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A Sentia White Paper

Taking Charge of Runaway Data Growth

Forward-Thinking Ideas for Storage Management and Optimization



Table of content

Data is growing at an alarming rate. But budgets to store and manage it are flat.	3
Today's Storage Management Challenges	4
What's next on the data storage horizon?	6
An Approach to Optimum Storage Design	9
Taking the Next Step	10
Selecting a Storage Technology Partner	12
About Sentia	13

Data is growing at an alarming rate. But budgets to store and manage it are flat.

Organizations the world over are experiencing an astounding rate of data growth.

Traditional structured data – like databases – continue to grow at about 34 percent per year¹. It's the unstructured data – emails, spreadsheets, text, graphics, video, audio – that are exploding, with an estimated annual growth rate of 80 percent². Compounding this collective deluge of global data is the increasing need to derive useful information from it.

Traditional data management methods, strained IT staff, and standstill budgets simply can't keep up. In working with various businesses, Sentia has seen evidence of these trends and challenges.

How do you go about managing the data growth in your organization?

While there are many approaches to storing and managing corporate data, finding the technologies that are best for *your* particular enterprise can be a daunting task.

90% of the data in the world today has been created in just the past two years¹.

Labour costs will be 70% of IT spend in 2013.

48% more digital data in 2012 from 2011³.

Today's Storage Management Challenges

The explosion of data and lack of a well-planned storage management plan demands a forward-thinking strategy – for both IT and the enterprise as a whole.

Let's take a closer look at the challenges facing organizations today

Balancing User Access with Cost-Effective Data Placement

In this 7/24 world, users need speedy access to real-time information and applications in order to collaborate and maintain productivity. While various storage options exist, some are more costly than others. How do you ensure data is at users' fingertips without incurring excessive costs?

Handling Data Growth & Complexity without Resource Growth

More data means more storage, correct? Not anymore. Simply adding more hardware to handle storage requirements is only a stopgap measure, and is costly in more ways than one. Data centre sprawl results in additional costs of purchasing or leasing more space and the associated outlay for power and cooling. Add to that the size of your growing data centre's carbon footprint.

As the volume of data grows, so does administrative complexity. How do you handle data that's doubling every 18 months without increasing your budget or adding staff?

Studies show that 70 percent of IT budget in 2013 is spent on labour, and a whopping 65 percent of IT budget is paid out to maintain existing IT infrastructure, and only 35 percent is invested in new projects. ^{3p}

2.7 zettabytes
of data exist in the
digital universe

Between
2000 and 2010³

6 x
more servers

69 x
more storage

8x
more security
vulnerabilities

IT budgets are
growing less than
1% per year.

Maintaining Regulatory Compliance & Reducing Corporate Exposure

Legislative and accounting directives are on the rise. Protecting private information is critical to instilling customer and stakeholder confidence and mitigating corporate risk. How do you fulfill recoverability requirements with data that's stored in various formats, onsite and offsite?

Backing Up Data for High Availability – Now and in the Future

Inaccessible data due to inadequate backups or no backups at all can create short-term and long-term risks for your business.

Business Continuity – Missing data backup windows is commonly caused by media failure, human error and hardware failure. Without backup, some data may be impossible to recover, causing severe disruption to your business – including lost revenue and lost customers. How would loss of data impact your business?

Resiliency – Some data may need to be recovered 20 years from now. How will you implement a long-term archival approach to data backup so that information is there when you need it?

It's time to think differently about data storage and management.

What's next on the data storage horizon?

Smarter storage must be efficient by design, self-optimizing, and cloud agile. It must be feature-rich and flexible enough to handle your current needs, and scalable enough to meet future requirements.

Hardware continues to evolve, especially Solid State Disks, Flash storage and extremely powerful storage controllers. These advancements, combined with a move to a Software Defined Storage approach and software enabled advanced functionality, allows for phenomenal storage flexibility and vast capacity with anywhere accessibility.

90%

of organizations expect to adopt or deploy a cloud model in the next 3 years.³



Emerging technologies to consider when developing an advanced storage design:

Feature	What it is	Advantage
Storage Virtualization	Commonly used in a storage area network (SAN), virtualization groups physical storage from multiple devices to appear as one storage device. Storage virtualization is foundational technology for a cloud-based system.	Improves heterogeneous storage management capabilities and provides increased availability, flexibility, responsiveness, workload mobility, disaster recovery and storage utilization. External storage systems become part of the storage pool.
Storage Self-Provisioning and Improved Management	A self-service portal that provides front-end controls for cloud customers to provision IT resources on-demand.	Empowers cloud customers to increase control by self-managing their cloud computing platform.
Data Auto Tiering	Dynamically moves blocks of data to the most suitable tier of device according to performance and capacity requirements.	Active, mission-critical data resides on higher performance, more expensive devices (such as SSDs) while static data is relegated to lower cost, lower performing devices. Storage performance can be tripled by adding as little as 2% SSD/Flash drives.
Thin Provisioning	Allocates the precise amount of storage space at the time it is required. The amount of unused storage is reduced, which provides more available capacity.	Optimizes the efficiency of available storage space and can provide up to 35% better storage utilization.
Data Compression	Real-time storage efficiency technology that substantially reduces the size of data.	Helps to reduce disk space and storage infrastructure requirements (up to 80% less), resulting in substantial cost savings.



