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Data Gravity

The Ever-growing Data Management Challenge

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Research Objectives and Methodology

OBJECTIVES

Intelligent data management solutions and use cases are transforming the traditional data protection and storage spaces. As end-users continue on their digital transformation journeys, the need to efficiently reuse compliant data is adding data management challenges to an already complex IT infrastructure landscape. At the same time, significant business benefits can be derived from successful intelligent data management implementations.

METHODOLOGY

In order to understand the benefits and challenges of IT initiatives in this space, establish the current state of deployments, identify gaps, and highlight future expectations, ESG surveyed 360 IT professionals at organizations with 250 or more employees in North America (US and Canada) personally responsible for data protection and data management technology decisions for their organization. This research aimed to understand IT professionals' grasp of and sentiment toward intelligent data management, including the identification of the most successful business and technical use cases for data reuse.

ABOUT THIS eBOOK

Throughout this eBook, we weave in testimonials and insights on how customers are combining their decades of experience, with the Pure Storage® proven track record for innovation, to create cloud-ready solutions. These experiences are included to highlight how Pure Storage technology can help turn bottlenecks into breakthroughs and turn an organization's valuable data into powerful business outcomes. These experiences are also intended to demonstrate the depth and breadth, both business and technical, that Pure Storage data services can deliver—data services that can span your entire journey and can help uncomplicate data storage forever.

Source: ESG Research, *The Evolution of Intelligent Data Management*, January 2022. All ESG research references and charts in this eBook have been taken from this research report, unless otherwise noted.

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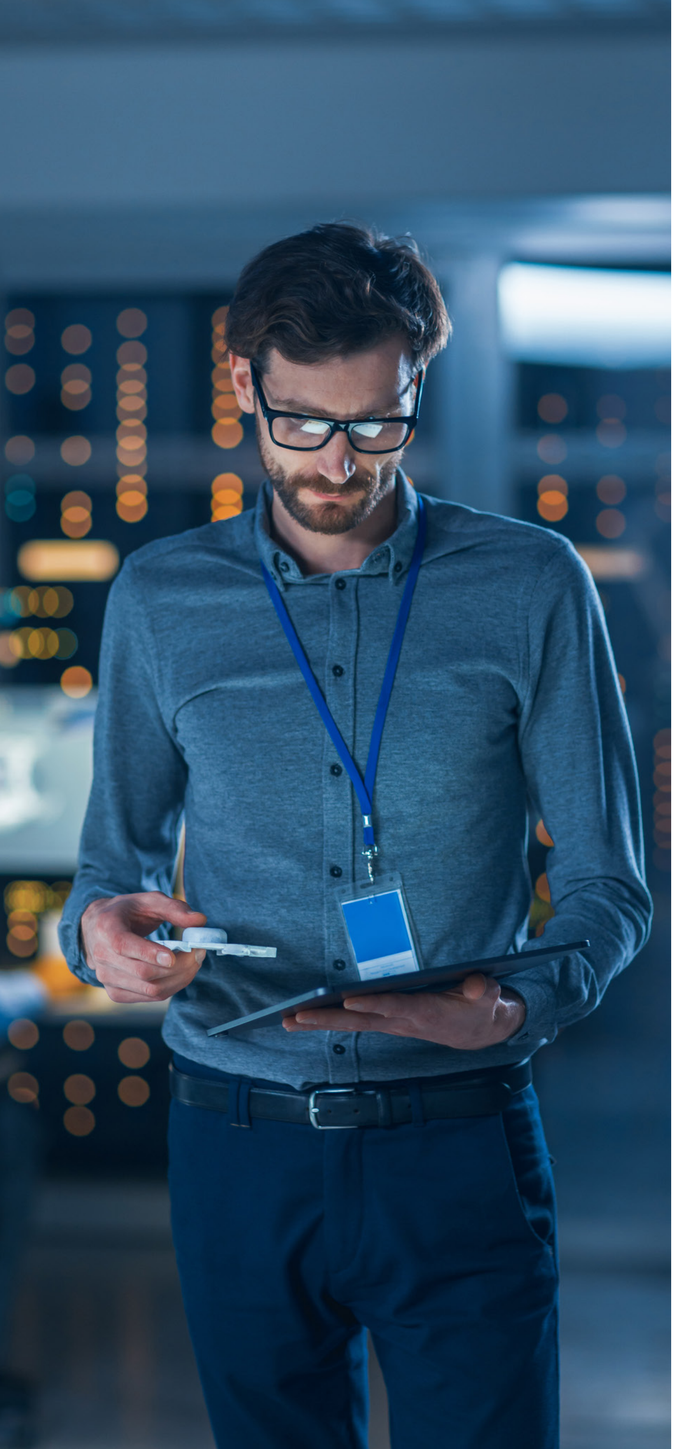

Highlighted Findings

Managing the Data Growth Constant

The combination of accelerating data growth and copies of that data is creating a data flood, **inundating the IT infrastructure with more complexity, cost, and cyber-risk from an expanded attack surface.**

Data Is the Business

It has become obvious that data is central to all businesses in one form or another, **with one in five organizations being purely data-fueled in its core business.**

Intelligent Data Management Is at the Heart of Digital Transformation

More than three-quarters of organizations are satisfied to some extent with their secondary data reuse strategies. It is, therefore, not surprising that intelligent data management has become a top-five priority for two-thirds of organizations relative to other data protection and management initiatives.

