

## ESG SHOWCASE

# Dell Technologies PowerScale: Software-defined File Storage Offering Exceptional Flexibility

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**ABSTRACT:** Unstructured data has risen recently—both in terms of the capacity it consumes and its importance to businesses. Modern data demands greater scalability and hardware flexibility, and unstructured storage architecture should be designed with a data-first mindset. Fortunately, with its recent OneFS release, Dell is providing digital organizations greater choice, flexibility, and control of data with its PowerScale (formerly named Isilon) technology.

## Overview

Increased digital business demands have overburdened IT organizations, weighing down modern businesses. In a recent ESG research survey, only 26% of respondents describe their organization's digital transformation initiatives as mature, with a majority (52%) of the respondents identifying that becoming more operationally efficient was one of their organization's most important objectives for digital transformation.<sup>1</sup> Increasing operational efficiency, eliminating data silos, and consolidating data enables workers to be more productive with their data.

The effective use of data directly influences competitive success for modern businesses. Businesses and the IT organizations that support them must build a storage infrastructure foundation that enables the right data, especially the right file data, to be leveraged where it needs to be and when it needs to be as efficiently as possible. To accomplish this, IT organizations need to **adopt a data-first approach to storage infrastructure design.**

Designing a data-first storage architecture requires storage technology that offers flexibility in terms of hardware and deployment location; allows applications to be deployed at the core, the cloud, or the edge; adjusts and evolves as demands change; and continuously optimizes the environment.

To improve infrastructure flexibility and agility beyond the limits of traditional systems, software-defined storage (SDS) technologies can help. SDS, however, often introduces even more new costs and complexities as the IT organization assumes the responsibility of ensuring the hardware is tuned and optimized to work with the software.

IT organizations need technology that will deliver all the flexibility advantages of SDS while eliminating the need for the extra cost, time, and personnel cycles required to validate whether storage hardware and the SDS software are going to work together correctly. It is thus a promising development that [Dell Technologies](#), a leader in enterprise storage, has released its new PowerScale (formerly named Isilon) scale-out file storage technology built on the OneFS operating system with the flexibility to leverage multiple Dell hardware options properly and efficiently.

