

## Solution Showcase

# Maximize Your Data Capital with Dell EMC Isilon

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**Abstract:** Companies today need a highly scalable, secure, multi-cloud-integrated file storage infrastructure. Dell EMC, a leader in this space, has just unveiled the Dell EMC Isilon OneFS 8.2 operating system along with the Isilon H5600, a new, denser, faster, hybrid scale-out NAS storage node. With these new innovations, Isilon allows organizations to accelerate new workloads and create new opportunities and efficiencies—advancing their IT modernization journeys significantly forward.

### Introduction

Digital content, including file data, has become a true business asset. It offers organizations of all sizes tremendous potential for improving their competitiveness and profitability by analyzing that data to extract insights. Unlocking data's potential really is key to modern business success.

However, the relationship between leveraging data wisely and achieving operational success also makes IT's life more complicated. Data amounts have been doubling every two to three years worldwide, and end-users' access demands have been rising. This situation has resulted in more files that more people and more applications want *right now*.

If the goal is to maximize the business value of data "capital," a modern file storage infrastructure is essential. The specific characteristics of modern file storage systems are:

- **Massive scalability** to support rapid data growth. Data cannot be siloed. A multi-protocol, single-namespace data lake (a single store of *all* enterprise data) allows for easy leveraging of data capital.
- **Extreme performance** to support next-generation applications and to achieve faster positive business outcomes.
- **Seamless interoperability** with analytics vendors to extract value from all data and digitally transform the business.
- **The ability to extend to a multi-cloud infrastructure.** This is vital. According to ESG research, 76% of IaaS-using organizations now leverage more than one public cloud service provider.<sup>1</sup>

### File Data Is Critical to Modern Business

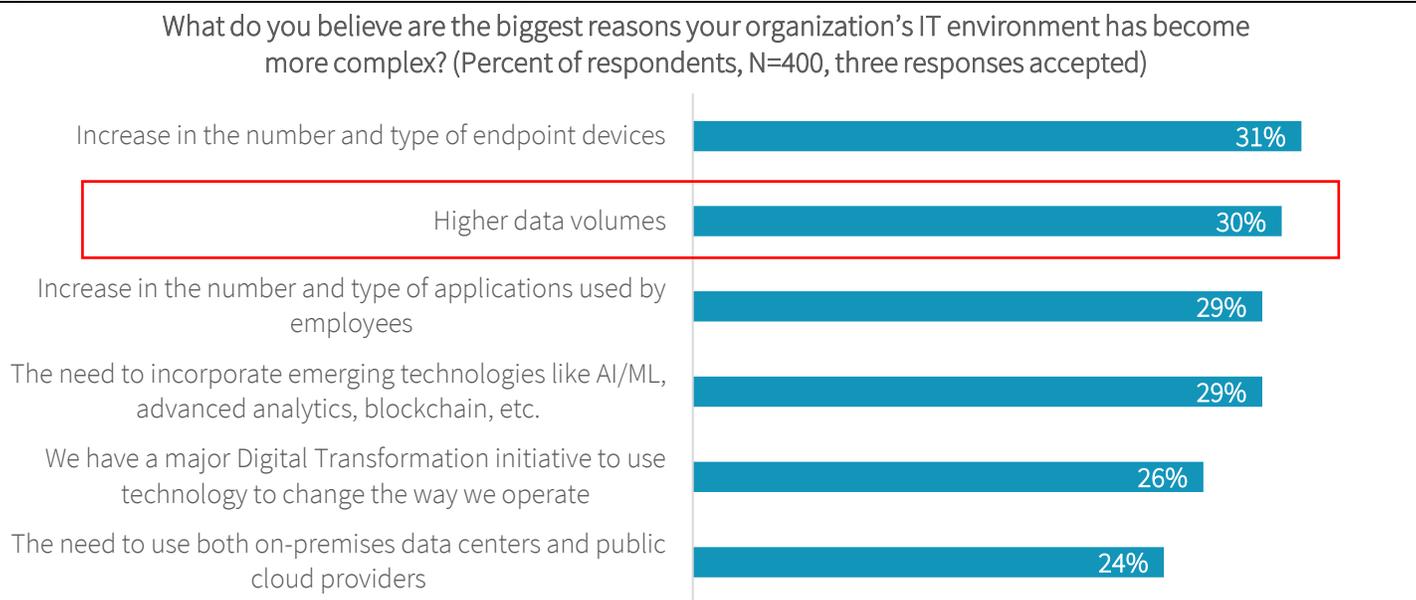
It has been generally accepted across the IT industry for years that file-based data leads all types of enterprise data in terms of growth, and that the majority of data in a typical enterprise originates in unstructured form. ESG has conducted extensive research to investigate the role file data plays in modern organizations, finding the top three identified

