

WHITE PAPER

Pure FlashBlade//E

The All-flash Unstructured Data Repository with
Better Economics than Disk

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Contents

Introduction	3
The Storage Modernization Imperative.....	3
Data Proliferation and the Need for Improved Data Access at Scale.....	3
The Imperative to Reduce Operational Costs.....	4
The Need to Minimize Operational Complexity	4
New Requirements for Unstructured Storage.....	5
Rethinking Modern Storage Infrastructure Requirements.....	6
What Should Organizations Prioritize?	6
Introducing FlashBlade//E	6
Conclusion	7

Introduction

Today, data fuels all aspects of business. According to research by TechTarget's Enterprise Strategy Group, 59% of organizations now identify their data as an essential part of their business.¹ And the importance of data to commercial success has triggered a massive increase in digital transformation initiatives over the last three years. In 2020, 19% of organizations identified themselves as being mature in their digital transformation status. By 2023, that percentage almost doubled, with 36% identifying themselves as mature.²

Digital transformation changes people's mindsets and expectations when it comes to data and the digital services that the data powers. It's why, at organizations all over the world, IT is evolving from a cost center to a profit center. IT teams certainly continue to work hard to optimize costs, but now, they must prioritize accelerating the rollout of new initiatives while remaining within their current budgets. They need to meet expectations while focusing mainly on delivering excellence when it comes to the user, developer, and customer experience.

This shift is happening at a time when unstructured data growth rates are extreme, and sustainability and energy savings have become increasingly important. These two trends shine a light on how important the right storage platform can be for business in general, as well as for every application and data type. This is even more important for unstructured storage platforms.

[Pure Storage](#), with its newly unveiled FlashBlade//E product, is providing a solution that suits today's IT priorities. With its hardware and software co-innovation focus, FlashBlade//E combines the best elements of Pure's portfolio: its unique DirectFlash technology, powerful Purity operating system, and proven Evergreen technologies.

FlashBlade//E delivers the environmental, ease of management, and reliability benefits of an all-flash array, at a price that is competitive with disk. For organizations, that translates into a lower total cost of ownership, better energy savings, higher resiliency, and overall sustainability advantages compared with other solutions in the market. Pure is leveraging continuously improving flash densities to increase efficiency, reduce TCO, and eliminate any remaining excuses for maintaining disk in on-premises IT environments.

The Storage Modernization Imperative

If data is now tied into all aspects of business success, then we need to think about data storage technology differently. The rise in the prevalence of digital businesses; the widespread distribution of apps and data across hybrid and multi-cloud environments; the growing power, space, and sustainability constraints; and the demand for accelerated operations at scale are combining to spur a new level of thoughtfulness.

Data Proliferation and the Need for Improved Data Access at Scale

The typical data storage ecosystem is spread across a variety of locations, spanning data centers, cloud repositories, and edge locations. Research by Enterprise Strategy Group on behalf of Pure Storage shows that:³

- Two-thirds of all organizations' data is hosted on-premises.
- Forty-two percent of organizations are maintaining more than 100PB of capacity to support their organizations' unstructured data requirements.
- Respondents' average unstructured data capacity requirements are expected to increase by an annual growth rate of 53% over the next two to three years. This growth rate has increased significantly since 2021, when the expected unstructured data growth rates within on-premises environments was 35%.

¹ Source: Enterprise Strategy Group Survey Results, [2021 Data Infrastructure Trends](#), September 2021.

² Source: Enterprise Strategy Group Research Report, [2023 Technology Spending Intentions Survey](#), November 2022.

³ Source: Enterprise Strategy Group Research, [Sustainable Storage](#), January 2023.

The Takeaway: Assuming those growth rates continue, an organization could expect its current unstructured data to expand by 10x its current capacity in just six to eight years. When making storage infrastructure investments now, organizations should expect and plan for a massive scalability requirement to arise.

The Imperative to Reduce Operational Costs

With FlashBlade//E, all-flash storage for unstructured data can become the foundation for workloads that make up 90% of the unstructured data mix. The introduction of FlashBlade//E in the market now enables customers to have an all-flash system at the price of traditional disk-based storage (even including three years of service), thereby offering a significantly lower total cost of ownership over time.

