



Making The Business Case For Automated Tiered Data

Abstract

In volatile economic times such as these, businesses expect IT organizations to be more efficient, more strategic, more flexible and more integrated into the day-to-day fabric of business operations. For IT professionals, the challenges are not merely to do more with less, but to come up with strategic solutions that provide the business with tangible competitive benefits.

Businesses of all sizes are asking their IT departments to accomplish more with fewer resources. The pressure is on for IT to cut costs, reduce space, consolidate and reduce energy consumption: Yet, at the same time there are equal pressures to store more information, boost performance, improve security and be compliant with ever-changing regulations. And, oh yes, please make sure key data is available 24-7 to whoever needs it, wherever they may be sitting, whenever the need it, anywhere in the world.

The challenge to do more with less is driving many of the innovations that are shaping technology as we move into the second decade of the 21st Century. If you look at technologies such as virtualization, cloud computing and software as a service, each is a variation on the theme of maximizing computing resources without breaking the bank.

In the world of data storage, automated tiered storage is one of the key innovations that can really change the rules of the game for many businesses. Done right, automated tiered storage can help businesses operate more efficiently in any number of ways: Reducing costs, consolidating space, improving energy efficiency, adding flexibility, improving security and disaster recovery preparedness, and enhancing the ability to adhere to compliance requirements.

If one technology solution can accomplish so much, why isn't everyone using it? Well, automated tiered storage is not for every business: It works best for organizations that have either large storage requirements—at least 30 terabytes or more—or require very high performance computing, such as film rendering, eDiscovery or computer-aided design.

In addition, automated tiered storage is a technology that is offered in several flavors, not all of which offer the same benefits. That's why we talk about tiered storage "done right." To truly take advantage of all that automated tiered storage can provide, businesses need to make sure that their solutions support several critical features, such as:

- **Uncompromised performance and scalability.** Performance has always come at a high price in the world of enterprise storage. However, with automated tiered storage, organizations can take advantage of the diversity within their storage infrastructure and manage everything from a single, seamless NAS platform. By utilizing a hardware-based storage architecture businesses can benefit from groundbreaking speed and scalability in data management while simplifying the overall process of designing, building and managing their enterprise storage infrastructure.
- The ability to support **multiple drive types and file system protocols.** Few IT environments are homogenous and most incorporate a host of different drive types. In addition, business needs are always subject to change—mergers, acquisitions or new applications—and flexibility is a key ingredient to business success in today's highly competitive environment.
- **Tiered data management** as opposed to tiered storage management—meaning the data location should be transparent to users and applications regardless of the physical drive on which it is stored. By managing data as opposed to storage devices, businesses can treat their data as a strategic resource and can develop a long-term strategy for managing data growth. Data transparency is critical in a successful automated tiered storage solution.
- **Policy-based management** so that the organization has the flexibility to determine the value of the data within its storage infrastructure. This way, the business decides what is the highest priority mission-critical data and what is lower priority, as well as when and what is appropriate for archiving. This process should be automated and transparent to users and applications within the company.

Among the vendors providing automated tiered storage solutions, BlueArc has done the best job of incorporating these features into its product offerings and has emerged as a clear leader in the field. BlueArc's Data Migrator is a data management solution that enables user-defined policies for the transparent movement of data between tiers. These are important differentiators that separate BlueArc's solutions from those of other automated tiered storage products.



By managing data as a strategic resource, incorporating data transparency, utilizing policy-based management and supporting multiple devices and protocols, organizations can put themselves in the best position to take advantage of the many business benefits inherent in an automated tiered storage solution. In making the business case for automated tiered storage, these are some of the key outcomes that can accrue to a business and how to take advantage of them:

1. Cost Reduction

Businesses are dealing with a tidal wave of data growth and they need to manage that growth strategically or run the risk of drowning in data. While the price of storage has gone down through the years, it is still a significant expenditure for businesses of all sizes.

The idea that businesses can just add new storage devices to keep up with data growth is a recipe for disaster. Indeed, in a survey conducted last year by Enterprise Strategy Group (ESG), IT professionals said their top two challenges in their storage environment are: (1) Keeping pace with overall data growth, and (2) Storage system costs.

For many businesses, cost reduction and cost management are among the first reasons they may look to an automated tiered storage solution. IT professionals overwhelmingly cited cost reduction as the most important factor in justifying IT investments over the next 12–24 months, according to research by ESG. With automated tiered storage, particularly as applied by BlueArc, the cost advantages are tangible and long-term:

- The ability to purchase fewer disk drives—or to buy performance-appropriate drive—because each drive or array is maximized to its optimal value. In addition, disk drive costs can be managed more closely, allowing for higher storage capacities.
- Reductions in overhead of storage management tasks free up system administration personnel to focus on higher value tasks and issues.
- Reductions in space requirements and energy costs.

Businesses are not only concerned with reducing IT expenditures now, they are also focused on reducing the total cost of ownership over the lifetime of their solution. BlueArc's approach to automated tiered storage reduces total cost of ownership in a number of ways, from reducing the actual expenditures on disk storage, to improved productivity and efficiency, to simplified management, to all of the residual long-term cost savings inherent in solutions that utilize less space and less energy. In addition, by having an automated tiered storage solution that provides automated tiered data management, businesses can manage their future data storage requirements strategically and cost-efficiently.