<sup>1</sup> Source: ESG Master Survey Results, [2019 Technology Spending Intentions Survey](#), March 2019. All ESG research references and charts in this solution showcase have been taken from this set of master survey results unless otherwise noted.

workloads driving the growth are digital media (named by 31% of respondents), collaboration (named by 30% of respondents), and business intelligence (named by 29% of respondents).<sup>2</sup> All of those workloads produce file content. Avoiding and eliminating costly unstructured data silos that are inefficient and difficult to manage is vital to any organization that is looking to modernize IT and digitally transform the business.

It's no wonder that 66% of IT decision makers surveyed by ESG report their IT environments are more complex than they were just two years ago; with 30% of surveyed IT decision makers seeing increases in complexity and citing higher data volumes as the cause (see Figure 1).

**Figure 1. Top Six Drivers of IT Complexity**



Source: Enterprise Strategy Group

As mentioned, the need to support emergent workloads such as analytics and the absolute need to utilize hybrid cloud environments at this point are making life complex for IT professionals. Administrators must be able to view their multi-cloud infrastructures transparently, provide performant caching accesses, and use that multi-cloud architecture flexibly (i.e., they must be able to treat it as a single namespace). Otherwise, the increased complexity is going to hamper data analysis, add costs, and slow down IT service delivery. As businesses become more digitally driven, slow IT service means low competitiveness. Previous ESG research revealed that 41% of IaaS users had repatriated one or more workloads from a public cloud service.<sup>3</sup> A storage infrastructure that can support such activities and business requirements is therefore necessary.

These findings make the case for seamlessly integrating on-premises data with a multi-cloud file storage environment that is flexible, very performant, and very secure. As Figure 2 shows, many organizations are aggressively pursuing a variety of major initiatives now. In support of those initiatives, they rely heavily on their IT group to help:

- Maximize the value of data capital, often through the use of analytics and business intelligence.
- Secure the data capital.
- Control the cost of the underlying infrastructure that is holding this data capital.

<sup>2</sup> Source: ESG Master Survey Results, [2017 General Storage Trends](#), November 2017.

<sup>3</sup> Source: ESG Master Survey Results, [2018 IT Spending Intentions Survey](#), December 2017.

Fortunately, file data storage leader [Dell EMC](#) is offering a new set of Isilon solutions that will enable organizations to achieve those goals.

**Figure 2. Business Initiatives Driving the Most Technology Spending**



Source: Enterprise Strategy Group

**A True Multi-cloud Architecture Is Essential—What Does It Look Like?**

As noted, modern storage must be able to operate in a multi-cloud file environment. Storage solutions that interoperate with multi-cloud file architectures require certain attributes. They must:

- Provide seamless and transparent access to all applications through all protocols.
- Be capable of ensuring that data services (such as replication and snapshots) are not compromised or encumbered.
- Be scalable, with the ability to access both on-premises and multi-cloud storage from a single namespace.
- Deliver the performance necessary to support diverse workloads, including analytics workloads and workloads for vertical industries such as media and entertainment, healthcare, and energy.
- Offer data security through encrypted data transfers across clusters. This capability is important because the increased value of data has been enticing bad actors.