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Managing the Data Growth Constant

“FlashStack enables us **to easily handle increasing workloads to meet customer demands.”**

*- **Hector Romero,** Senior Systems Engineer, Barfoot & Thompson*

Pure’s industry-leading **data compression, thin provisioning, and deduplication** help customers gain data efficiency and use less cloud infrastructure.

Average Overall Data Growth Is Up 27%

Data growth has become a constant in modern IT. But it is not just data growth that is an issue; it is data “multiplication,” such as multiple copies of production data that are used for non-production purposes.

ESG expects to see technology vendors not only continue to innovate with technologies that optimize the management, cost, and placement of this existing pool of data, but also provide data reduction solutions.

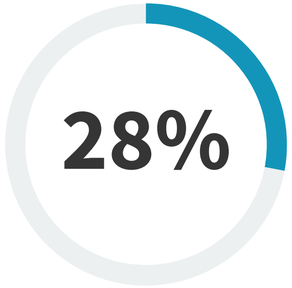
“We struggled to scale cost-effectively and achieve the performance required for loading properties into our systems,” says Hector Romero, Senior Systems Engineer at Barfoot & Thompson. “FlashStack enables us to easily handle increasing workloads to meet customer demands. Our racks also went from 12 to 3, reducing our power consumption from 5,000W to 1,100W. We are proud to achieve this incredible environmental impact.

Annual data growth rates.

20% or less annually

21% to 50% annually

More than 50% annually



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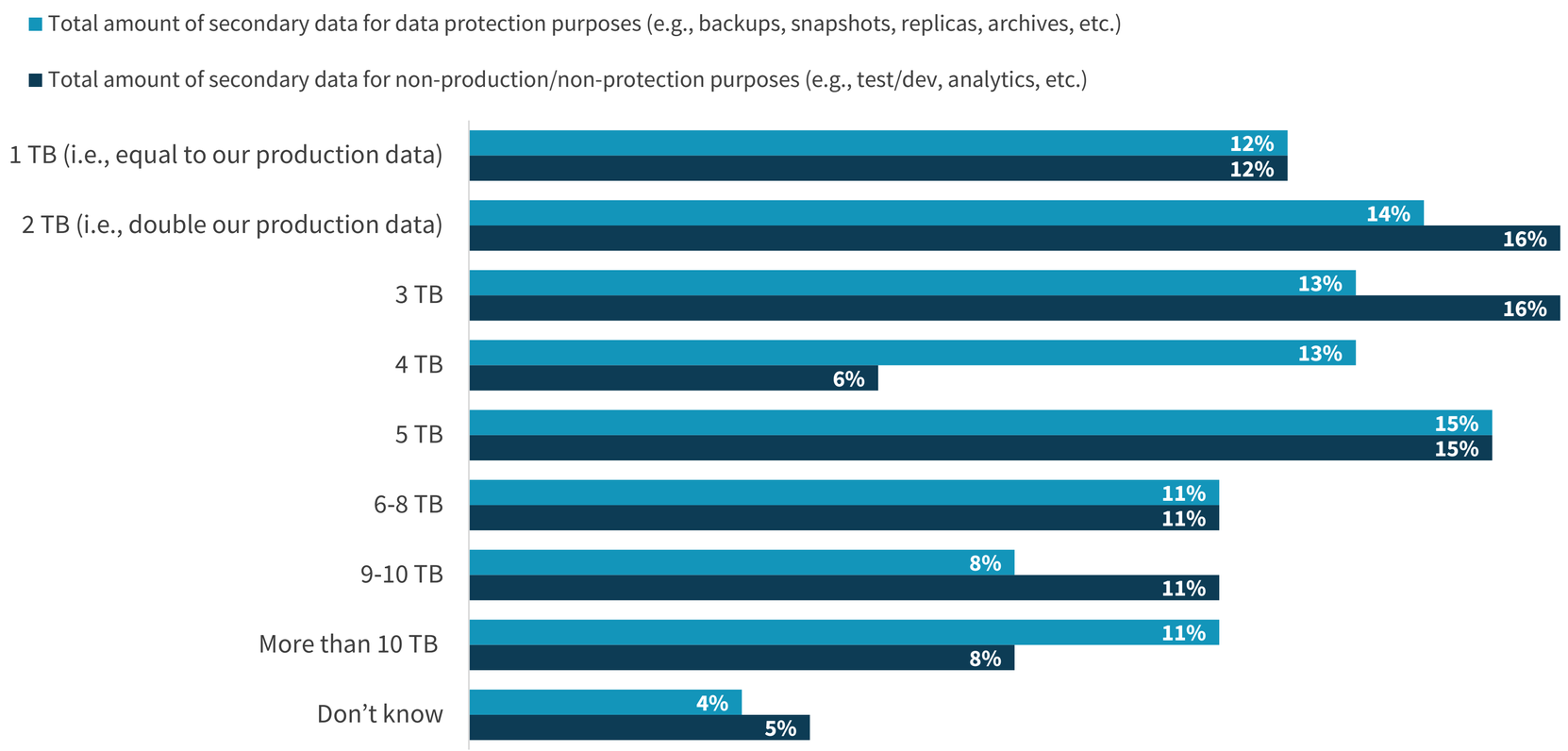
Secondary Data Generated by Production

While it makes sense that there should be more than one copy of data, do end-users really need to multiply their production data endlessly? In recent research, ESG asked respondents how many TB of secondary/protection data they typically require for data protection purposes—including backups (e.g., dailies, weeklies, monthlies, etc.), snapshots, replicas, archives, etc.—for every 1 TB of production data required. Respondents were also asked how many TB of secondary/protection data they typically require for non-production/non-protection purposes, such as test/development/staging, analytics, etc.

