

FalconStor[®]



FREEDOM OF INFORMATION A WHITE PAPER

FREEDOM OF INFORMATION:

Managing Data in the Information Age

ABSTRACT

According to a popular adage, information is knowledge, and knowledge is power. In today's "Information Age," the ability to store and access information is fundamentally changing the structure of today's corporations, enabling them to capture, mine, analyze, and extract tidbits of data, which can provide new opportunities in how they interact with clients and market their products. Leading enterprises such as Google, Amazon, and Walmart have succeeded because they have embraced data as a key enabler to their business and a source of competitive advantage. This white paper addresses the issue of ongoing data growth and explores how data management can help organizations overcome challenges and realize new opportunities.

TABLE OF CONTENTS

Introduction	3
Data Dependency	3
Data: A Hidden Treasure	4
The Data Asset	4
The Data Management Solution	5
Conclusion: Unified and Flexible	6

INTRODUCTION

The amount of data that needs to be stored and protected is growing exponentially each year. In some cases, data growth outpaces the ability of organizations to cost-effectively store and protect it, which can be a threat to those without the knowledge, skills, or tools to harness it. Companies that are not agile and are behind the technology curve may find themselves swamped technically and economically by this veritable tsunami of data and the demands that it places on them. They know they need to keep the information, but they have yet to build the infrastructures to effectively store, manage, and protect it.

DATA DEPENDENCY

Data can be a liability if an organization does not have the tools or technology to reliably and efficiently store, protect, and access it. For example, data center outages can cost an average of \$5,600 per minute ¹ and, according to a survey conducted by research firm Coleman Parkes, IT downtime costs US businesses more than 127 million person-hours per year. ²

Many companies are pushed into bankruptcy when even relatively minor system failures cause costly interruptions to operations. For this reason, leading companies have prepared themselves for the worst. Cosmetics maker Revlon now operates more than 500 of its IT applications in a private cloud built and operated by its IT team. When a fire destroyed an entire factory in Venezuela, including a data center, the company was able to shift operations to New Jersey in under two hours. ³ This level of data management was achieved because Revlon understood the value of their data and stored and protected it a way that freed them from the worry of downtime or service outages.

Research has found that most companies experience at least one data-related disaster affecting mission-critical operations each year. For this reason, organizations must take a careful and calculated approach to managing data. Developing an understanding of the importance of information, its availability, and its protection in relation to the overall success of the business should drive a company's approach to data management.

Not surprisingly, one of the fastest growing sectors of the information economy is data management technology, and one of the most sought-after employee skills today is the ability to understand information storage and data analytics.

DATA: A HIDDEN TREASURE

While information is necessary to run a competitive business, its required predecessor, digital data, is still often relegated to the backrooms of dark, antiquated data centers. To some business managers, the term “data warehousing” connotes a cold, dark place to store a necessary but not terribly interesting byproduct of doing business.

In reality, data is the crown jewel of an organization; it is a precious resource that allows business to continue operations, and the intellectual capital that sets a business apart from its competitors. In today’s digital landscape, the line between a business’s success and failure is dependent on those who have the foresight to understand the importance of information management.

For companies to succeed they must recognize that the management of data, in all its forms, can no longer be relegated to the back room. Data management isn’t just an IT department problem, it’s a business problem. Data management needs to be simple, scalable, agile, and quick, so that information can move freely within an organization, and accessed wherever needed.

THE DATA ASSET

Today’s data deluge is reshaping the way companies approach IT. More organizations are recognizing the need to respond structurally to the role of data. Craig Mundie, head of research and strategy at Microsoft, stated in an article in *The Economist*, “What we are seeing is the ability to have economies form around the data . . . Data is becoming the new raw material of business: an economic input almost on a par with capital and labor.”⁴

A joint study by MIT Sloan Management and the IBM Institute for Business Value shows analytically mature organizations to be three times more likely to outperform their less mature competitors; top-performers are 5.4 times more likely to use a data analytics approach within their business decision processes than to rely on intuition.⁵

While Big Data is capturing headlines, most companies produce and store vast amounts of data for reasons other than analytics, including regulatory compliance, data backups, test and development copies, and disaster recovery. Technology expert Brian Proffitt writes, “Companies are still very much seeking the less-flashy but still critically important tools to manage everyday data . . . and now more than ever even ordinary data is a company’s life blood.”⁶

THE DATA MANAGEMENT SOLUTION

As organizations venture out to solve the data management problem, they will find dozens of companies that offer solutions addressing some, part, or all of the data management process. The key to selecting the right solution is to understand the needs of the business.