2. Consolidation

Managing and maximizing the physical space within the data center has become a more difficult and important priority for large and mid-sized businesses. A survey conducted by ESG in 2008 indicated that 30 percent of storage professionals said one of their biggest challenges was that they were running out of space in the data center. Since that survey was completed, things have only gotten worse: IT professionals are not only dealing with ever-expanding data growth, they are also dealing with tight IT budgets.

By using automated tiered storage as a solution to strategically manage data and reduce the actual number of drives required to store data, businesses can significantly reduce the physical space storage takes up in their data centers. There is less hardware and less wiring and, consequently, less of a strain on power and cooling resources.

Consolidation also means business benefits in lower costs, a reduced impact on personnel resources for data management and a reduced energy footprint. In addition, by utilizing a solution that supports multiple protocols, businesses can further consolidate their data storage infrastructure.

3. Scalability

By utilizing an automated tiered storage solution that supports data transparency, businesses can obtain maximum scalability and flexibility in managing their data storage infrastructure. When there is a need to add new drives or arrays, they can be added as part of a strategic plan and the organization can add the appropriate storage drive, based on the type and importance of the data being stored.

In addition, an automated tiered data solution enables businesses to manage their storage resources to achieve an optimal blend of performance, capacity and cost, without having to turn to multiple server solutions, which can be both inefficient and costly.

4. Performance

Incorporating a hardware-based architecture, such as Blue Arc's SiliconFS File System, is the most effective way in which a business can ensure that there will be no limitations on performance: In fact, performance will improve. When data is managed strategically throughout the organization and all of the data is sitting on the appropriate storage drive, performance can be maximized.

If high-performance drives, for example, are dealing with fewer I/O requests because less-critical data has been offloaded to another drive, their overall performance can increase. Likewise, if SATA drives are not being used for daily, mission-critical functions, their performance can improve as well. Having data stored on the right drive can be a performance gain overall, even as each drive is being utilized to a greater capacity.

5. Energy Consumption

Reducing energy consumption is one of the initiatives that IT has been asked to deliver by business management. More than 25 percent of IT professionals, when asked by ESG to evaluate their most important storage-related initiatives, cited "more power-efficient storage hardware that runs cooler and/or uses less energy."

By using disk drives more efficiently, and by reducing the number of drives, automated tiered storage can play a significant role in helping business accomplish this goal. In the same ESG survey, approximately 25 percent of respondents also cited "tiered storage" as one of their significant storage-related initiatives.

A report by the Software Networking Industry Association, entitled "Best Practices for Energy Efficient Storage Operations," makes the following argument in favor of tiered storage:

"A tiered storage strategy can help you reduce your overall energy consumption while still making less frequently accessed data available to applications at a lower cost per gigabyte of storage. In addition, tiered storage is a reinforcing mechanism for data retention policies as data is migrated from one tier to another."

6. Compliance, Security, Disaster Recovery

Not only are organizations producing more data, they are also having to save it for longer periods of time. This requires them to manage the life cycle of their information more strategically than they have in the past: It no longer makes sense, if it ever did, to simply archive data based on its age. Under HIPPA for example, healthcare organizations have to save patient data for longer periods. Under eDiscovery laws, companies must be able to produce email, files and other digital assets dating back years.

By focusing on automated tiered data—as opposed to tiered storage—companies can manage their data strictly on the basis of its value as data, without having to worry about the physical drives on which the data reside: The management process is automated. This type of approach takes the focus off the physical media and highlights the transparency of the data itself.



For compliance and disaster recovery, policy-based management allows the business to establish policies to reflect the business demands of the data being protected and saved. What's more, setting up an automated procedure to accomplish this means that data moves seamlessly to its proper tier as it goes through its natural life cycle, transparent of user involvement and with less of a strain on IT resources. This is critical because, for compliance and disaster recovery, businesses have to know where their data is at all times and they have to be able to access it when they need it.

What A Business Wants

There are signs that some of the stress on IT may be starting to lift—even if just a bit. In a recent survey by *Information Week*, 46 percent of companies said they plan to increase IT spending in 2010, compared to just 34 percent last year. If 2009 was a year of cost cutting and reducing inefficiencies, going forward the focus will be on managing growth and enhancing the efficiencies that have already been put in place.

In volatile economic times such as these, businesses expect IT organizations to be more efficient, more strategic, more flexible and more integrated into the day-to-day fabric of business operations. For IT professionals, the challenges are not merely to do more with less, but to come up with strategic solutions that provide the business with tangible competitive benefits.

Utilizing an automated tiered storage solution from BlueArc enables IT to accomplish a number of key business goals, including: Saving money; improving flexibility and business responsiveness; and improving security, operational efficiency, energy consumption, compliance and disaster preparedness. That may not solve every business challenge, but it's a pretty good place to start.

About BlueArc

BlueArc is a leading provider of high performance unified network storage systems to enterprise markets, as well as data intensive markets, such as electronic discovery, entertainment, federal government, higher education, Internet services, oil and gas and life sciences. Our products support both network attached storage, or NAS, and storage area network, or SAN, services on a converged network storage platform.

We enable companies to expand the ways they explore, discover, research, create, process and innovate in data-intensive environments. Our products replace complex and performance-limited products with high performance, scalable and easy to use systems capable of handling the most data intensive applications and environments. Further, we believe that our energy efficient design and our products' ability to consolidate legacy storage infrastructures, dramatically increases storage utilization rates and reduces our customers' total cost of ownership.



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