Amount of secondary data generated by date reuse requirements.



This research highlights the enormous demands on storage capacity that data protection and data reuse activities can add to an IT environment. As seen here, these data management activities can easily double and in some cases add 10x or more to the amount of data an organization needs to manage. This is especially true when secondary data copies are not managed efficiently.

When managing secondary data requirements, **Pure Storage** customers can leverage snapshots and clones that consume no additional on-premises or cloud storage.

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“We absorb an enormous amount of data from all of the cable operators and rating sources in the industry.”

*- **Seth Weingarten,** Vice President of Network Operations, Ampersand*

Are Data Silos a Problem?

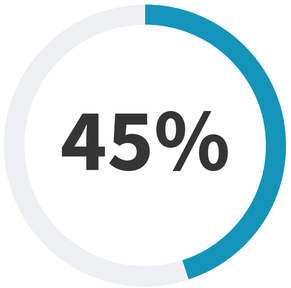
Most organizations see data silos as a problem impacting IT budgets and strategies. While there are integration tools, there are always compromises resulting in limitations to deliver on data protection KPIs. Silos are not a good thing for IT. They’re expensive, distracting, and inefficient, and they affect the ability to deliver on efficient data reuse.

“We absorb an enormous amount of data from all of the cable operators and rating sources in the industry,” says Seth Weingarten, Vice President of Network Operations at Ampersand. To capitalize further on the scale and performance of the cloud, Ampersand wanted to move its SQL Server and MySQL transactional data to AWS and adopt the cloud for disaster recovery. That meant retiring the physical secondary data center used specifically for backups and, instead, replicating data from the primary data center to the cloud.

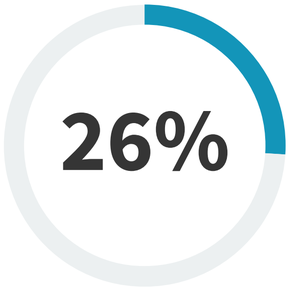
Are silos impacting data visibility?

Yes, it’s a significant problem

Yes, but we are making progress addressing the problem



Not really



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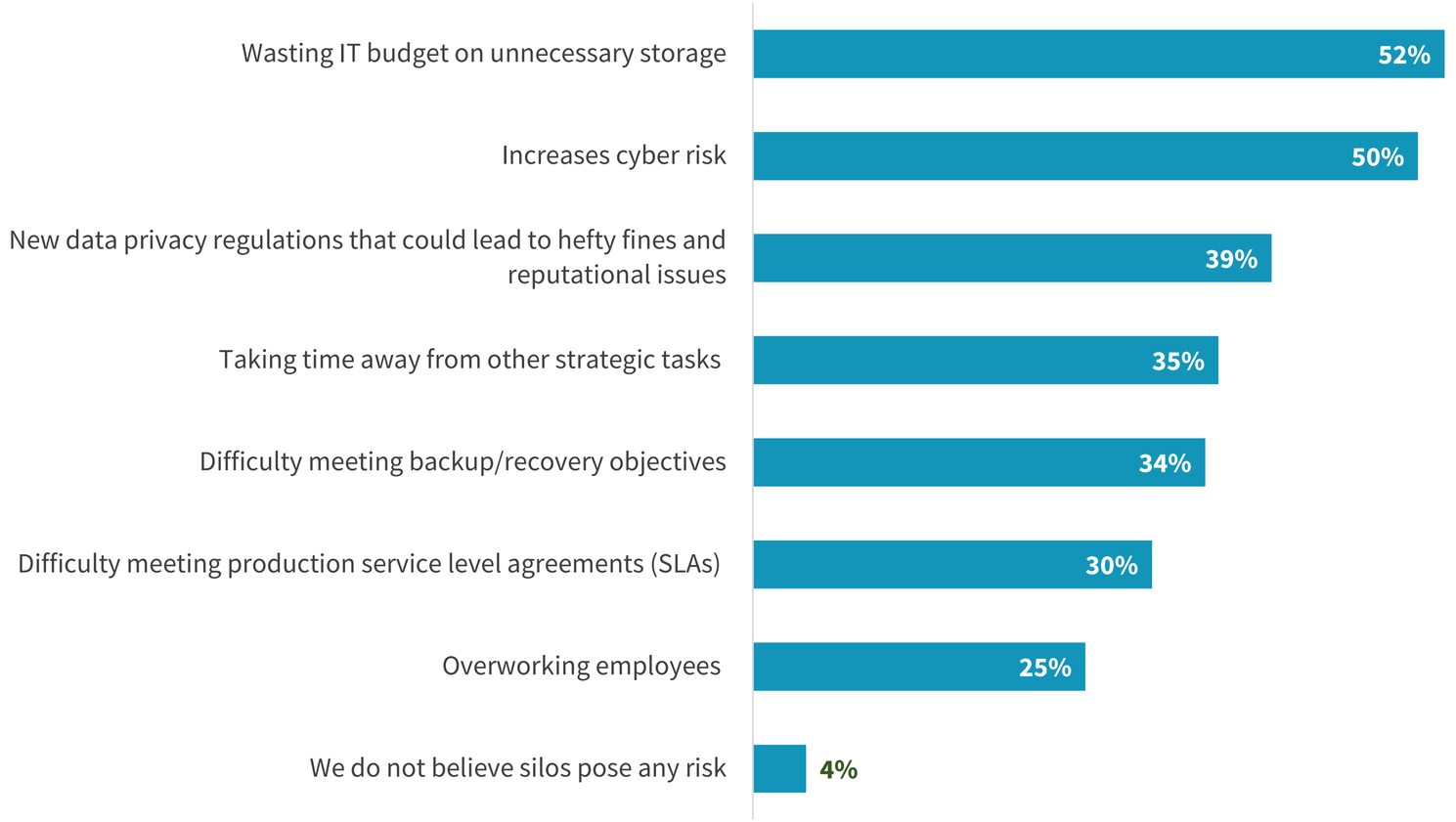
> **The security, reliability, and management simplicity of Pure lets us concentrate more on delivering value to our customers,** wherever they are on their life journey."
>
> *- Michael Clarkson, Infrastructure Manager, Booster*

