IRON MOUNTAIN®

TAPE AND CLOUD: MORE THAN A MARRIAGE OF CONVENIENCE

DATA PROTECTION AND CYBER SECURITY: YOUR IT DEPARTMENT'S BIGGEST CHALLENGES

With growing regulations around information management, litigation on the rise and massive quantities of data being generated every day, organisations need to store and protect increasing volumes of data for set periods of time.

DATA GROWTH

According to Cisco, annual global IP traffic will pass the zettabyte ([ZB]; 1000 exabytes [EB]) threshold by the end of 2016, and will reach 2.3 ZB per year by 2020. This explosion of traditional and Big Data – fuelled by social media, mobile and other technologies – has kept concerns about backup, recovery and archiving in the spotlight.

FINES FOR NON-COMPLIANCE

Businesses operate in a risky environment. Nobody wants to be the next headline in the newspaper. A security breach, a loss or inadvertent disclosure of data or an insider threat could all damage your business. To protect your reputation, maintain customer confidence and, ultimately, protect your business, you need to make information security a priority.

According to research from IBM, the average cost of a data breach totals around $3.8 million. 77% of businesses reported a data breach in 2014, and the global estimates of data lost from cybercrimes ranges from the high hundreds of billions to over 1 trillion USD.

VULNERABILITY ON-SITE

Shifting information management trends stress the need to adequately support both unstructured data (tweets, videos and audio) and structured data (databases, files and email). Stored onsite, the related backup data may not only require added resources to manage, but also becomes extremely vulnerable to network-based errors or intrusions and disasters of any kind. Under these pressures, securing data, maintaining service levels and responding quickly to requests for information becomes more and more challenging.

BUDGET CONCERNS

A problem arises when your IT budget isn't growing equally to meet these new demands. Stepping up to address them means looking for better ways of handling backup, recovery and archiving.
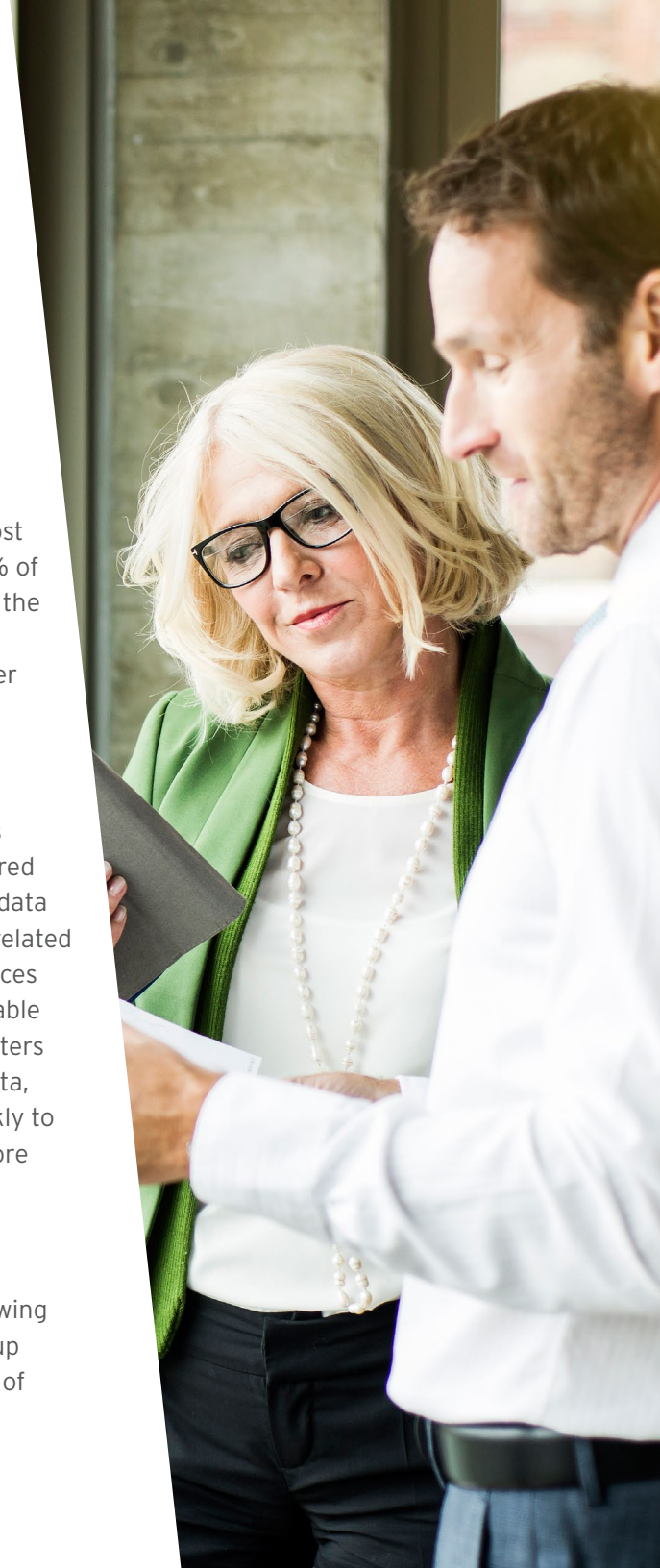
A PATH FORWARD

