

## ESG SHOWCASE

# Time to Better Leverage Your File and Object Data

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**ABSTRACT:** The need to handle unstructured data according to business relevance is becoming urgent. Modern data-related demands have begun surpassing what traditional file and object storage architectures can achieve. Businesses today need an unstructured data storage environment that lets end-users easily and flexibly access the benefits of the file- and object-based information they need to do their jobs.

## Overview

Previously, unstructured data grew along with a business; it was a trailing function. And certain types of data (e.g., compliance-affected data) had specific storage needs necessitating that they be kept for a long time.

The emergence of the digital economy and the trend towards digital transformation have changed the drivers behind unstructured data storage. We live in a “knowledge economy” now. One proof point of that fact: According to ESG research, 86% of IT decision makers surveyed agreed with the statement, “If we do not embrace digital transformation, we will be a less competitive and/or effective organization.”<sup>1</sup> And as companies undergo digital transformation, they are feeling compelled to figure out how to extract more value from their unstructured data sets.

Knowledge workers’ access demands for unstructured data are increasing, which is making the lifecycle of unstructured content rather less predictable than it was historically. It is vital for today’s businesses to understand which unstructured data is most and least important, how they should be scaling new storage resources to higher capacities, how they should be adding performance, and how quickly they will need to take those actions to support revenue generation most effectively.

Traditional file storage and object storage address separate unstructured storage needs. Specifically:

- File storage and scale-out file systems support various general-purpose file related tasks—they serve as a sort of “electronic file cabinet” full of documents, videos, etc., which can be placed in a hierarchical structure and shared. In recent years, some file-centric solutions were extended to support transactional file-based workloads and clustered databases.
- Object storage is often used for storing large sets of historical data that either cannot be modified or are only infrequently modified. Each object (even different versions of the same piece of information) has its own unique ID and metadata. Rather than any great need for speed, object storage is typically designed to deliver unlimited scale while also providing flexibility for activities such as big data analytics or regulatory compliance assurance at a lower

<sup>1</sup> Source: ESG Master Survey Results, [2018 IT Spending Intentions Survey](#), December 2017.

cost. Similarly, object storage is often designed to span distributed infrastructure environments. File systems, on the other hand, are often designed to serve local demands and typically require specific enhancements to ensure data consistency when spanning distributed environments. Object storage is also not designed to be directly accessed by an operating system; interactions instead occur through APIs at the application level (via RESTful conventions).

Each approach started with its own design goals, and as a result each offers different benefits and different challenges. In practice, each technology demands IT organizations choose one versus another depending on the application needs, often resulting in further proliferation of data silos. Some offerings have attempted to provide consolidation by adding support for the opposite protocol in the front-end, such as file systems offering S3 support or object stores offering NFS, but the inherent architectural limitations remain: file systems are not designed to be multi-site and object systems don't offer the performance needed for many workloads. Organizations need a new option designed from the ground up to deliver the benefits of both file and object storage *in a single combined ecosystem*.

## File/Object Data Growth Prompts Big Investments in Infrastructure and Cloud Services

Only a portion of unstructured data possesses extreme business relevance and therefore needs the best storage treatment to ensure the highest levels of availability and performance. To put it another way, most unstructured data must be kept by the business, but it may not all need the “best-possible SLAs.”

That is important to remember at a time of rampant rates of file data growth. According to ESG survey research:<sup>2</sup>

- **56%** of IT organizations now store more than a petabyte of data across their on- and off-premises environments.
- **25%** are scaling data on-premises at a rate of 50% or more annually.
- **23%** are scaling data off-premises at a rate of 50% or more annually.

This growth is, of course, translating into increases in infrastructure spending. When it comes to object storage, for instance, more than half of the object storage users surveyed by ESG (53%) plan to accelerate their spending on on-premises object storage solutions over the next 24 months. Likewise, nearly half (45%) of NAS systems users expect to accelerate their spending on on-premises NAS systems over the next 24 months.

Growth in offsite cloud usage is becoming apparent as well: 42% of public cloud file storage users expect to increase their investment in the next two years. Similarly, 40% of public cloud archive storage subscribers will increase their investments in cloud services, as will 39% of public cloud object storage subscribers.

## Data Is Fuel for Business Success

Organizations digitally transform their operations because they hope to attain multiple positive outcomes. For example, improving operational efficiency is a common goal. So are providing a more differentiated customer experience, moving into a better position to develop appealing products and services, and even creating entirely new digital models for making money. This desire is fueling investment in workloads designed to deliver net new value to the business that typically generate or require a significant unstructured data storage environment.

Of the top five most common workloads expected to drive storage spending over the next 24 months, either on-premises or in the cloud (see Figure 1), four are in this group of incremental business-value workloads. Whether internet of things, big