Drive innovation and productivity while eliminating the complexity of operating hybrid and public cloud environments.

Risks Attributed to Data Silos

Additionally, silos often generate multiple copies of the same data, further compounding the risk. In order to optimize the economics of data protection and data operations in general, including in the context of data originating from redundant point storage solutions, something has to change.

Organizational risks associated with data silos.



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Data Is the Business

> **Pure is an integral part of our strategy** to turn data into value for our customers."
>
> *- **Oscar Alarcón Rodríguez,** Director of Infrastructure, MetroGAS*

For database workloads at scale, **Pure Storage** offers FlashArray//XL with industry-leading data reduction for faster replication, improved latency for consolidated workloads, and enhanced capacity for the most demanding database workloads.

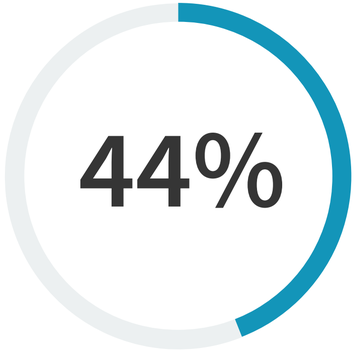
Organizations' Perspective on Data

As organizations continue their path to digital transformation, it has become obvious that, in one form or another, data is central to all businesses. One in five organizations identified data as their core business. If data is the business, then organizations should treat data as an asset that must be de-risked, protected, and leveraged. Data centricity should, therefore, drive decisions and investments, both for IT and at the business level. Data management has never been so important.

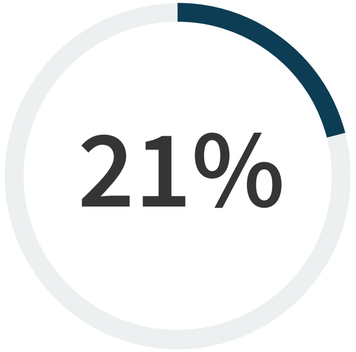
"Our business increasingly runs on data, especially as we migrate to the cloud, and Pure is an integral part of our strategy to turn that data into value for our customers," said Oscar Alarcón Rodríguez, Director of Infrastructure at MetroGAS.

In a context of heightened global competition, digital transformation, and a pandemic-challenged economy, delivering more agility to the business and improved customer experience is fundamental.

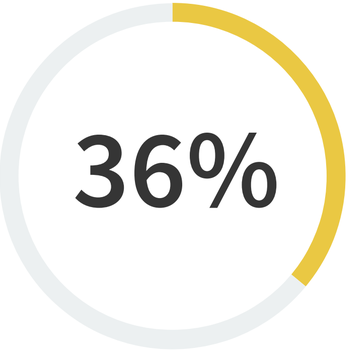
Data helps to support our business (we offer tangible/physical products and services)



Data is our business (our core products and services are information-based –e.g., financial services, media, consulting, etc.)



We offer both tangible and information-based products and services



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“The impact of cyber-criminals **has generated a defensive posture for many organizations.”**

Pure Storage helps mitigate ransomware attacks by securing critical data from being altered or destroyed, allowing organizations to recover quickly from an attack.

Data Reuse Initiatives Deliver Business Value

Secondary data reuse generates broad benefits that are not just for IT. While it may not be surprising to expect and confirm that improved data visibility is a top business benefit, the strategic nature of the top five business benefits must be highlighted. It’s also worth noting that the impact of cyber-criminals has generated a defensive posture for many organizations. Every day, the news reminds us of this existential data risk. Secondary data reuse can be used offensively to proactively generate more business intelligence or new data-based products, or it can be used defensively for advanced cyber- resiliency use cases.

This makes intelligent data management much more than a data asset optimization effort. It makes it a de-risking initiative in terms of cyber resilience.

Top five business benefits of data reuse.