Offsite tape vaulting and cloud storage are two of the most popular technologies for tackling backup, recovery and archiving requirements. Deployed strategically, they can provide a safe, scalable and highly cost-effective way to store data in alignment with related access and recovery requirements. But how can you achieve the maximum benefit without sacrificing performance or creating undue risk?

Ultimately, it starts and ends with your storage strategy. By building one that treats tape and cloud as complementary assets, you can leverage the best of both worlds to manage all your data.

BASICS FIRST

When it comes to creating an effective storage strategy, it pays to get back to basics. That means reassessing the fundamental ways you use and store data in your organisation. Ask yourself the following questions:

- What data are you currently storing, and where is it located?

- Who needs to access specific information, how often and for what reason?

- How long does it take to retrieve data, and how is that impacting your ability to respond to regulatory requests?

- How well are you meeting your existing service-level agreements (SLAs)?

- What steps are you taking to protect your data?

- Do you meet data protection regulatory requirements?

BY KNOWING WHAT DATA TO ARCHIVE AND WHAT NEEDS TO BE MORE READILY ACCESSED, YOU CAN MAKE TECHNOLOGY DECISIONS THAT OPTIMISE BACKUP, RECOVERY AND ARCHIVING PROCESSES.

Gaining this comprehensive view allows you to first identify the data you need to save and then establish a storage hierarchy to tier different data types based on their unique usage and security requirements. Afterwards, you can place these defined slices of data into the most appropriate backup and storage environment. By doing so, you'll be able to separate high-demand, need-it-now data from data that can be archived for potential retrieval at some later, unspecified date. This approach slashes the time and effort required to access this business-critical data. At the same time, it improves your ability to establish and meet recovery-time and recovery-point objectives (RTOs and RPOs) for all your organisational data.

EVALUATING TECHNOLOGY OPTIONS

Technology is continuously evolving to provide advanced solutions to support data backup, recovery and archiving requirements. But no matter what technology you choose – tape, disk or cloud, certain factors always come into play. Is it reliable? Is it cost-effective? Can it scale to support ongoing data growth?

It's tempting to think that one backup and recovery medium can serve as a one-size-fits-all solution. Or that the latest technology must be the best. But all trendiness aside, the only real way to know if a solution is up to the required standard is to compare it against other available options.

Take tape, for example. As an off-site backup medium, tape has been tried and tested over many years. Yet, many have turned away from tape, with newer disk-based and cloud-based solutions gaining favour. Here are some stats that tell the truth about tape as is operates today:

• The LTO Program estimates that approximately 90% of Fortune 500 companies have tape implemented in their infrastructures.

• According to a 2016 LTO Program Media Shipment Report, 76,190 compressed petabytes of tape capacity shipped in 2015, while 64,671 compressed petabytes shipped in 2014–a capacity increase of 17.8% year-over-year.

• LTO-7 tape allows organisations to store up to 15 terabytes (TB) of compressed capacity, which is more than double that of the prior LTO-6 generation.

• 59% of organisations still use tape as their primary form of backup.

• More than 280 million LTO tape cartridges have been shipped since the invention of the storage format.

Cloud-based backup has faced detractors, as well, with most focusing on potential security concerns and the expense of extracting data from the Cloud once it's put in. However, with end-to-end data encryption and the ability to automatically and continuously protect data as it is created, cloud-based solutions offer a complementary, safe solution for many organisations' backup requirements.