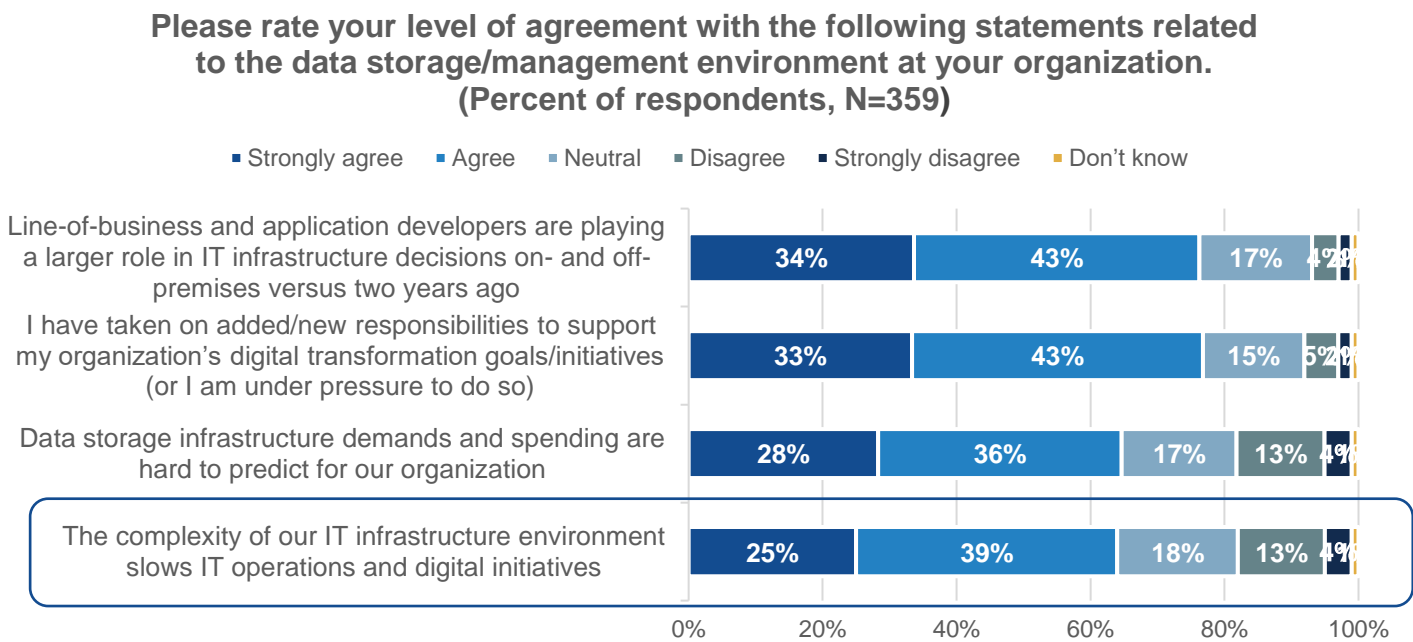
FlashBlade//E addresses the data growth challenge by boosting energy efficiency to less than 1 watt per terabyte and reducing a data center’s storage footprint. That capability is important, as many experts currently estimate that data storage and transmission in and from data centers use 1% to 1.5% of all global electricity.⁴

The Need to Minimize Operational Complexity

Consider the overall issue of IT complexity: Enterprise Strategy Group has found that 53% of organizations believe that IT is more complex than it was just two years ago.⁵ That complexity is fueled, in part, by the distributed nature of today’s IT operations and the complexity of managing all that dispersed data.

IT complexity is having a great impact on operations today, as pressure mounts to accelerate digital initiative deployments to fuel revenue opportunities. Almost all IT organizations (91%) have felt pressure to accelerate their operations over the last three years, but 64% say that the complexity of their IT infrastructure is instead slowing them down (see Figure 1).⁶

Figure 1. 64% Agree that IT Complexity Slows Operations



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

⁴ Source: International Energy Agency (IEA), [Data Centres and Data Transmission Networks—Infrastructure Deep Dive](#), September 2022.

⁵ Source: Enterprise Strategy Group Research Report, [2023 Technology Spending Intentions Survey](#), November 2022.

⁶ Source: Enterprise Strategy Group Survey Results, [2021 Data Infrastructure Trends](#), September 2021.

