IRON MOUNTAIN®

MAKING THE CASE FOR A HYBRID BACKUP STRATEGY

WHITE PAPER

INFORMATION IS...YOUR ADVANTAGE

CONTENTS

INTRODUCTION

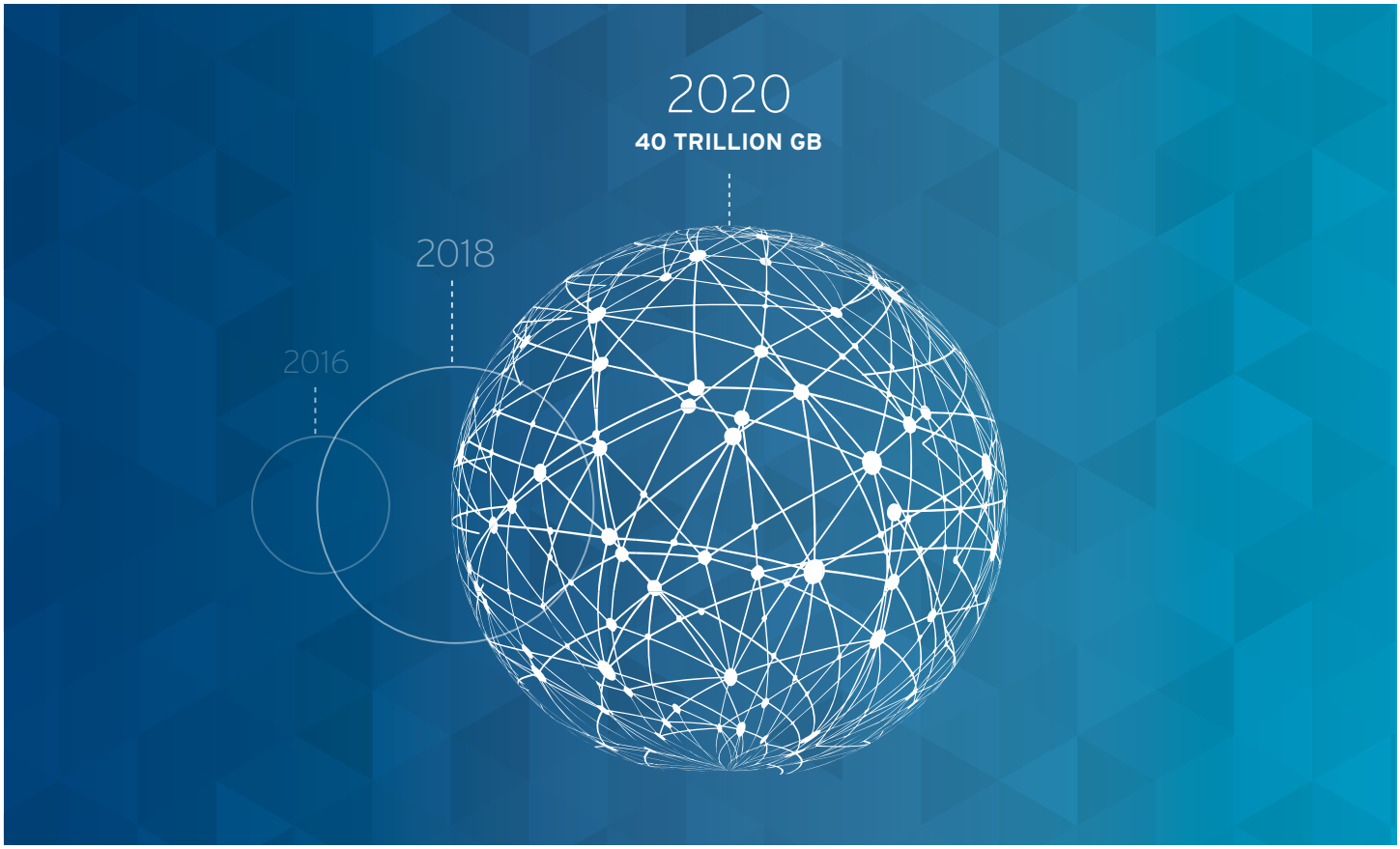
Big data is no longer just for the Fortune 500—thus demand for data protection and recovery continues to rise exponentially. Today's businesses increasingly depend on IT infrastructure for large-scale applications: Customer resource management (CRM), enterprise resource planning (ERP), and eCommerce, just to name a few.