39%
Improved data visibility

31%
Greater business agility

30%
Greater resiliency to cyber-attacks

30%
Improved customer experience

29%
Advance strategic initiatives like DevOps and data analytics

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> “One should notice the variety of use cases for data reuse **because it helps in understanding how complex it can be…”**

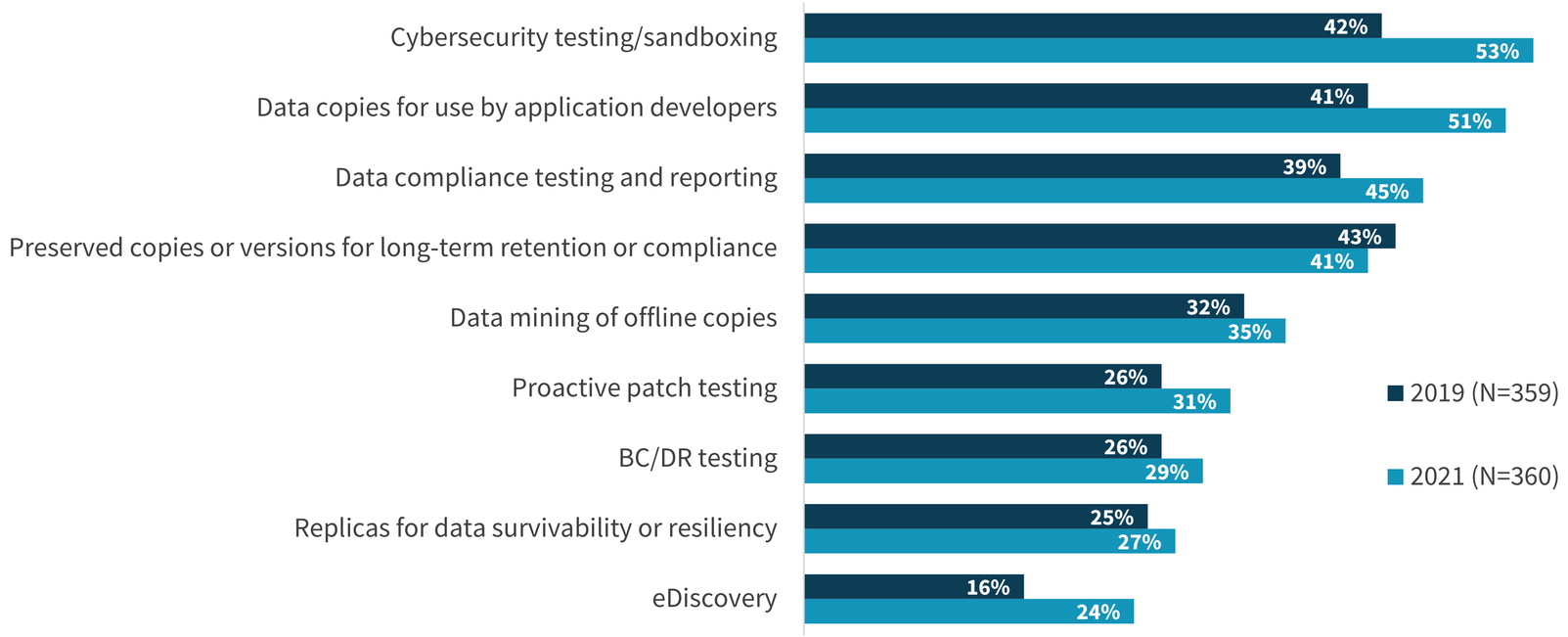
- Christophe Bertrand, ESG Practice Director

Traditional data-protection solutions are little more than costly insurance. **Pure Storage solutions help organizations address the most important aspects of data protection** and eliminate the complexity of keeping their data safe and available for other reuse cases.

Data Reuse Is Increasingly Dominated by Cyber-threats

Data reuse is evolving with a notable emphasis on cyber-resiliency. Taking a step back, one should notice the variety of use cases for data reuse because it helps in understanding how complex it can be to deploy intelligent data management across an enterprise, as supporting DevOps is vastly different from supporting the security operations or analytics teams (let alone the BC/DR team). Many different personas, as well as different technical and business objectives, can easily lead to competing priorities within IT. It is also challenging for vendors that seek to supply intelligent data management solutions: They must deal with different, and sometimes competing, buyer personas, while trying to be a unifier across data reuse initiatives. ESG expects that this dynamic is in its infancy and will keep maturing in the next few years with the potential to generate an evolution of ecosystem and channel partnerships to cover a wider spectrum of solutions.

Business or technology purpose for secondary data use.