The IT complexity problem is exacerbated by current skills shortages in IT. Among organizations that reported having challenging skills shortages, 40% reported shortages in IT architecture and planning, while 37% reported the shortages in cloud architecture/planning.⁷

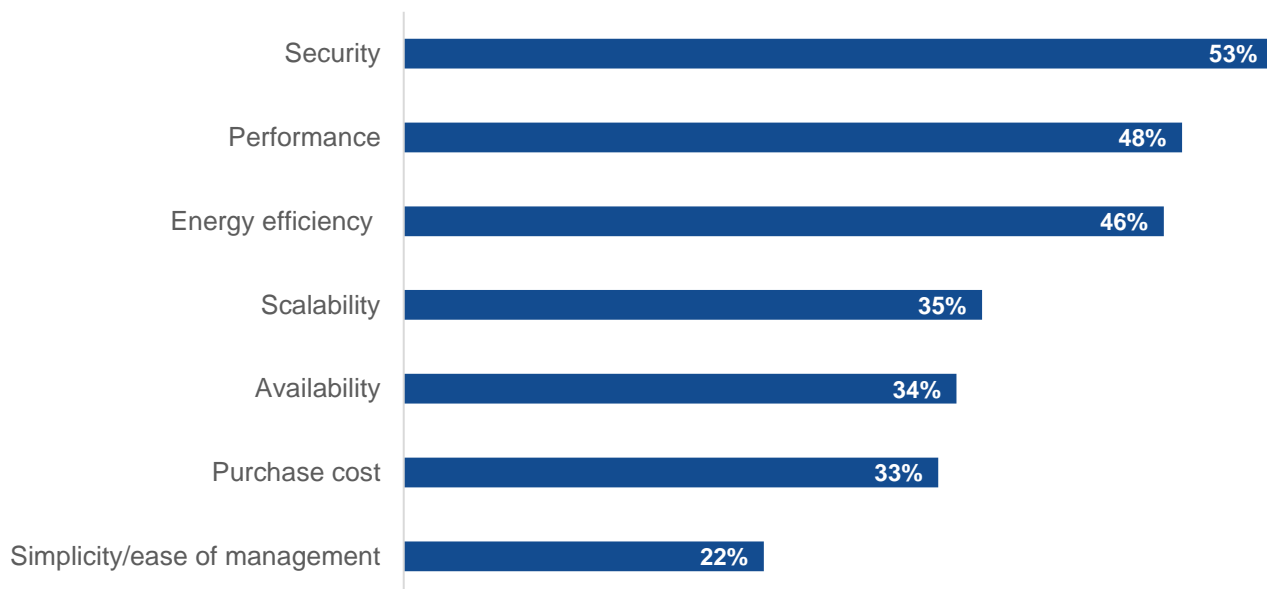
Simplicity has always been important. But today, under these conditions, businesses need to focus even more radically on achieving simplicity to eliminate as much extra effort as possible tied to deploying, maintaining, upgrading, and scaling their data storage environments. This has been a key strength for Pure Storage in all its products, and FlashBlade//E is no different. Using data in meaningful ways at scale creates value for a business; managing a storage environment does not. IT organizations must invest in new ways to use data and concurrently reduce the resources needed for managing storage environments.

New Requirements for Unstructured Storage

As priorities change, environments scale, and pressures on internal resources increase, successful organizations are evolving their decision criteria when purchasing unstructured data storage. As Figure 2 shows, organizations are looking for features associated with security, performance, energy efficiency, scalability, and availability.⁸ All of those considerations are now more common than purchase price, suggesting those top-five requirements have become “table-stakes” essentials for any new storage purchase. Those purchase considerations highlight the need to ensure that data is secure, immediately accessible, and optimized at scale for capacity, performance, and efficiency.

Figure 2. Purchase Considerations for Unstructured Storage

If you were evaluating the purchase of a new data storage solution for unstructured data today, which of the product considerations would your organization most closely evaluate prior to purchase? (Percent of respondents, N=450, three responses accepted)



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

⁷ Source: Enterprise Strategy Group Research Report, [2023 Technology Spending Intentions Survey](#), November 2022.

⁸ Source: Enterprise Strategy Group Research, [Sustainable Storage](#), January 2023.

Rethinking Modern Storage Infrastructure Requirements

With businesses evolving to emphasize transformative digital initiatives, IT infrastructure, including unstructured data storage infrastructure, needs to modernize.

All-flash storage repositories open the door to serving a much larger set of use cases that require massive scale. Use case examples are tied to data protection, exploratory data analysis (EDA), video surveillance, media and entertainment, object repositories, healthcare, archiving, and unified file and object workloads included within data protection.

What Should Organizations Prioritize?