Data is the lifeblood for businesses of all sizes, whether it's structured block data—including enterprise systems data and transactional data—or file data, the documents and media files users generate. And that's just actively used data, the day-to-day files everyone needs to keep the business running. Organizations also constantly archive data, which requires additional capacity over time.

The sheer amount of data a business generates is predicted to continue increasing at staggering levels. In fact, IDC and EMC suggest that the digital universe will double every two years, predicting that storage growth could reach 4,000 exabytes (40 trillion gigabytes) by 2020.[1]

But managing expanding amounts of data is challenging—and with myriad options, IT must choose a solution that meets current and future needs while fitting within flat or even decreasing IT budgets. An additional consideration is the burden on existing IT staff to continue managing data storage, backup and recovery, and disaster mitigation strategies along with other pressing tasks—without increasing headcount.

IDC and EMC suggest that the digital universe will double every two years, predicting that storage growth could reach 4,000 exabytes (40 trillion gigabytes) by 2020.[1]



IS YOUR BUSINESS AT RISK?

While backup and recovery is critically important, many businesses don't view it as such. In fact, an EMC survey indicates that about 20% of businesses change their protection profile annually.[2] In situations where backup and recovery are manual or labor-intensive processes, IT staff can be spread too thin to properly retrain on new processes or even consider configuring more automated options, increasing risk of error or downtime.

In the EMC Global Data Protection Index Survey of 3,300 IT decision makers in 24 countries,[2] 87% of respondents indicated their business was behind the curve for data protection maturity. Further, 71% were not fully confident of their ability to restore their data—and many of these also indicated they had never conducted a test to ensure their backups could be restored.

Data loss and unplanned downtime can cost businesses as much as $1.2 trillion. In the event of unplanned downtime—such as hardware failure, IT security breaches, man-made or natural disasters, unexpected patches, or software updates—87% of businesses are not fully confident that data can be restored.[2]

Understanding where your organization currently falls on the data protection maturity scale can help you evaluate and predict its data storage and recovery needs.

DATA PROTECTION MATURITY MODEL–WHERE DOES YOUR BUSINESS FALL?

There are four categories of businesses in the data protection maturity model referenced in the EMC survey: laggards, evaluators, adopters, and leaders.[2]

LAGGARDS

The Laggards category represents more than a third (36.8%) of survey respondents, and consists of organizations that have some data protection, but low confidence in their ability to recover. Backup only is the core component of this category's data protection strategy. These organizations may have older or out-of-date backup systems, and may have never tested their ability to restore data. For Laggards, data recovery may take more than a full business day; this amount of downtime can be quite costly for organizations in this category.

