

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 EMC 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. Only 6% of the line-of-business executives surveyed by ESG say they view their company's IT group as a competitive differentiator for the business, while 25% regard IT as a business inhibitor. Among the executives who believe their IT organization is inhibiting business success, 43% of them say it's because their workers are having difficulty accessing the data they need for business operations and analysis.¹

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 EMC](#), a leader in enterprise storage, has released its new PowerScale (formerly named Isilon) scale-out file storage technology built on the OneFS 9.0 operating system with the flexibility to leverage multiple Dell EMC 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: 44% of surveyed IT organizations have more than one petabyte of data storage across on-

¹ Source: ESG Master Survey Results, [2019 Technology Spending Intentions Survey](#), March 2019.

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and off-premises environments.² Additionally, nearly two-thirds of surveyed IT decision makers (64%) consider IT in general to be more complex than it was just two years ago. Not surprisingly, the factor they mostly often identify as causing this increased complexity is higher data volumes (37%).³ The challenges of massive data volumes are common among file storage environments; ESG has found that nearly half (45%) of surveyed 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 372 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 Five Most Common File Storage Challenges

In general, what would you say are your organization's biggest challenges in terms of its on-premises file storage environment? (Percent of respondents, N=372, five responses accepted)



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 71% of organizations surveyed by ESG report that their *data storage technology* is strategic for their IT and business operations, citing that it is critical for core applications/businesses processes and can lead to competitive advantage. Nearly two-thirds (63%) of these organizations told ESG that they expect to offer data-centric products and services within the next 24 months.

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:

- **37%** have achieved greater flexibility and choice in hardware selection or expect to.
- **35%** have improved their agility when it comes to adjusting their hardware infrastructure to accommodate evolving requirements or expect to.

² Source: ESG Master Survey Results, [2019 Data Storage Trends](#), November 2019. All ESG research references and charts in this showcase have been taken from this master survey results set unless otherwise noted.

³ Source: ESG Master Survey Results, [2020 Technology Spending Intentions Survey](#), January 2020.

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 EMC, 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, nearly a third (32%) 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.⁴

Dell EMC PowerScale OneFS 9.0

Dell EMC PowerScale (formerly named Isilon) is produced by an industry leader in unstructured storage. It runs on the OneFS 9.0 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 hardware flexibility and agility, and eliminating the need for costly data migrations. According to ESG research, 30% of SDS users identify the ability to eliminate data migrations as a benefit of using the technology.

With PowerScale, OneFS 9.0 adds an option that allows users greater choice by enabling its software-defined architecture to be deployed on Dell EMC's 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.

The introduction of OneFS 9.0 to the Dell EMC PowerScale portfolio offers many benefits:

- Speedier integration of new hardware innovations.
- Better control of hardware costs.

⁴ ibid.

- The ability for IT organizations to standardize on PowerEdge hardware.
- PowerEdge security enhancements.

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. Dell EMC 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 9.0 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 Dell EMC PowerScale delivers the file storage technology to make it happen.

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