Reduce storage costs by up to 50%
by conducting a Storage Infrastructure Optimization
(SIO) Study

Find the right mix of technologies and customize them for your unique needs

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White Paper

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GETTING **IT** DONE TOGETHER

INTRODUCTION

Nearly a third of organizations are seeing their data grow by 25% or more every year, according to a 2013 *InformationWeek Reports* study. The IDC Digital Universe Study (2012) predicts growth of 40ZB data by 2020. The burning question is: Where do you put it all?

The right digital storage solution can make or break your business. You need to ensure that your team has instant access to all the critical information they need. That data has to be stored, backed up, replicated, protected, archived, and searchable so that it can be harnessed for better business decisions, better customer service, and better overall company performance. You also need to be sure that you're not overpaying for storage you're not using — and that you have the right kind of storage for different types of data. Your data is going to keep growing and so is your need for effective, cost efficient storage.

The latest storage trends — from flash to cloud to hybrid solutions — may be ideal for your business. Or maybe not. When it comes to data storage, every company's needs are unique. Off-the-shelf products and equipment, even if they incorporate the latest trends, may not meet the demands of *your* business. How do you make sure that terabytes of your most valuable assets are stored properly? The path to the right solution starts with a Storage Infrastructure Optimization (SIO) study. These studies go by different names, but the goal is the same: to ensure that your storage solutions will work for your business in the short- and long-term.

ASKING THE RIGHT QUESTIONS

The bottom line is that you need to store and protect your data while ensuring the right levels of access. The goal of an SIO study is to identify your specific needs — both present and future. It is designed to assess your current situation and ask crucial questions in a variety of areas, including:

Storage Systems
> Which devices are you using and how many?
> Do your systems complement one another?

Storage Processes
> Where do you store different types of data?
> How often do you store data?
> Is everyone following that process?

Utilization Rates
> How often do different teams access data?
> Do you access all of your data at the same rate?
> Is all your data in a single tier?
> Are you handling the media correctly?

Protection / Security
> How are you protecting your data?
> How effective is your security — is your data storage stable?
> Do you have adequate encryption?
> Are you compliant with all the current regulations?

Cost
> What is your current budget?
> Are you paying for storage you don't use or don't use efficiently?
> Are you effectively utilizing various storage methods (*e.g.*, Are you leveraging less expensive solutions for your archival data)?

Future Growth
> How quickly is your data accumulating?
> What do you expect in the next 5/10/20 years?

SHARING THE RESULTS

After the study is complete, you will get recommendations based on your specific business requirements and targeted ROI. Of course, the solutions will be based on industry best practices, which may include strategies such as virtualization, automated tiering, compression, deduplication, and storage management. It may also include some of the trends we mentioned earlier, but those trends will be *tailored to your business*.

According to an IBM study, customers who conduct an SIO can see a reduction in new storage spend of up to 25% in year one and up to a 50% reduction in spending over three to five years. An SIO can help you to:

> Reduce costs in multiple areas
  - Storage
  - Power
  - Floor space
  - Operations
  - Tape
  - Array maintenance

- > Positively affect your environment impact due to lower power consumption
- > Improve customer service levels due to better data access
- > Enhance staff efficiency
- > Increase ROI and decrease total cost of ownership for data storage

UNDERSTANDING THE RECOMMENDATIONS

Your plan for SIO may include one or more types of storage solutions. In addition to cost efficient hard drives — or even tape storage — you may consider augmenting your solution with one or more of the following:

Solid State Drives (SSDs)

These are similar to hard disks, but instead of storing data on spinning platters, an SSD writes and reads data to and from non-volatile flash memory. You'll want to add SSDs to an HDD solution when your environment calls for higher throughput and lower latency. Compared to HDDs, the benefits of SSDs include:

- > Better performance and reliability (since there are no moving parts)
- > Faster access time — normally a fraction of a millisecond — which is a four- or five-fold jump in speed

Flash Technology

Flash helps you address performance issues and provides capability for big data and cloud environments. It can be hardware based for maximum performance, software based (*e.g.*, in an SSD), or part of a hybrid array. Storage systems with flash can complement or replace traditional systems, depending on your access needs. Its advantages include:

- > Increase application speed and performance by as much as 10x, compared to other storage solutions
- > A single 1U rack of flash memory delivers the equivalent of an entire disk system — making it up to 19x more cost efficient when it comes to floor space
- > Flash requires exponentially less power than conventional hard drives

Cloud Storage

A cloud platform is an online space created to store and back up your data. If you want off-site backup and storage, adding cloud to your mix makes sense. While there is some hesitation when it comes to business applications due to bandwidth limitations and security concerns, there are several benefits:

- > Convenient, on demand access
- > Lower costs than on-site storage
- > Environmentally friendly
- > Easy recovery in the event of a disaster

Once you've completed your SIO study, you'll find it easier to identify the right tool — or tools — for the job.

CREATING A CUSTOM SOLUTION

As mentioned previously, a one-size-fits-all solution is not likely the best one for your business. Chances are that you'd benefit from a hybrid solution with a tiered approach to data storage.

Over the past few years, SIO studies have uncovered a disturbing trend: 70% of data stored on disk has not been accessed in the past 90 days and it is unlikely to be accessed at all in the near future. This means it would be better to store much of your data on lower-cost storage tiers.

Hybrid solutions can incorporate HDD capacity with SSD and flash speeds — and in some cases, with cloud storage. Some of the advantages of hybrid solutions include lower costs, improved utilization, and better manageability.

When combining solutions, we often recommend tiering software, which is configured to automatically determined the best way to move data in and out of your system. It "learns" which data types go on which tiers and ensures that your team has access in the most efficient time possible. For example, you might have 30% of your "active" data in a flash or SSD tier, while the other 70% is housed in less expensive HDD. You get performance-on-demand, but when that performance is no longer needed, the data is slowly funneled back to the slower tier.

SUMMARY

Regardless of the current trends in data storage, you need to be sure that the solutions you choose are right for your business. Ultimately it should be your business model and your processes that drive your decision. The best way to evaluate today's data storage options for your business needs is by conducting an SIO study. The upfront investment in time and resources will pay off in the long run when you have a solution that helps you operate at peak productivity.

ABOUT THE AUTHOR

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Brian's specialties include storage architecture (performance sizing, replication, and configuration) as well as pre-sales technical support for enterprise and midrange storage products. He has helped hundreds of clients manage, backup, replicate, and protect their data. His goal is to help clients get the most from their environments for the best TCO possible.

Brian earned his B.A. in Psychology from LaSalle University. Prior to joining Essextec, he was a Pre-Sales Engineer in IBM's Storage Division.

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