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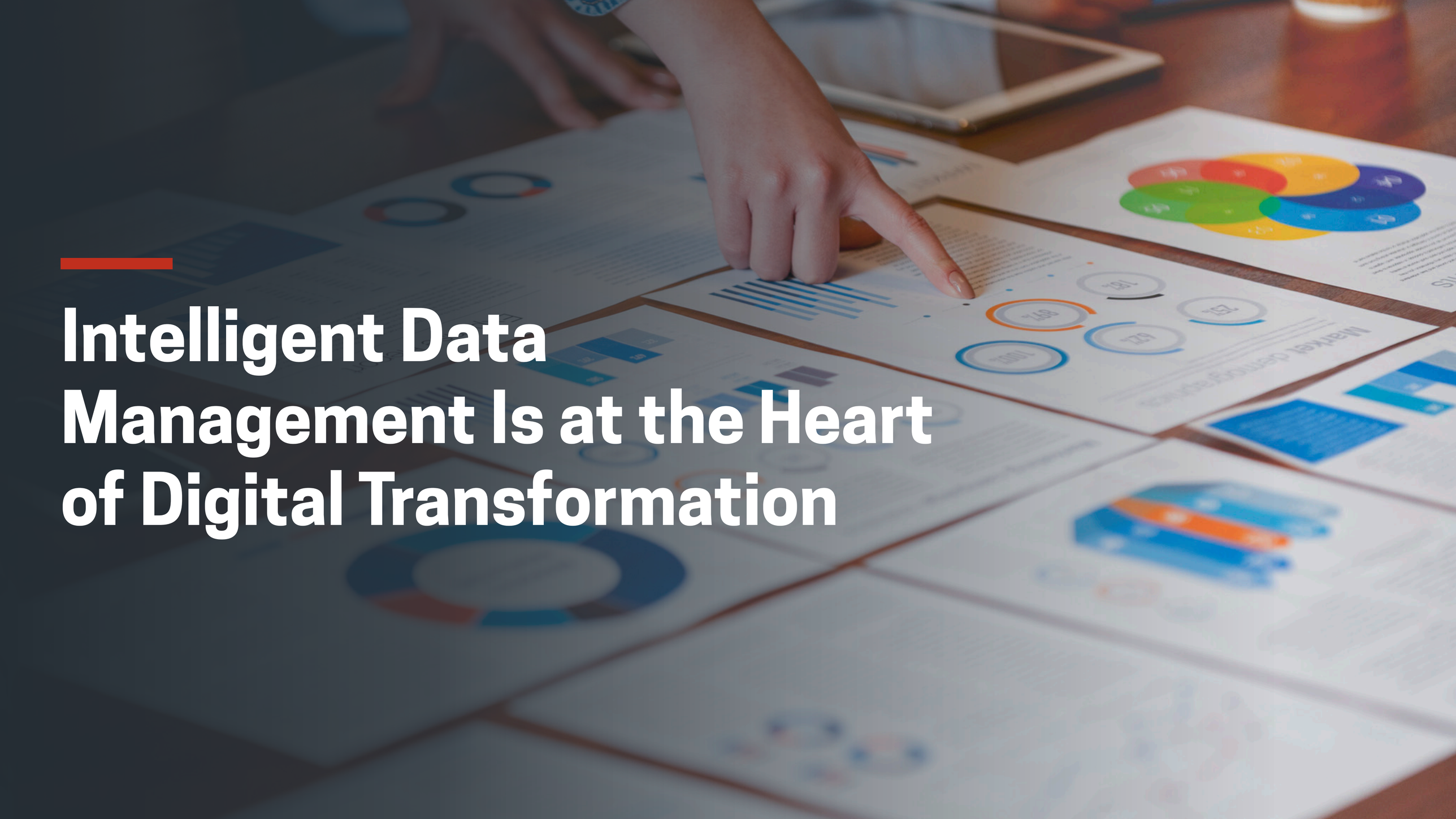
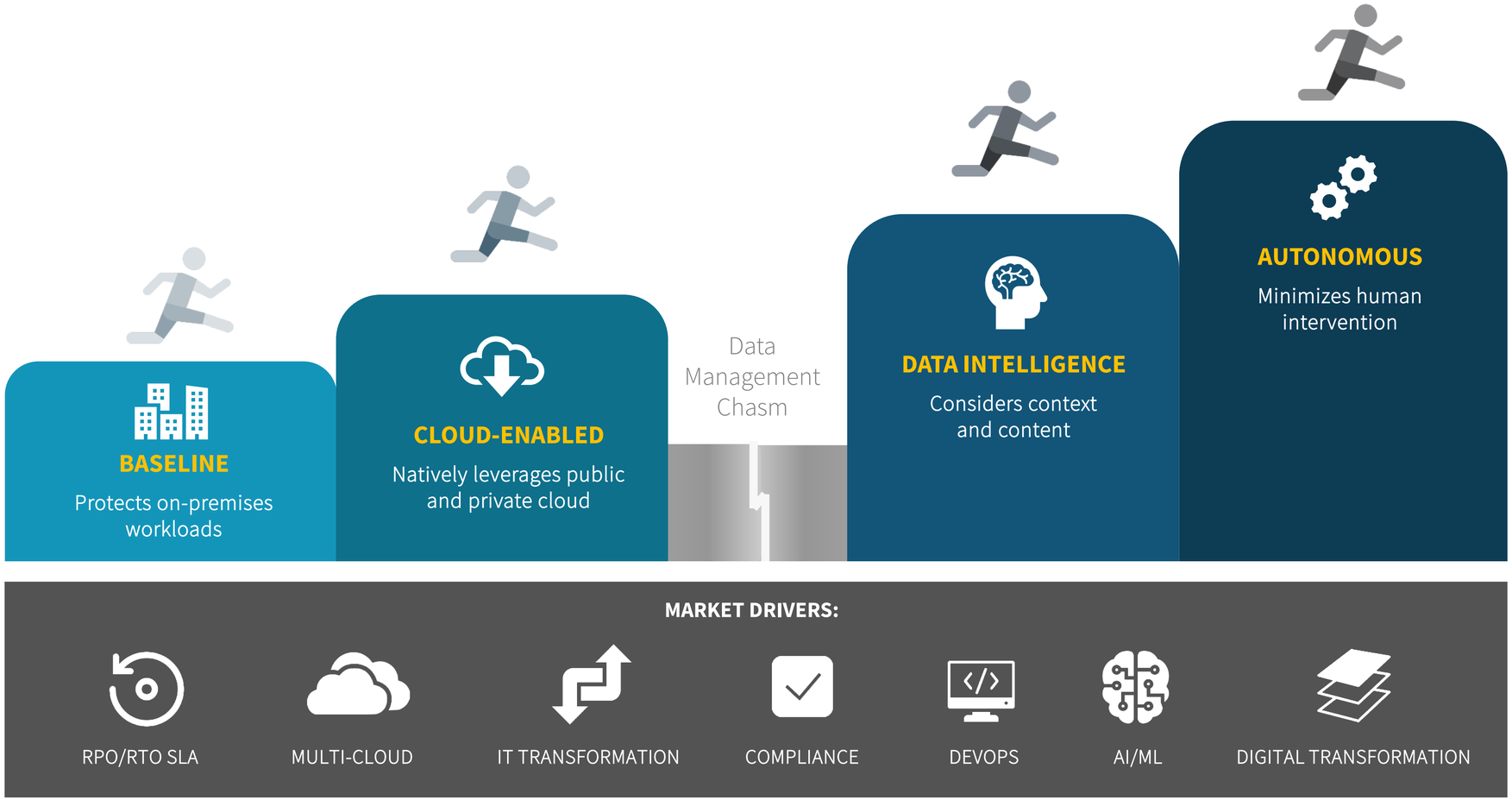