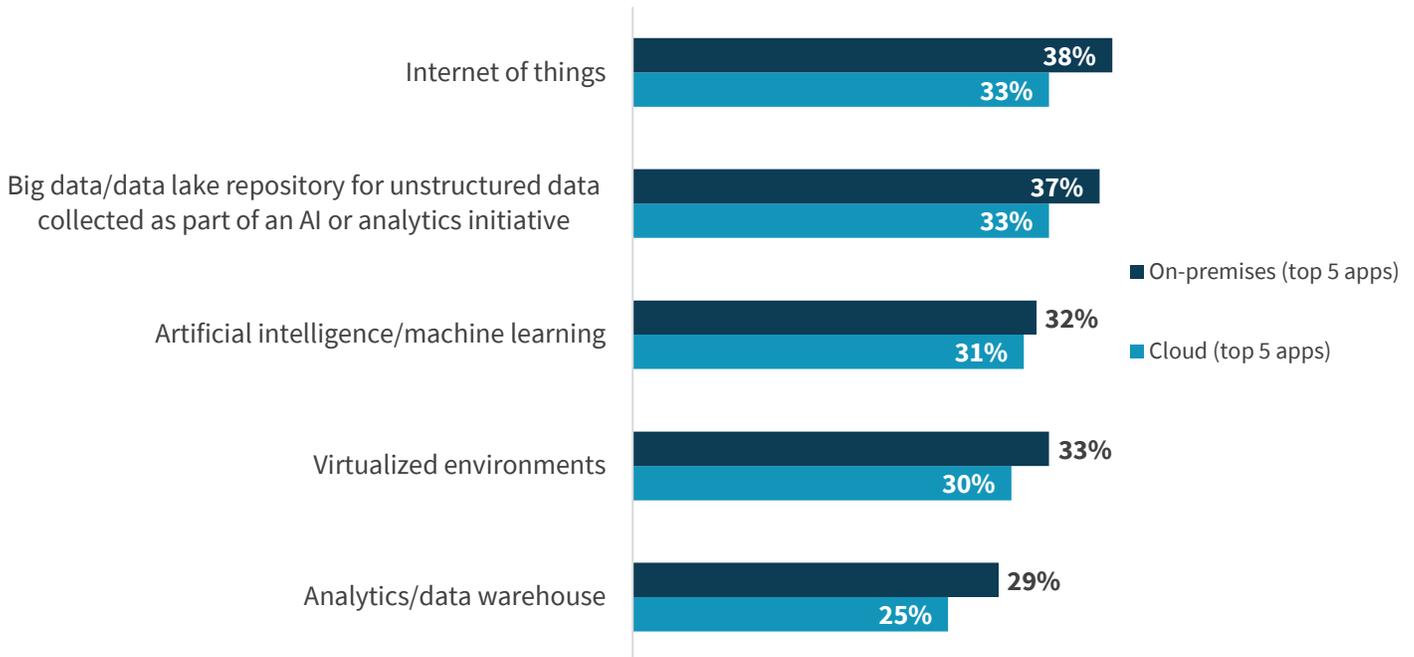
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<sup>2</sup> Source: ESG Master Survey Results, [2019 Data Storage Trends](#), November 2019. All ESG research references and charts in this showcase have been taken from this master survey results set unless otherwise noted.

data, machine learning, or analytics workloads, businesses expect these applications to create net new opportunities for greater insight, efficiency, and/or revenue. While these workloads present only a subset of those fueling the increase in unstructured storage spending, they help illustrate why the demands on the infrastructure need to change. The value provided by workloads such as these is often directly related to the amount of data analyzed and the speed of that analysis. Unstructured data can no longer be archived for long periods of time by organizations that are confident that it will rarely be used. Massive volumes of unstructured data in these environments needs to be higher performing and accessible, with the flexibility to support a variety of modern applications. As more organizations look to the cloud to provide a resource to overcome capacity-scaling issues, seamless and fully transparent integration of cloud storage will be a must-have.

**Figure 1. Top Five Most Common Workloads Expected to Drive Storage Spending**

**Which of the following applications/workloads do you believe will be responsible for your organization’s infrastructure spending growth (on-premises and on public cloud infrastructure) over the next 24 months? (Percent of respondents, N=314)**



Source: Enterprise Strategy Group

Ensuring data can scale to massive capacities while ensuring performance and accessibility stay predictable is essential as businesses become more digital in nature, according to 71% of IT managers surveyed by ESG.<sup>3</sup> In fact, nearly half (49%) of surveyed organizations say data *is* their business, and another 31% say they expect to offer data-centric products and services within the next 24 months.

There are clear ties to data growth here. Among organizations that expect to sell data (or insights generated from data) in the next 24 months, 38% of them expect to grow data on-premises by 50% or more annually, versus only 3% of organizations that don’t expect to sell data or data-based insights.

<sup>3</sup> Source: ESG Master Survey Results, [2019 Technology Spending Intentions Survey](#), February 2019.

## What Does the Future Look Like?

A modern unstructured data storage environment should possess certain attributes if it's going to enable the rest of the business to succeed in an era where data creates business opportunity. Those characteristics include:

- **A single ecosystem** that spans on-premises NAS devices, filers, object storage and off-premises public cloud infrastructure. It will be key to ensure visibility into and control over the unstructured data.
- **Support for file and object protocols.**
- **Infrastructure abstraction and flexibility** that can adjust to various media types, different scalability and performance needs, and generations of infrastructure as the business's demands change.
- **Seamless data mobility/accessibility** with the performance to enable collaboration and application portability across both file and object environments.
- **Intelligence to automatically optimize data placement** based on its relevance and value.

## The Bigger Truth

It's time for a "Nirvana" between file and object: The marketplace has long been debating which of the two unstructured data type models is the "right one." But data is data. If you remove the traditional constraints and challenges associated with those two particular technologies, it becomes possible to imagine a type of data service that supports both.

That kind of solution would give an organization the benefits of a global multi-site namespace (i.e., object style), including the ability to address a piece of data regardless of where it is in a folder hierarchy, or what device it's stored on. And it would offer the rich metadata that object storage is known for. This new kind of solution would also deliver the performance and ease of use that file systems are known for.

DataCore says it is providing such a solution, called vFileO. To vFileO, data is just data, where metadata is decoupled but tightly aligned with the data, and data's location is independent of data access needs or metadata location. It bridges both worlds by providing a system that has all the benefits of file and object—without any of the limitations.

It is a next-generation system built on a different paradigm, promising to bridge the world of file and object. It just might be the answer IT departments need. No longer required to pick between two separate systems, IT organizations can find great value in a consolidated, global, unified storage system that can deliver on the business's needs for unstructured data.

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