EVALUATORS

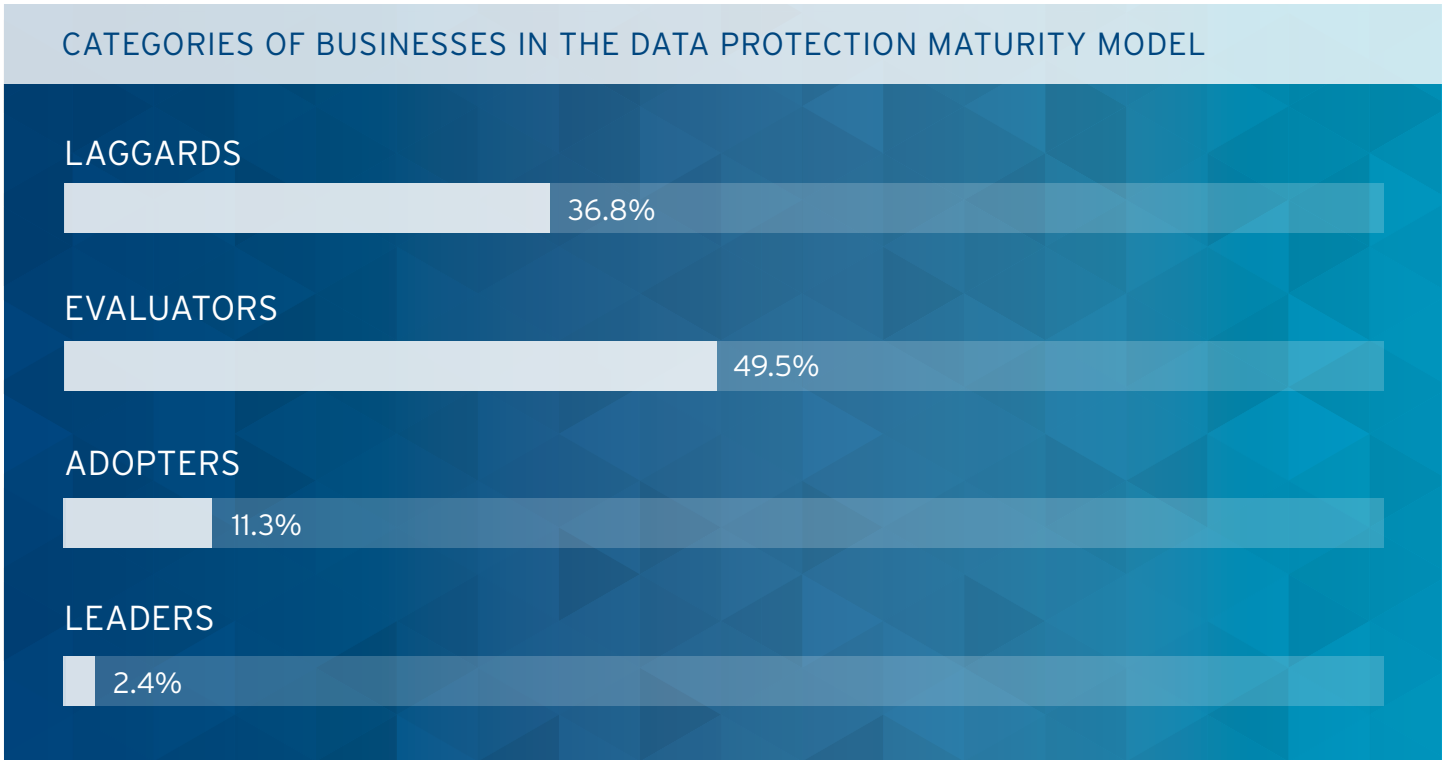
In the Evaluators category, representing half (49.5%) of surveyed respondents, there are doubts about the ability to restore data, and they may or may not have tested whether or not data can be restored. Replication is core to Evaluators' data protection strategy and recovery time can be six to 24 hours.

ADOPTERS

Organizations in the Adopters category represent a smaller portion (11.3%) of survey respondents. They have more robust data protection strategies, with active-active instances at the core that possibly include more than one method, including backup, deduplication, and offsite replication. These organizations are moderately confident in their ability to restore data, but recovery time may take from two to five hours.

LEADERS

The Leaders category represents only a fraction (2.4% of surveyed respondents. This category consists of businesses with disaster-tolerant replication, with standby and/or virtualized servers at the core of their data pro-tection strategy. They are very confident they can restore data with minimum downtime.



Many organizations aren't ready to rip and replace their existing backup applications, so they need choices. *Data management needs are not a one-size-fits-all situation…*

BACKUP AND RECOVERY SOLUTIONS

All four categories in the data protection maturity model use some combination of tape-, disk-, and cloud-based solutions. There are benefits and drawbacks to each solution.

TAPE-BASED

Tape backups are extremely reliable and infinitely scalable, and can be an ideal method for long-term storage or archival purposes, since they can be stored offsite. A tape backup strategy can be less expensive than other techniques, which can be attractive for companies with small budgets. However, restoring data from a tape backup can cause considerable downtime.

DISK-BASED

Disk-based backup and recovery provides increased performance in terms of both backup and recovery time, but can be more expensive in terms of required hardware purchases. Disk-based backup can also feature streamlining tools like deduplication, which provides less performance overhead and takes up less overall disk space, as well as compression, which allows more data to be stored on less disk space.

CLOUD-BASED

With cloud-based backup and recovery, an organization doesn't own the hardware. Instead, this backup and recovery strategy uses hardware and software owned by a cloud provider. Options include cloud data backup Software-as-a-Service (SaaS), which can include a browser-based interface to offsite hardware; and cloud storage services, which may include a disk replication target as a service.

SOLVING BUSINESS DATA NEEDS TODAY—AND TOMORROW

While different organizations have different needs, most agree that it's critical to reduce costs, have multiple choices, and leverage cloud or cloud-like capabilities.

In terms of cost, organizations need to make the most out of flat IT budgets. Moving storage and recovery to the cloud can help eliminate future hardware expenditures, which can help reduce CapEx costs. Cloud-based backup and recovery options are typically consumed as an OpEx monthly subscription.