## The Complexity of File Environments in Today's Knowledge Economy

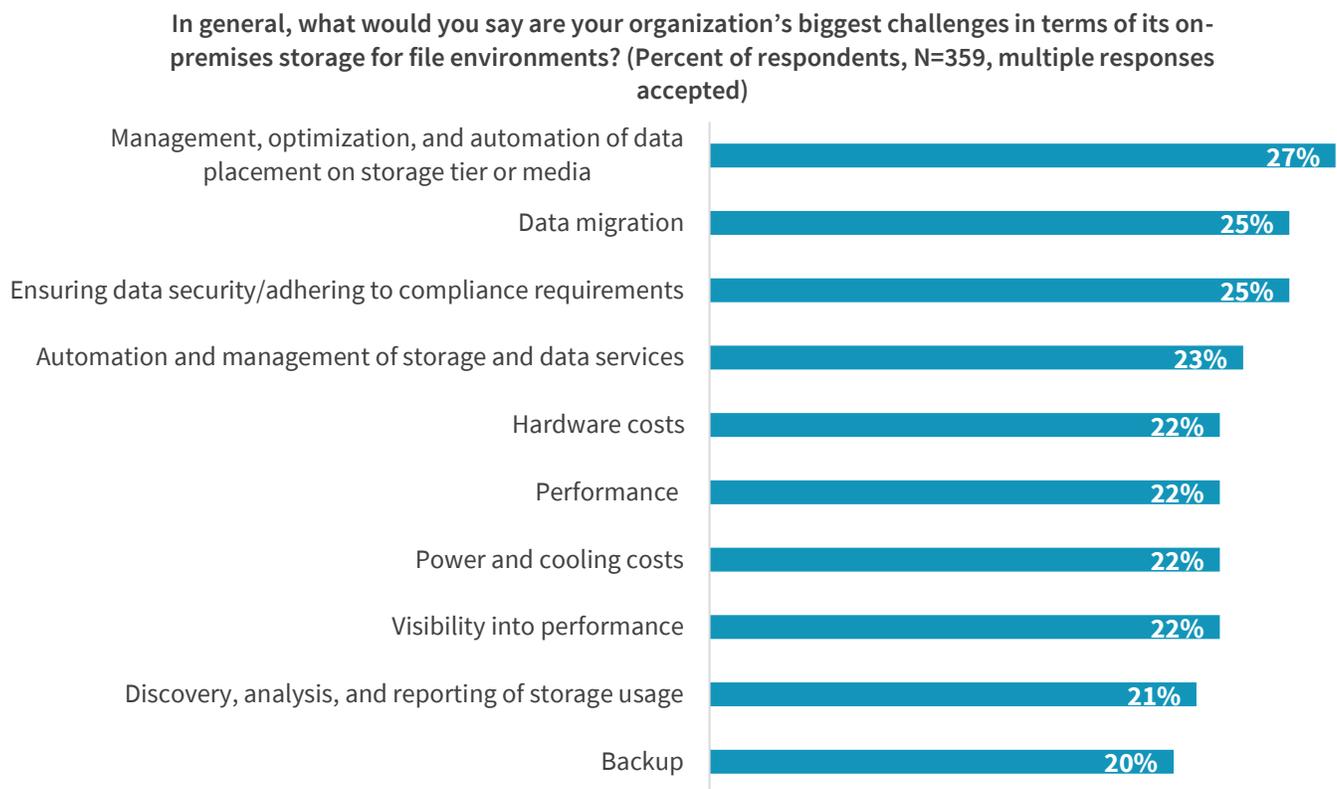
Designing storage to support a data-first strategy is a challenge, often due to the sheer volume of data and the complexity those massive volumes create: 48% of surveyed IT organizations have one petabyte or more of data storage across on- and

<sup>1</sup> Source: ESG Research Report: [2022 Technology Spending Intentions Survey](#), November 2021.

off-premises environments.<sup>2</sup> Additionally, nearly half of surveyed IT decision makers (46%) consider IT in general to be more complex than it was just two years ago. Not surprisingly, a common factor causing this increased complexity is higher data volumes (35%).<sup>3</sup> The challenges of massive data volumes are common among file storage environments; ESG has found that more than half (52%) of surveyed network-attached storage (NAS) systems users expect to accelerate their spending on on-premises NAS systems over the next 24 months.

To better understand the challenges of modern file storage environments, ESG conducted a research survey of 359 storage administrators. As Figure 1 shows, file storage challenges are wide-ranging, and each is more difficult to handle as the size and the diversity of the file storage environment increases. If they can't be overcome, each one of them has a real potential to impede business success.

**Figure 1. Top Ten Most Common File Storage Challenges**



Source: Enterprise Strategy Group

On the other hand, data, especially file data, does play a significant role in boosting modern business opportunity. Today, we work in a knowledge economy. Companies are feeling a greater sense of urgency to extract more value from those unstructured data sets. It is telling that 64% of organizations surveyed by ESG report that their *data center infrastructure technology* design is strategic for their IT and business operations, citing that it is critical for core applications/business processes and can lead to competitive advantage, and 81% of organizations told ESG that they offer data-centric products and services or expect to within the next 24 months.

<sup>2</sup> Source: ESG Survey Results: [2021 Data Infrastructure Trends](#), September 2021. All ESG research references and charts in this showcase have been taken from this survey results set unless otherwise noted.

<sup>3</sup> Source: ESG Research Report: [2022 Technology Spending Intentions Survey](#), November 2021.

To support these initiatives, modern businesses are shifting to a data-first strategy whether they know it or not, but it can't happen without an efficient and flexible file storage architecture built on powerful storage software.

## The Role of Software-defined Storage

At this point, the benefits of software-defined storage to infrastructure flexibility and agility are well-proven. ESG has found that within organizations using SDS:

- **42%** have achieved greater flexibility and choice in hardware selection or expect to.
- **40%** have improved their agility when it comes to adjusting their hardware infrastructure to accommodate evolving requirements or expect to.