Data De-Duplication	Identifies and eliminates duplicate instances of data.	Dramatically reduces disk capacity needs, improves backup performance and reduces costs.
Data Snapshots and replication	A simple, automated timesaving feature that creates point-in-time, virtual copies of data with read or write access for backup purposes.	Provides 7/24 access to data without impacting users or applications during backups.
Solid State Drive (SSD) and Flash storage	A breakthrough in data storage and management technology is how flash-based Solid State Drives (SSD) can be integrated into the storage subsystem. SSDs store data with an electrical charge, not magnetism.	Provides phenomenal I/O performance and are increasingly used to support high data demands, either as a front-end element to hard drives or as an entirely separate storage subsystem. Rapidly becoming more affordable.

An Approach to Optimum Storage Design

When it comes to data storage and management, each organization has unique requirements, yet all have a common goal: keeping data and applications secure and accessible.

Optimization of your storage environment comes down to three general principles:

Principle		Positive Business Impact
1	Stop storing so much	▪ Improve use of existing storage assets ▪ Reduce backup windows ▪ Reduce costs for acquisition, administration and staffing ▪ Meet service level agreements
2	Move data to the right place	▪ Improve performance and availability ▪ Reduce long-term storage costs by moving less active data to more affordable storage tiers ▪ Maintain access to data throughout its useful life
3	Store more with what you already have	▪ Improve storage price and performance ▪ Eliminate high costs of underutilized storage and outdated, inefficient assets ▪ Increase flexibility

Taking the Next Step

Experienced consultants - like Sentia – have a proven methodology to storage management and optimization:

1. Conduct a current state analysis

Establishing a baseline is an essential first step. An audit of your organization's current state of affairs will give you a clear understanding of the types and amounts of data you presently have, where data resides, disk capacities and speeds, how backups are performed, and how data recovery is achieved.

2. Forecast the future

Gain an understanding of what's ahead for your organization in relation to data management. How fast is your data expected to grow? What upcoming projects are on the horizon and what are their specific needs? Will regulatory or accounting compliance requirements increase, and how?

3. Conduct modelling activity

Review alternative approaches for evolving your existing infrastructure. While replacing what you have today may not be entirely necessary, it's important to weigh options that allow for more automated infrastructure management and administration. When human involvement is required, consider simple and time-effective methodologies.

4. Plan the journey

For many businesses, the storage design process starts here. But without making an effort to understand your organization's present and future requirements, and exploring alternative approaches to storage design, it can result in a short-term, stopgap measure instead of a longer term, sustainable solution.

As your storage design plan takes shape, it is not only critical to focus on ease of data management, but to also emphasize data migration. Users require 7/24 real-time access to data – even while migrating from one infrastructure to another.

5. Implement the plan

Most businesses do not have the necessary level of in house expertise to develop their own storage design approach. An IT provider that knows how to leverage emerging technologies and advanced functionality, understands how to assess alternative approaches, and makes recommendations that will maximize benefits for your organization is a valuable resource.

Selecting a Storage Technology Partner

While advanced technology is certainly the foundation of your storage infrastructure, it's what's wrapped around that technology that makes the difference between a fully functional or merely mediocre storage solution.

Here's what to look for in a high value IT partner:

<i>Best Practices Methodology</i> A thoughtful approach to developing a storage roadmap – including assessment, modeling, planning, architectural design, and implementation capabilities.	<i>People with Proven Expertise</i> Innovative thinking, premium levels of certification and specialization for various platforms and technologies, and a commitment to ongoing learning.
<i>Technology Know-how</i> Strong relationships with key technology vendors and a deep understanding of new and emerging technologies.	<i>Proof Points</i> Case studies and direct customer references that underscore experience, expertise, and a successful track record.

Rate Your Organization Against Storage Management Best Practices

Schedule your storage assessment today by contacting Sentia, a recognized expert for advanced intelligent IT solutions.

Please call 1-866-610-8489 extension 311, 905-508-8489 extension 311, or email us at info@sentia.ca

About Sentia

At Sentia, we take a comprehensive and consultative approach to helping you achieve your business goals. We are an extension of your team, always looking at challenges and opportunities from your perspective. Along with offering the highest quality products from leading vendors, we keep an eye out for game-changing trends and emerging technologies.

Each Sentia solution is built to deliver long-term, cost-effective value. Sentia's team of senior architects lives and breathes IT, offering superior skills and a proven track record. Our entire staff shares a deep dedication to our work and pride in our customers' successes.

People + Technology Building Value

END NOTES

¹ www-01.ibm.com/software/info/rte/bdig/index-pre.html?S_TACT=101MY4BW

² Gartner, IT Market Clock for Storage, 2011

³ Industry Analysts & IBM Market Intelligence, 2013

⁴ IBM, Edison Group, 2012