White Paper

Modernizing Data Protection

From Backup to Recovery and Data Reuse

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Contents

Is Backup That Important? Market Trends

Data loss and application unavailability can take a significant toll on organizations of all sizes. We live and operate in a data-centric world. Very much like turning on a light switch, we just expect that data will be available when we need it. Just think about the last time the power went out and how suddenly everything changed. It is the same for data: not much of a concern until it becomes unavailable or corrupted by the latest flavor of ransomware, or the power goes out and "kills" the IT infrastructure that it relies on. Just like the light switch, users and IT professionals have very high service level expectations.

Service Level Expectations Are High

Organizations' expectation of availability is clearly becoming more pervasive across all applications and data. ESG research shows that businesses have little tolerance for outages of "high priority" applications and workloads. The amount of tolerable downtime for these key applications is below the one hour mark for 71% of organizations. In addition, 38% of organizations can tolerate only one hour of downtime or less even for lower priority applications.[1] These stringent requirements place a significant burden on IT to deliver predictable and recovery-focused solutions. Data protection is a fundamental discipline that executive leaders mandate IT to deliver against. ESG research highlights that improving recovery point objectives (RPOs) and recovery time objectives (RTOs) is a top mandate.[2]

This keen focus on data and application availability is a business imperative simply because downtime can have a significant impact across a business. The top five impacts resulting from application downtime or lost data most often cited by IT professionals include loss of customer confidence, direct loss of revenue, missed business opportunity, loss of employee confidence, and damage to brand integrity.[3]

Test It to Prove It

While RPOs/RTOs are top mandates, they are also surveyed IT professionals' most often cited challenge. Figure 1 highlights further challenges faced by many organizations.[4] Of note is the protection of VMs and the cost pressures associated with delivering data protection that meets business requirements.

To alleviate the RPO and RTO challenges, best practices focus on adopting a thorough approach to disaster recovery testing. This includes people, processes, and the technology. Our research indicates that 20% of organizations report testing the ability to restore from their primary backup solution daily, while another 22% perform tests on a weekly basis. It should also be noted that 59% of the organizations that test daily or weekly are *completely satisfied* with their primary backup solution, compared with only 10% of organizations that test less frequently (i.e., every other week, monthly, quarterly, or annually).[5] This is an interesting finding in that it demonstrates that there is plenty of room for improvement to test more often, which is critical to recoverability capabilities. These results also show that vendors should encourage testing best practices, not only because it is critical to the business, but also because it makes their end-users more comfortable and satisfied with their solution.