IT organizations want their software-defined storage environment to help them achieve standardization across that environment. Namely, they want to:

- Leverage the same (or similar) hardware to reduce complexity.
- Take advantage of automation more easily.
- Decrease costs.
- Increase flexibility by continuing to use multiple hardware generations (as a way to eliminate data migrations).

That level of choice and flexibility is incredibly valuable. But it can be costly if someone in the IT organization must validate and calibrate the software and the various hardware options to work together. When technology is delivered as software, much, or all, of the configuration and validation work falls to the IT organization leveraging the technology.

Fortunately, deploying storage as software is not the only way to achieve the benefits of SDS; vendors, such as Dell, are designing storage technologies to leverage a software-defined architecture and are doing the SDS integration work in-house beforehand to take the burden off their customers. That effort by the vendor creates huge value at a time when businesses are dealing with problematic IT skill shortages. In fact, over a third (39%) of IT organizations surveyed by ESG specifically identified IT architecture/planning as a problematic skill shortage for them, so vendor-led storage/software integration work could really help.<sup>4</sup>

## Dell PowerScale OneFS Operating System

Dell PowerScale (formerly named Isilon) is produced by an industry leader in unstructured storage. It runs on the OneFS operating system, a software-defined architecture that delivers high-performance enterprise-level scale-out file storage. PowerScale is designed to deliver a single, easy-to-manage file storage platform that can deliver massive scalability while increasing performance as the solution scales in capacity. With advanced data reduction features and automated data tiering technologies, PowerScale optimizes the file storage environment to minimize cost and complexity.

Though PowerScale technology has long been delivered as a portfolio of appliances, its architecture has been software-defined, providing the ability to mix and match multiple hardware types and generations in the same cluster, offering

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<sup>4</sup> Ibid.

hardware flexibility and agility, and eliminating the need for costly data migrations. According to ESG research, 38% of SDS users identify the ability to eliminate data migrations as a benefit of using the technology.

With PowerScale, OneFS adds an option that allows users greater choice by enabling its software-defined architecture to be deployed on PowerEdge hardware technology. This evolution to PowerScale software-defined architecture delivers multiple benefits to users, as PowerScale will better deliver new and more advanced hardware technologies more quickly while offering greater diversity and choice in hardware configurations. PowerScale clusters can be deployed at the edge, the core data center, or in a multi-cloud environment.

New features and improvements like inline data reduction, support for object data access protocols, and NFS over RDMA support to drive demanding workloads like artificial intelligence (AI) or machine learning (ML) deliver added functionality to a proven and mature operating system. In addition, 80% of respondents identified that their organization uses persistent storage for container-based applications, either for production or for test and development. PowerScale software-based approach delivers support for container-based applications built on a Kubernetes platform.

OneFS offers many benefits to the PowerScale portfolio:

- Speedier integration of new hardware innovations.
- Better control of hardware costs.
- The ability for IT Intelligent insights to maximize the value of the data in the data lake.

## The Bigger Truth

Data is a modern business's most valuable asset, and businesses must understand that data demands will only accelerate as multiple, separate business units compete for precious storage resources. Businesses must leverage the data they need when they need it, as efficiently as possible. To best position themselves for success, IT organizations need to adopt a data-first mentality to their storage infrastructure design.

In order to achieve this goal, file storage infrastructure must deliver high levels of hardware flexibility and agility. SDS is one option but procuring storage technology as a software package that is absent of hardware often places too heavy of a burden on IT admins. PowerScale is a leader in scale-out file technology and has a history of delivering the benefits of SDS, while taking the burden of the software and hardware integration off its customers. With its latest OneFS release, PowerScale is delivering even greater flexibility and choice to its users. As a result, PowerScale environments can be better streamlined and enable line-of-business teams, while optimizing data and business operations. Modern businesses must design infrastructure with a data-first mindset, and PowerScale delivers the file storage technology to make it happen.

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