- **Data Mobility and Migration:** The solution must be able to transparently move or migrate data across storage from different vendors as technology is refreshed, traverse data centers as an organization grows or consolidates, and provide an on-ramp to the cloud as more services are moved and provided back to the organization as a utility.
- **Data Continuity:** If the need is to keep information available in the event of hardware and software failures, human errors, or disasters, then the solution should offer integrated virtualization and replication of data to enable it to work across heterogeneous environments, platforms, and geographic locations. Loss of an entire data center should become a non-issue, as all services and applications should continue normally.
- **Data Protection and Recovery:** If an organization needs to protect against accidental deletion, corruption or loss of information across all locations, including remote offices, then the solution must scale from very small to very large, and accommodate recovery of data to any point in time, instantly.
- **Backup Optimization:** It is no secret that with data growth exploding, many IT departments struggle to keep up and successfully complete backups within backup windows. Using snapshot technologies and disk-to-disk-to-tape (D2D2T) topologies can help customers overcome those challenges, protect investments, and ensure their data is protected.
- **Data Deduplication and Archives:** If the goal is to reduce the amount of redundant data the business creates and stores, then a solution that provides integrated, optimized global data deduplication is ideal. The solution should also be able to integrate with and leverage legacy tape for high-density, low-cost, automated archiving of data.

Each of the above scenarios typically require different solutions from different vendors, which drives up cost and increases complexity. Because the data management problem is complex, an effective solution needs to simplify the underlying complexity for the user while providing powerful and innovative technology to address the entire scope of the problem holistically. The solution must be able to scale across multiple vendors and platforms, and be highly reliable and secure.

In order for the solution to be successful, there must be buy-in from the top executives down to the folks who must manage the solution on a day-to-day basis. Internal company politics and existing vendor relationships should be put aside so that any potential solution can be independently analyzed to assure it is chosen based on the alignment of business requirements and budgets rather than external forces.

CONCLUSION: UNIFIED AND FLEXIBLE

Data management solutions need to be unified but flexible, and able to operate across heterogeneous environments reliably and at lightning speeds. The solution should address all platforms and data types, including both structured and unstructured data. Companies can't afford to be restricted to specific hardware or software vendors, nor can they afford to have important data isolated by system or organizational silos. They need a top-down unified approach to their data management initiatives, and require open, flexible systems that can support them in the most efficient, cost-effective manner possible. With the right solution in place, optimized data management enables automation of IT operations and provides the organizations with the freedom to reduce the time, costs, and complexity of managing information while gaining a competitive edge.

REFERENCES

1. Ryan Murphy, "Where In The World Is Your Next Data Center," ReadWrite, May 2, 2013
2. CA Technologies Survey, "Cost of Downtime, November 2010
3. Jacques Bughin, Michael Chui, and James Manyika, "Ten IT-Enabled Business Trends For The Decade Ahead," McKinsey Quarterly, May 2013
4. "Data Data Everywhere," The Economist, February 25, 2010
5. Steve LaValle, Michael S. Hopkins, Eric Lesser, Rebecca Shockley, and Nina Kruschwitz, "Analytics: The New Path to Value, MIT Sloan Management Review, October 24, 2010
6. Brian Proffitt, "Why Business Still Needs Help Managing Explosive Data Growth," ReadWrite, November 20, 2013

Corporate Headquarters

2 Huntington Quadrangle, Suite 2S01
Melville, NY 11747
Tel: +1.631.777.5188
salesinfo@falconstor.com

Europe Headquarters

Landsberger Str. 312
80687 Munich, Germany
Tel: +49 (0) 89.41615321.10
salesemea@falconstor.com

Asia Headquarters

PICC Office Tower No. 2
Room 1901
2 Jian Guo Men Wai Avenue
Chaoyang District
Beijing 100022 China
Tel: +86.10.6530.9505

Information in this document is provided "AS IS" without warranty of any kind, and is subject to change without notice by FalconStor, which assumes no responsibility for any errors or claims herein. Copyright © 2014 FalconStor Software. All rights reserved. FalconStor Software and FalconStor are registered trademarks of FalconStor Software, Inc. in the United States and other countries. All other company and product names contained herein are or may be trademarks of the respective holder. FOIWP141014