Many organizations aren't ready to rip and replace their existing backup applications, so they need choices. Data management needs are not a one-size-fits-all situation: Some want to keep or replace an existing backup solution; some want to keep or replace an existing tape backup infrastructure; and some want a self-managed or even a fully automated service.

For some organizations, cloud services can be a robust, resilient, and economical solution for data protection, offering benefits like multi-tenancy, self-service access, and capacity elasticity. The cloud delivers the means to protect data using a managed service, instead of building infrastructure and equipment, which plays into the OpEx versus CapEx model with a flexible, volume-based cost structure.

HYBRID BACKUP AND RECOVERY SOLUTIONS

No matter what an individual organization's data protection strategy, most can benefit from a hybrid strategy that combines the best of tape, disk, and cloud data protection.

IRON MOUNTAIN CLOUD DATA REPLICATION FOR EMC DATA DOMAIN SYSTEMS

With the Iron Mountain Cloud Data Replication solution, data is replicated to disk, de-duplicated and compressed, and backed up to the cloud. Data can be optionally archived to tape and vaulted for extended archival with Restoration Assurance, which guarantees data restoration even from legacy backup applications and tape drives. The solution addresses three key areas:

- **Cost:** IT departments can decommission existing manual tape backup infrastructure and operations, reducing cost for on-premises operations. The Cloud Data Replication service can also plug into an existing EMC Data Domain or Avamar solution, maximizing existing investments.
- **Choice:** Restoration Assurance empowers IT to make a clean break from legacy tape, clearing a path forward to an improved backup and data restoration solution.
- **Cloud:** The Iron Mountain Cloud Data Replication service comprises all the elements of cloud consumption, including self service, elasticity, and tiered cost based on storage capacity needs—all with the trusted security and compliance measures expected from EMC and Iron Mountain.

Additionally, for users with Data Domain deployed on-premises or at remote sites, Iron Mountain provides a replication target as a service. Iron Mountain delivers the network connectivity and uses inline deduplication from Data Domain to replicate data from Data Domain appliances to a target in an Iron Mountain secure data center, without capital expenditures: instead, it's consumed as an OpEx monthly subscription.

IRON MOUNTAIN RESTORATION ASSURANCE PROGRAM

The Iron Mountain Restoration Assurance Program provides a defensible, predictable, and repeatable process that:

- Tracks information on archival tapes
- Maintains tape backup subsystems
- Manages silos of information and systems
- Manages incompatible backup systems
- Enables IT to manage and maintain access to information

This managed restoration service supports catalog management, restoration, and reliable SLAs along with offsite secure tape vaulting that provides a chain of custody, including destruction.

The Iron Mountain Restoration Assurance Program provides a defensible, predictable, and repeatable process...

CONCLUSION

Two out of every three customers using a disk-based target to replace tape-based backups use EMC Data Domain[3] because its deduplication and compression features help them maximize the amount of data that can be protected on the smallest possible disk footprint. And Iron Mountain is a leader in the tape-based vaulting space—more than 80,000 small and medium businesses have relied on Iron Mountain backup for more than 60 years.

Combining these two powerhouses results in a solution that modernizes the data protection environment to provide cloud network-based replication in addition to tape-based archiving, all in a cost-effective package. By tiering storage into a very low cost, long-term retention model, organizations can keep overall costs in check while ensuring high levels of security and compliance—and moving their data protection maturity level toward the Leader model.

[1] John Gantz and David Reinsel, "The Digital Universe in 2020: Big Data, Bigger Digital Shadows, and Biggest Growth in the Far East - United States," *IDC*, February 2013. https://www.emc.com/collateral/analyst-reports/idc-digital-universe- united-states.pdf

[2] "EMC Global Data Protection Index," *EMC*, December 2, 2014. http://www.emc.com/microsites/emc-global-data- protection-index/index.html

[3] Based on IDC quarterly survey where EMC holds between 58%-68% market share. "Worldwide Purpose-Built Backup Appliance (PBBA) Market Revenue Breaks the $1 Billion Mark in the Fourth Quarter, According to IDC," *IDC*, March 20, 2015. http://www.idc.com/getdoc.jsp?containerId=prUS25500315

IRON MOUNTAIN®

EMC² BUSINESS PARTNER

ABOUT IRON MOUNTAIN

Iron Mountain Incorporated (NYSE: IRM) provides information management services that help organizations 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 organizations around the world.
Visit the company website at www.ironmountain.com for more information.