Intelligent Data Management Is at the Heart of Digital Transformation

The ESG Intelligent Data Management Model

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 must be more intelligent to be more easily shared across an organization. The ESG Intelligent Data Management Model highlights how organizations can evolve past the data management chasm.

Data that was originally on-premises only is now a lot more distributed, creating a hybrid infrastructure that causes additional complexity for IT. Today, data protection has evolved to not only provide protection, management, and movement on-premises, but also to provide these on the cloud and within the cloud. This cloud-enabled stage is where much of the market is today and where many organizations are adapting their data protection solutions to.



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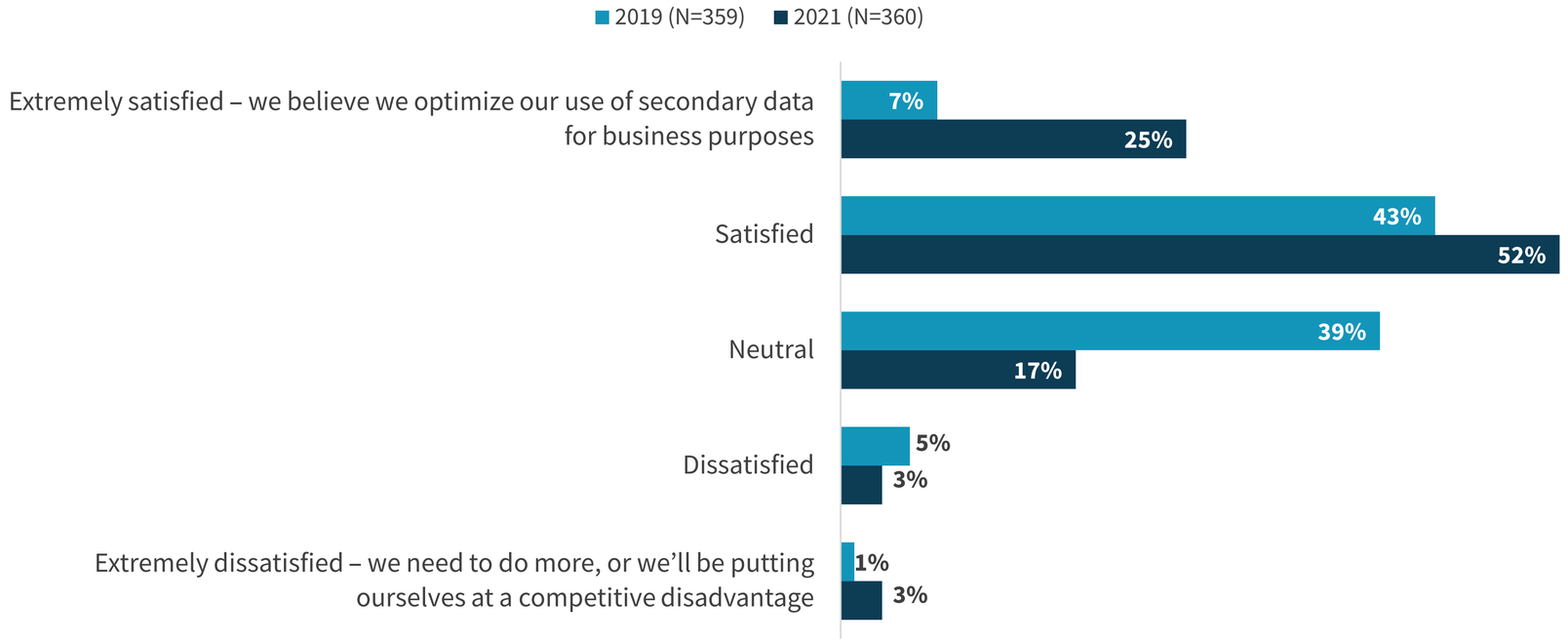
> “Organizations need to use modern solutions **that do not exclusively focus on the traditional use case of backup and recovery.”**
>
> *- **Christophe Bertrand**, ESG Practice Director*

Intelligent Data Management Is at the Heart of Digital Transformation

In order to realize the benefits of data reuse, organizations need to adjust their focus on their data management and data operations practices to fully benefit from the desirable outcomes outlined in this report. To “graduate” to the data intelligence stage and cross the data management chasm, organizations need to use modern solutions that do not exclusively focus on the traditional use case of backup and recovery but rather look at data more holistically to understand its context—what type of data, what system produced it, etc.—so that it can be efficiently reused. With uniform and automated policies, organizations can take advantage of new capabilities to fully leverage the data, such as enhanced analytics, faster dev/ops, and overall optimized digital transformation.

