				✓
Drive Re-Ordering				✓
Virtualization Engine				✓
Self-Managing				✓

¹ Available with Drobo S, DroboPro, DroboElite

² Available with DroboPro and DroboElite

Source: Data Robotics

botics storage arrays, such as *Drobo* and *DroboPro*, were among the first to provide the protection of traditional RAID without the complexity. **Data Robotics' revolutionary BeyondRAID technology frees users from making the difficult and confining choice of "Which RAID level to deploy?" by providing a combination of advanced features and automation, including single and dual disk redundancy, instant expansion, self-monitoring, data awareness, self-healing, and an easy-to-understand visual status and alert panel.** Data Robotics' Drobo line has proven so popular that they have sold over 100,000 systems, and climbing.

BeyondRAID is a unique technology developed by Data Robotics that leverages the benefits of traditional RAID without the limitations. It is a next generation redundant storage technology that combines reliability, scalability, efficiency, and ease-of-use. Moreover, because BeyondRAID sits in the software stack between the file system and the device driver, it can be adopted with no change to the infrastructure. This enables the staff of the SMB data center to maintain the same file system and operating system, eliminating any need for retraining.

Traditional RAID forces the IT staff to choose from a virtual plethora of different RAID technologies. Furthermore, once chosen, the data is locked into that RAID level for the lifecycle of that data. In addition, the IT staff is

forced to choose between simplicity and safety and between stability and expandability. They lose the flexibility required for the scalability necessary in a growth environment.

On the other hand, **BeyondRAID delivers flexibility without downtime.** Built on an advanced storage virtualization platform, BeyondRAID chooses the correct RAID algorithm based on data protection needs at any given moment. Since the technology works at the block level, it can write blocks of data that alternate between data protection methodologies. If an IT staffer needs to add storage capacity to a Drobo product, he or she can simply insert additional disk drives or replace the smallest disks – no need to change RAID levels, purchase a new storage array or go through the complex administration of pooling RAID groups. BeyondRAID even allows IT staffers to switch from single to dual disk redundancy with a single click, thereby ensuring enterprise-level dual parity data protection if required. On a head-to-head basis, BeyondRAID consistently outclasses traditional RAID levels. (See Exhibit 1, above.) Now, Data Robotics has extended the reach of its innovative technology with the availability of *DroboElite*, a multi-server storage platform for SMBs and enterprise departments, especially for remote branch office deployments.

DroboElite

DroboElite provides an outstanding

storage experience for the SMB and departments looking to consolidate storage across multiple servers. As the most powerful and flexible Drobo platform to date, DroboElite delivers the advanced features and performance usually reserved for more expensive solutions.

Using the BeyondRAID technology, DroboElite provides enterprise-level data safety and unprecedented expandability in a virtualized architecture. With dual iSCSI ports and significant performance enhancements, DroboElite connects effortlessly to your existing TCP/IP network and delivers best-in-class performance making it ideal for consolidating storage or adding capacity to both virtualized and non-virtualized computing environments. With a low acquisition cost of only \$3,499, any SMB can purchase a system without drives or with just the capacity that you need now with room for expansion. A fully-configured DroboElite with eight 2TB drives is available for \$5,899.

With the introduction of DroboElite, Data Robotics has made available to the multi-host SMB community an iSCSI SAN that manages itself. It is also self-healing, returning to the safest state possible when a drive fails, with no hot spare drives required. It is the most powerful Drobo storage array yet, with up to 50% more performance than the DroboPro, as a result of the second iSCSI port, faster processors, and more memory.

Unlike many of its more well-known competitors, Data Robotics does not remove functionality to fit the SMB budget. DroboElite retains all of the BeyondRAID technology of its predecessors and adds even more, with two iSCSI interfaces to support up to 16 separate hosts and up to 255 thin provisioned *Smart Volumes* with LUN affinity, or masking. Smart Volumes technology allows the data center to create or expand volumes from a common pool of storage in order to support storage consolidation.

LUN affinity enables DroboElite to support multiple hosts without the fear of overwriting data or accidentally allocating the same LUN to multiple hosts. In addition, with Data Robotics' power-saving hard drive spin-down option, the SMB also can save on the electricity needed to run the storage array and cool the data center environment.

DroboElite can be configured with up to eight 3.5" SATA I/SATA II disk devices from any manufacturer, with any capacity or any spindle speed. This includes any compatible drives that the SMB may have already purchased, protecting the investment already made. Deployed with 2TB drives, a DroboElite can support up to 16TBs of data in a desktop chassis or 3U rack-mount drawer.

With BeyondRAID, DroboElite enables the SMB data center to mix and match drives regardless of size or speed and allows for the hot-swap of drives while the array is operational. DroboElite also enables instant expansion; so you don't have to overprovision today. This can save you money as the acquisition costs of storage are coming down.

DroboElite not only protects the SMB from hard drive failure but it is also compatible with *Windows* encryption to help protect your valuable data from theft and *VMware ESX/ESXi 3.5* or *VMware vSphere 4* for virtualization support.

Conclusion

With an innovative technology such as BeyondRAID, Data Robotics has separated themselves from a vast field of competitors. **With a simplified data protection scheme and an easy-to-deploy upgrade path, DroboElite can deliver the storage solution required by any entry SMB with a limited IT staff.**

Data Robotics enables the SMB to protect the investment already made in disk devices by implementing a mix and match strategy with on-the-fly replacement or expansion. With an entry price of under \$3,500, you cannot afford not to take a hard look at DroboElite.



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