## A Multi-cloud Isilon File Infrastructure that Maximizes an Organization's Data Capital

The latest Isilon release includes the OneFS 8.2 operating system for the scale-out multi-protocol file storage platform, along with a new Isilon H5600 hybrid storage node. An immediate benefit of the release is a massive uptick in scale: a 75% increase in total cluster capacity with 75% more throughput performance for Isilon clusters. The linear scalability in both capacity and performance is a result of Isilon's efficient scale-out architecture.

Until this release, Isilon had topped out at a maximum limit of 144 nodes per cluster. Now, it tops out at 252 nodes in a single cluster and provides a cluster capacity of up to 58 petabytes. The new hybrid NAS node, the H5600, combines solid-state disk (SSD) and high-density disk (HDD) to achieve its high-performance throughput and its massive capacity of up to 800 terabytes and 6.4 gigabyte-per-second of throughput per 4U chassis.

The single volume, single file system, single namespace traits eliminate data silos, improve storage utilization, and simplify storage and data management at scale. This is not just about being faster or larger in capacity. Organizations need data management facilities such as reporting, replication, quotas, security, etc., to simplify management. Fortunately, the power of Isilon is in its software—the OneFS operating system.

### Enterprise Data Services Across the Multi-cloud Environment

When it comes to data services, scale changes everything. OneFS-based data services such as SyncIQ and SmartLock work seamlessly with on-premises data and data stored in multi-cloud environments. Dell EMC has incorporated several multi-cloud-related innovations into Isilon H5600's OneFS 8.2 OS, including cloud-integrated snapshots and quota management, and it has bolstered the system's cloud archiving capabilities to help reduce IT infrastructure costs. These enhancements are fundamental to simplifying storage and data management while addressing the scale and complexity of modern IT.

Additionally, a new CloudPools feature works with the snapshot feature to move old snapshot capacity to the cloud, and it tracks incremental object changes on the underlying object stores across the multi-cloud environment.

### Maximize the Value of Data Capital—Performance and Security

Workload diversity is rising—particularly with the rise of analytics and new industry-specific applications. Supporting high workload diversity along with increased demand requires great **performance** and great performance *scaling*. Low-latency access is essential for analytics applications to gather insights on a real- or near-real-time basis. And just consider how much capacity all the newly emerging machine-generated data is going to need, too.

In addition to offering massive capacity, Dell EMC is offering impressive performance in Isilon with the newest enhancements: up to 15.8 million IOPS and up to 945GB/s aggregate throughput per cluster. Excellent performance will be essential to supporting analytics as well as new, next-generation workloads.

And strengthening **cybersecurity** is a perennial top-cited technology spending priority because data capital absolutely must remain safe. Isilon offers features including multi-factor authentication, replication encryption (SyncIQ encryption), and granular, role-based access per access zone. Today, a secure hybrid cloud file infrastructure that seamlessly integrates with on-premises storage is practically a necessity. But it also must be efficient and simple at scale. Simpler management of CloudPools tiered data with optional encryption means a single namespace is easily accessible by all applications while being secure across all the data storage locations.

## The Bigger Truth

These enhancements will help organizations achieve bigger, better business impacts from their file data while driving down costs. Given the value of data today, companies really need a solution like this one. In particular, analytics is a key reason

file data has become so important. Before, we were all just “storing.” Now, we’re accessing that data and using it *a lot* more to extract its value.

But there’s another part of the story, one relating to the flexibility and built-for-cloud aspects of Isilon powered by OneFS 8.2. Within a modern hybrid cloud infrastructure, Isilon now has tools that put data in the right places, as well as the intelligence to figure out where the right places are.

And of course, there’s security. Security is the single biggest top-of-mind issue for IT organizations. It is their biggest spending priority, and it is the biggest determinant of whether workloads stay on-prem or in the cloud. Building a secure hybrid cloud file infrastructure is a necessity, and Isilon can now support this kind of infrastructure better than before.

This is what it takes to create a modern infrastructure that will enable organizations to succeed in a digital world.

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