RPO and RTO are not just recovery metrics; they have truly become important business metrics across all types of organizations, public or private.
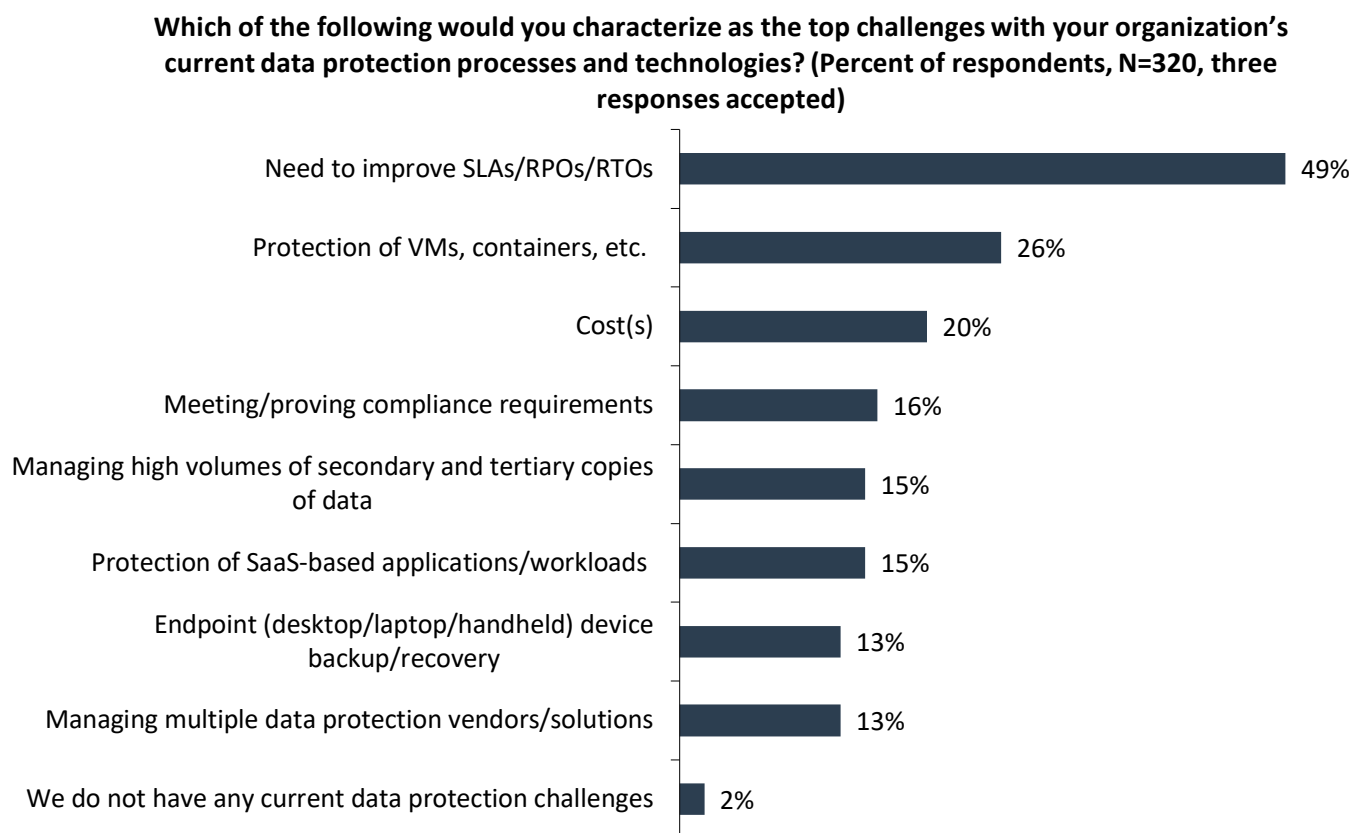
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[1] Source: ESG Master Survey Results, *Real-world SLAs and Availability Requirements*, May 2018.
[2] Source: ESG Master Survey Results, *2018 Data Protection Landscape Survey*, November 2018.
[3] Source: ESG Master Survey Results, *Real-world SLAs and Availability Requirements*, May 2018.
[4] Source: ESG Master Survey Results, *2018 Data Protection Landscape Survey*, November 2018.
[5] ibid.

Figure 1. Top Data Protection Challenges

Which of the following would you characterize as the top challenges with your organization's current data protection processes and technologies? (Percent of respondents, N=320, three responses accepted)

Challenge	Percent
Need to improve SLAs/RPOs/RTOs	49%
Protection of VMs, containers, etc.	26%
Cost(s)	20%
Meeting/proving compliance requirements	16%
Managing high volumes of secondary and tertiary copies of data	15%
Protection of SaaS-based applications/workloads	15%
Endpoint (desktop/laptop/handheld) device backup/recovery	13%
Managing multiple data protection vendors/solutions	13%
We do not have any current data protection challenges	2%

Source: Enterprise Strategy Group

The Next Phase

The world has become data-centric in all sectors of the economy. Whether data is the product, an adjunct to a tangible product, or simply used to run the business, data has become the business. As such, data is not only fuel that can help transformation, but also an asset that must be leveraged and made more useful to the business through reuse. There is a lot of data to leverage, and the best "place" to capture and leverage data is the infrastructure with storage, backup, and recovery workflows.

Organizations are in many ways "codependent" when it comes to data. There is a shared reliance on data across the business, but the mechanisms and architectures in place today lead to complexity and operational inefficiencies. It is necessary to break down the traditional silos of data: primary, secondary, and isolated workloads.

The requirement for context and content about the data is becoming more acute as new regulations and the need for use of data to support digital transformation are changing the role of data in the enterprise. Data has to be more intelligent.