IT decision makers in the process of evaluating all-flash storage to support large-scale unstructured data sets should look for the following characteristics:

- **Extreme flexibility and scalability**—This is not just about the ability to store large volumes of data. It's more about keeping a more predictable environment than is possible with a disk-based storage system, and to do so in an incredibly cost- and energy-efficient fashion. Organizations need to be confident that no matter how their data grows in the future, the existing infrastructure will remain economical with a low TCO at scale, resulting in a more sustainable, greener data center. These factors make All-flash storage solutions like FlashBlade//E a requirement in any IT modernization initiative.
- **Storage that delivers the best employee, developer, user, or customer experience, regardless of the demands placed on it**—Data is a means to an end. It fuels business insights, positive operational outcomes, and customer service engagements. The storage infrastructure behind that data needs to deliver—no matter what. It must be available, accessible, reliable, and resilient, with efficient power cooling (environmental, sustainability and governance) capabilities and compelling acquisition costs, and it needs to provide IT teams with confidence that they can meet/exceed SLAs and customer/user experience objectives. In all of these flash storage systems have significant advantages over traditional disk-based architecture.
- **Unstructured storage that lets you focus on things that matter**—There's "easy to use," and then there's "set and forget" (i.e., configure a certain way and then leave without further attention). Given the pace at which data is increasing, combined with today's challenges in hiring and retaining talent, it is essential to invest in a modern all-flash unstructured data storage like FlashBlade//E that requires the least amount of ongoing management, maintenance, and planning. This becomes especially true with regard to scaling up the environment and doing hardware or software upgrades.

Introducing FlashBlade//E

Pure Storage's new FlashBlade//E technology is designed for the needs of the modern digital era infrastructure requirements and data center prioritizations. It is an all-flash file and object storage repository that is capacity-optimized, economical, and designed for energy efficiency.

Leveraging its extensive experience in all-flash solutions, Pure has built in innovations to both the hardware and software of FlashBlade//E that deliver the economics of disk with easy usability, superior customer experience, and economic scale. For example, Pure has incorporated space, power, and cooling efficiencies into the product to deliver a solution with an acquisition cost comparable to a disk array, but with many more benefits related to simplicity, scale, and operational efficiency.

The new innovations and areas of focus center on:

- **Working within an organization's existing IT budgets**—FlashBlade//E offers a compelling economical solution, including acquisition costs comparable to those of traditional disk-based storage solutions and a much

lower TCO. By leveraging the power and space savings of all-flash and delivering a more reliable platform that is simpler to manage, FlashBlade//E helps to significantly lower operational spending.

- **Optimizing data center power, space, and management resources to reduce organizations' operational expenses**—FlashBlade//E is designed for high levels of energy efficiency that can actually improve over time to meet or exceed an organization's sustainability goals. And the DirectFlash Modules (DFMs) used in FlashBlade//E are significantly more reliable than the more failure-prone spinning disks. Using FlashBlade//E, IT can consolidate older disk-based arrays to improve energy savings, shrink the data center's footprint, and minimize e-waste.
- **Eliminate complexity from an organization's storage environment to enable better outcomes and unmatched experiences**—With its ability to consolidate multiple petabytes of data, FlashBlade//E is easy to manage and can reduce or eliminate concerns with data silos, data migration, and lifecycle-related challenges. Pure's modular design also simplifies scaling and upgrades without adding additional administrative resources, enabling IT teams to take better advantage of technology advancements to improve efficiency, even as the environment grows.
- **Easily scale to meet ever changing requirements forever**—With proven Evergreen technology, FlashBlade//E's modular design enables customers to meet both near- and long-term workload requirements by incorporating hardware and software upgrades non-disruptively. FlashBlade//E accelerates future innovation, making it simpler to bring scalable, power-efficient systems to market faster and address the evolving demands of modern file and object workloads.

Conclusion

Pure already has great solutions for storing high-performance data. But 80% to 90% of unstructured data requires not "low performance," obviously, but rather just the right amount of performance. Unstructured data has been grossly neglected and underserved until now. It's mostly been kept on spinning disk, which comes with many compromises (disruptive migrations every three to five years, bad support experiences, heavy power requirements, software with poor data management capabilities, etc.). Organizations endured that situation because it was the least unattractive economic option for them.

If they were, instead, to build an ideal, modern file and object storage platform for unstructured repository workloads, it would need to deliver economics comparable to disk, with capabilities found in the most modern, easy-to-manage enterprise-caliber storage. Simply put, it would provide the benefits of an all-flash platform, delivered at the price of disk, with the lowest long-term TCO.



Fortunately, Pure has created just such a product—and by doing so, it has brought all the environmental and other benefits of flash to the 90% of unstructured workloads that are cost sensitive. It's flash for traditional use cases. It's time to stop making compromises and start looking for a solution possessing all the benefits of flash, but at the price of disk.

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