Here are some stats that show the value and prevalence of cloud storage solutions:

• According to the 2016 RightScale Cloud Computing Survey: Lack of resources/expertise is now the #1 cloud challenge (cited by 32%), supplanting security (cited by 29%).

• The Cisco Global Cloud Index (GCI) states that, by 2019, 86% of workloads will be processed by cloud data centres; 14% will be processed by traditional data centres.

• According to a 2015 ESG report, 88% of companies say the cloud is either important, very important or critical to a data protection appliance strategy

BOTH TAPE AND CLOUD TECHNOLOGIES HAVE A PLACE IN YOUR STORAGE STRATEGY. DETERMINING WHEN AND WHERE TO USE THEM DEPENDS ON YOUR UNIQUE BUSINESS AND IT REQUIREMENTS.

SEEING TAPE STRATEGICALLY

Thanks to its iron-clad reliability and low-cost, high-performance features, tape has earned a reputation as an incredible workhorse in data centres around the world. That's why continued use of tape for data protection makes strategic sense in so many ways. And with the low cost, direct access and high storage volumes of new LTFS offerings, it's an even smarter choice today.

Tape is ideally suited to help organisations like yours:

STORE MASSIVE AMOUNTS OF DATA AND ACCESS IT EASILY

Operating in the era of Big Data, your organisation generates tremendous volumes of data every day. Other activities, including mergers and acquisitions or organic expansion, only add to the vast amounts of data requiring effective protection through offsite storage. Tape's high capacity and portability make it easy to transport terabytes of data. In fact, thanks to linear tape file systems (LTFS), tapes are accessed like disk, while providing a lower-cost mechanism to store multiple copies of accessible archived data. This is often less costly than streaming data into the Cloud.

SUPPORT LONG-TERM DATA RETENTION

Concerns over potential litigation have many organisations storing data well beyond the time frames required by regulations. With an impressive 30-year shelf-life, tape provides a robust, inexpensive data storage solution for financial, healthcare, insurance and other heavily regulated firms. That far surpasses the typical 7-to-10-year period for spinning disk, and its always-on technology contributes to notably higher energy costs.

ARCHIVE NON-ACTIVE DATA

Tape also provides efficient, cost-effective and reliable storage for non-active, rarely requested data. It allows you to keep valuable enterprise data secure, while accommodating a reasonable two-to-three-minute turnaround time to pull tapes from libraries and access data when needed.

AT AN AVERAGE COST OF $.01/GB, TAPE STORAGE IS THE MOST AFFORDABLE OPTION FOR STORING MASSIVE AMOUNTS OF DATA

USING CLOUD EFFECTIVELY

As a complementary technology, cloud-based backup and archiving can also play an important role in your overall storage strategy. Using cloud technology for your backup and archiving activities offers a flexible, scalable, pay-as-you go approach to help keep costs down, while providing a less resource-intensive way of managing related processes.

PROVIDE AN EASY-ACCESS PROTECTED ARCHIVE

If you need fast access to sensitive data, a cloud-based archive could be your best bet. For example, large organisations create huge volumes of image-based data every day, and while they may not need to refer to it for years, they can retrieve this data immediately when it's stored in a cloud-based archive. In cases like this, the speed of data delivery can make all the difference in providing proper customer service. And it can more than compensate for cloud's somewhat higher price-point compared to tape-based archive solutions.

GAIN A NO-FUSS BACKUP AND ARCHIVE SOLUTION

Backup and archive solutions that require manual intervention can put a strain on organisations with limited IT resources. Using a cloud-based solution increases automation and enables you to perform continuous backups without requiring the physical handling of backup media. This is particularly attractive to small- and mid-sized IT departments with few staff, but who have the same mandates to protect information.

USING TAPE AND CLOUD FOR BUSINESS ADVANTAGE

Tape and cloud can address your most critical backup, recovery and archiving requirements. To craft a strategy that balances their benefits, evaluate your data access and recovery capabilities against the cost of providing them via tape or cloud technology. By doing so, you'll be able to deliver real efficiencies and cost savings to your organisation.

COST	
What is the total cost of supporting your backup, recovery and archiving functions?	Tape-based backup and recovery offers a more reliable and economical option than disk-based solutions.
	While cloud-based solutions can be more expensive than tape, they offer fast, automated backup and archiving that helps reduce IT's workload.