Beyond disaster recovery or backup and recovery uses cases, which are both critical and must be improved today, the solutions or systems performing these operations are already in data's path and therefore should also capitalize on this opportunity to provide insight into the data, understand the context and the content of it, and deliver management capabilities. There is a data management chasm that separates traditional and cloud-based backup data from the data intelligent and autonomous stages (see Figure 2).

This is where Pure Storage can help today and tomorrow: today with enhanced availability and recovery capabilities based on advanced storage technologies, and tomorrow by leveraging cloud and breaking down storage silos to allow for heterogeneous mixed workloads on shared storage, fostering data reuse.

Figure 2. Crossing the Data Management Chasm

BACKUP DATA TRANSFORMATION

BASELINE
Protects on-premises workloads

CLOUD-ENABLED
Natively leverages public and private cloud technology

THE DATA MANAGEMENT CHASM

DATA INTELLIGENT
Context and Content

AUTONOMOUS
Minimizes Human Intervention

Source: Enterprise Strategy Group

Pure Storage's Solution

Pure Storage's portfolio delivers data continuity with numerous capabilities to support the protection and consolidation of data assets. All data services are built-in and the portfolio also includes cloud-based management, a must-have for modern data protection.

It starts with a high availability set of capabilities on the primary storage systems, which combine 99.9999% reliability with ActiveCluster for site-to-site sync for failover. This provides a strong first line of continuity and defense to end-users seeking minimal data loss exposures. This primary storage solution also includes space-efficient snapshots and replication for use by both the data protection team and the database admins who manage the live data on a daily basis. It should be noted that these systems offer non-disruptive upgrades (NDU) and no planned downtime through data-in-place upgrades eliminating migration, which is a major operational benefit economically and operationally when it comes to maintaining availability and reducing demands on IT team resources as well as impact on users.

Backup and recovery are necessities in data protection and capturing a backup copy is a mature process with existing preferred tools. Organizations can keep their existing backup software tools and modernize in place by updating to FlashBlade as the backup target storage in order to benefit from Rapid Restore, offering accelerated restore times to meet increased RTO expectations.

With cloud strategy integrations from supporting workload virtualization with VMware and container environments to extending the storage environment into public cloud, customers can now enter the era of the one-cloud modern data experience.

Pure Storage also supports organizations with digital transformation in mind by breaking down the silos of primary, protection, and isolated workload infrastructure, effectively allowing heterogeneous mixed workloads storage. This is key to intelligent data management since data can be not only replicated to other sites, but also managed and shared from a common footprint, eliminating silos. This means better BC/DR capabilities, the ability to leverage data for additional business use cases through copy data management, *and* the ability for end-users to leverage a variety of ecosystem partners.

The Bigger Truth

Data protection is evolving to become more "demanding" with stringent SLAs for an increasing range of data. One could argue it is morphing into "availability" across a variety of infrastructure topologies that are themselves evolving to gain new levels of operational efficiencies through storage consolidation.

The consolidation of silos can make data more usable across the whole organization. To do so, users can leverage Pure Storage's FlashBlade as a data hub, collapsing silos and leveraging object storage options, on-premises and in the cloud.

IT leaders should consider Pure Storage solutions for a variety of reasons:

- The portfolio offers a great fit for optimized recovery. The true modernization of data protection is the ability to deliver on stringent RPOs and RTOs.

- The reliability and availability of a Pure Storage-powered infrastructure translates to accessibility of data.

- Cloud is of course critical in modernized infrastructures. With cloud-based capabilities, and VMware integrations, Pure Storage gives end-users options and flexibility to deploy a hybrid cloud footprint at scale.

- The partner and alliance ecosystem around Pure Storage provides further flexibility and capabilities for enhanced recovery and intelligent management of data for expanded business use cases.

For Pure Storage, delivering on data protection SLAs is not an *option*; it is a mission-critical mandate for IT. Taking the use of data to the next levels of availability and efficiency, and sharing it across the organization for improved business outcomes is the next step, and that's what ESG expects Pure Storage to increasingly help its customers with moving forward.