Is your organization satisfied with the amount of secondary data it uses for business?



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“Moving to an OpEx model with Pure as-a-Service* has been game-changing. We’ve shortened our time to market and are now providing our clients with our most performant and competitive storage solution to date.”

*- **Michael Russo,** Vice President, Product Management, Options Technology*

Cloud Adoption Has Gained Significant Traction

In only two years, the market for cloud adoption as a secondary data copy destination has gained significant traction. This extreme acceleration is consistent with the top solution requirements outlined earlier and confirms that data reuse (for non-backup/protection purposes) and public cloud are intertwined. This also means that topologies and solutions that will be deployed by organizations for secondary data use will be vastly cloud-based. It is ESG’s view that this dramatic shift is a likely consequence of accelerated digital transformation efforts and support for the broader trends around accelerating cloud adoption.

The majority of organizations send secondary data copies to public cloud infrastructure services for non-protection purposes.

* Pure as-a-Service has been renamed to Evergreen//One.

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> The adoption of as-a-service solutions across many IT and business functions **has been accelerating and is, not surprisingly, also present in data management.”**

- Christophe Bertrand, *ESG Practice Director*

Preferred Data Management Deployment Solutions

As organizations deploy more sophisticated data management solutions, multiple options exist. The massive and accelerated adoption of public cloud is evident, but its emergence at the top of preferred deployment methods is also to be noted. Indeed, leveraging an IaaS offering for data management is the most popular methodology. The adoption of as-a-service solutions across many IT and business functions has been accelerating and is, not surprisingly, also present in data management. The ease of use and outsourced nature of an as-a-service or managed service solution make these offerings attractive given the amount and complexity of data to manage. While cloud solutions top the list, organizations still have appetites for “traditional” hardware and software. This means that vendors in this space that want to deliver hybrid solutions should consider offering their technology with different deployment options, including some type of a cloud service.

Data management deployment options.

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> **“Data reuse automation has been ‘retro-fitted’** instead of built-in.”

*- **Christophe Bertrand**, ESG Practice Director*

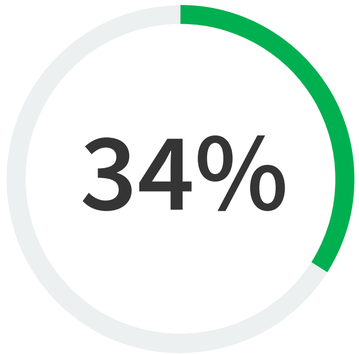
Pure1® helps organizations deliver IT results faster, lets them manage from anywhere, and provides full-stack monitoring with predictive analysis and support.

Policy Standardization Improves Business Outcomes

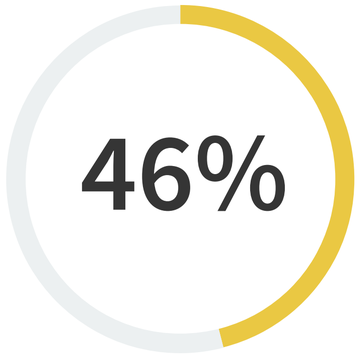
As business needs evolve, the IT infrastructure has to follow and redesign itself. Current mechanisms for data reuse in place today were designed for needs that have significantly evolved and now require advanced automation and orchestration of data and processes. Data reuse automation has been “retrofitted” instead of built-in, which is why many organizations report limited implementation of uniform policies across all secondary data. Having the capabilities to automate and deploy uniform data policies are the next big challenges. In the new hybrid world of digital transformation and heavy reliance on cloud and aaS, creating multiple, uncoordinated, and separate processes for different use cases, tacking on disparate tools and generating costly data replication is just not scalable. The focus must be placed on the common denominator—the data itself—and its intelligent management.

Ability to deploy uniform policies across all secondary data.

Yes, we have the ability to do policy orchestration across all our secondary data applications



To an extent, we are able to deploy some policies across some of our secondary data and apps, but not all of them at one time, and not all automatically



No, while there are solutions that make this possible, we do not have time, staff, or budget to implement them

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The Bigger Truth

The intelligent data management category is showing signs of becoming more mature as a market, with most respondents reporting significant improvements in satisfaction for secondary data reuse since 2019. This suggests more maturity in tools and practices and better visibility of the value of intelligent data management. Also, the adoption of as-a-service solutions across many IT and business functions has been accelerating and is, not surprisingly, also present in data management. Depending on where your organization is today, this journey to intelligent data management may seem daunting, but this research can help better understand the challenges and trends and help build the business case for your data management initiatives.

Find out how Pure Storage is redefining the storage experience and empowering innovators by simplifying the way people consume and interact with data.

ABOUT ESG

Enterprise Strategy Group is an integrated technology analysis, research, and strategy firm providing market intelligence, actionable insight, and go-to-market content services to the global technology community.

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