ACCESS	
Which situations require immediate access to data, and when is near-instant access less critical?	Tiering and storing data based on access demands is more efficient and cost-effective.
	If you need information in a snap for any reason, cloud technology is king.
	Tape offers low-cost, long-life, high-capacity storage for long-term data retention to support compliance, as well as archiving of non-active data.

RECOVERY	
What level of risk are you willing to accept when it comes to recovery and meeting RPOS and RTOS?	Keeping your backup data onsite puts you at increased risk from disasters.
	Moving data to an offsite cloud- or tape-based backup and recovery environment based on usage patterns gives you a secure way to recover it, so you can minimise disruptions and meet SLAs.
	Adding tape can also provide a last line of defence in a networked world where errors, viruses and breaches can spread like wildfire.

PUT YOUR NEW STRATEGY TO WORK

Now that you've seen how both tape and cloud technologies can help organisations meet specific backup and archiving requirements, you may be ready to incorporate them in new or improved ways in your organisation. But getting the right strategy in place is essential.

In order to start the process, consider the following steps.

1. UNDERSTAND DATA AND USAGE PATTERNS BEFORE IMPLEMENTING A SOLUTION

This underscores backup and archiving basics.

There's no magic approach to managing your backup and archival data. In the end, most companies find that a mix of different solutions brings the best results. And that's why understanding the precise makeup and use of your data (and information) is so critical.

2. MOVE YOUR EXISTING TAPE OFFSITE

Often, onsite tape libraries are left unprotected in data centres, where they waste valuable space and contribute to additional expense. In other cases, they're housed in offices without proper climate controls. This puts data recoverability at risk and can potentially impact a company's ability to get back up and running should disaster strike. Moving tape to a secure, environmentally controlled offsite location frees up floor space and offers greater protection for your organisation's data.

3. TARGET SMALLER PROJECTS FIRST

Starting small helps you gain the expertise you need to maximise your investment in tape and cloud technologies. Pick specific projects and assess the impact of any newly introduced technology in your IT ecosystem. As you become more familiar with how a particular technology works, you can make plans to strategically extend its use based on your experience in pilot projects.

TWO WAYS WE CAN HELP

1. **I AM ALREADY IN THE CLOUD AND I AM LOOKING FOR A TIERED APPROACH TO DATA BACKUP**

For businesses that are already working with a cloud solution provider, you may find that a tiered backup and recovery approach using tape and cloud services gives you greater recovery capability than a cloud-only approach. We can support your backup, archiving and recovery plan with a tape service tailored to the needs of your business. We provide a comprehensive tape backup service to help you best manage large data volumes, support long-term data retention and archive non-active data.

2. **I AM LOOKING FOR A SECURE OFFSITE DATA PROTECTION SERVICE INVOLVING TAPE AND CLOUD**

For businesses that are looking for a solution that best distributes your data using tape and cloud strategies, we provide a comprehensive service for storing and managing your backup and archival data using both mediums.

OFFSITE DATA PROTECTION SERVICE

- Your physical backup media will be stored and transported in ideal conditions to preserve and protect the media and the data they hold.

- We offer a variety of cloud-based solutions through trusted partnerships to meet your organisation's unique needs.

- Our people follow best-practice processes and go through rigorous background checks, screenings and formalised training, so you can be confident they know how to safeguard your information.

- A secure chain-of-custody provides audit trails and reports that will satisfy your internal and external auditors and help you comply with policies and regulations.

WITH IRON MOUNTAIN OFFSITE DATA PROTECTION YOU WILL BE ABLE TO:

- Manage your data protection and disaster recovery processes consistently across your sites

- Stay in control, track and locate your backup media at any time

- Find exactly what you need, exactly when you need it

- Get fast access to your data should the unexpected happen.

ABOUT IRON MOUNTAIN

Iron Mountain Incorporated (NYSE: IRM) provides information management services that help organisations lower the costs, risks and inefficiencies of managing their physical and digital data. Founded in 1951, Iron Mountain manages billions of information assets, including backup and archival data, electronic records, document imaging, business records, secure shredding, and more, for organisations around the world. Visit the company website at www.ironmtn.com.au for more information.