

WHITE PAPER

Pure Storage: The Modern Platform for Your Modern Apps

Don't let outdated storage slow your innovation—give your modern apps the modern platform they deserve.

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Introduction

Today's technology leaders are being asked to do more than ever before. They must accelerate application delivery, drive digital transformation, and leverage data as a core business asset, all while maintaining security, controlling costs, and supporting hybrid-cloud environments. At the core of this challenge is the shift to modern applications that are cloud-native, microservices-based, and data-driven solutions that legacy storage cannot keep up with.

Yet many organizations are still trying to support these applications with storage systems designed for a different era. Legacy infrastructure introduces complexity, slows DevOps teams, and creates data silos that undermine innovation. If your storage can't evolve alongside your applications, it becomes more than a bottleneck—it puts your business at risk. To lead in this new landscape, your infrastructure must be just as modern and agile as the applications it supports.

This white paper explores the unique demands of modern applications and what it takes to build infrastructure that keeps up. It shows why legacy storage holds teams back, what's taking its place, and how the fresh approach of Pure Storage® delivers the speed, flexibility, and resilience that today's apps and developers demand.

Tomorrow's Applications, Yesterday's Solutions

Organizations agree that application modernization is critical, with 95% of respondents in a Red Hat survey stating that application modernization is vital to the success of their organization.¹ Increasingly, modern applications are microservices-based and built with scalability and agility in mind. They likely leverage containers and Kubernetes, and the DevOps teams that build them utilize agile development methodologies to increase the speed of deployment.

A modern approach to application development has a lot of advantages. Modern apps are faster in production, highly available to demanding user bases, and highly flexible for easy adaptation in an ever-changing business landscape. However, they pose a significant challenge for legacy storage focused on traditional workloads.

Traditional storage systems have static architectures that worked well for older, slower application development models. Today, developers need rapid provisioning and extreme flexibility for iterative building, and traditional storage simply can't adapt. The manual processes of legacy, multi-system storage reduce the value of these dynamic new applications and make the work of DevOps teams significantly more difficult. Additionally, legacy storage infrastructures often have data scattered across many different systems, a major roadblock for data-driven initiatives.

It's clear: You need more capacity and performance than your legacy solutions can deliver. The next step might be to purchase a new storage array from your tried-and-true vendor. But that approach won't solve the underlying problem and may even make things worse. While the new array might deliver lower latencies and greater data capacity, if it's built on a traditional approach, you're simply adding another layer to an already complex environment. You'll still have data silos and legacy solutions with persistent problems. And not only will you still have separate management processes for traditional and cloud solutions, but you'll likely add another management approach to the mix.

Plus, you'll introduce the challenge of migrating data. To effectively utilize your data in the modern applications your teams are developing, they must migrate all the data they need to a single location, which is easier said than done. Determining what data belongs where, and how to get it there efficiently, is a complex challenge. Cumbersome, manual migrations can disrupt projects before they even begin.



Another issue is incorporating hybrid-cloud technologies and cloud-like capabilities (for example, easy scalability, self-service options, and on-demand pricing). Some legacy storage infrastructures have cloud extensions, but that doesn't mean they've truly embraced cloud principles. These bolted-on cloud connections frequently cobble together multiple traditional storage systems, exacerbating the problems your teams are already facing with supporting many different isolated platforms.

Traditional storage systems are only growing in complexity as they age. Your company can't afford the costs associated with maintaining and updating those systems, especially as more and more of your budget goes to cutting-edge initiatives. Modern applications can potentially transform your business, but that's impossible if your team spends all its time on low-level tasks.

A Modern Platform for Modern Apps

Modern applications require a modern approach to storage. Fueled by increasingly large stores of data and rapid development cycles, modern apps need agility, flexibility, and easy scalability. Traditional storage infrastructures, built for a different era of computing, are no longer sufficient. Your DevOps teams, users, and bottom line all benefit when you choose a platform built for this moment.

Before you make your next storage investment, think about what you want your future applications to look like. Consider the following:

- What do your DevOps teams need to maximize efficiency and productivity?
- What solution will offer the scalability you need as your datastores continue to grow in tandem with the complexity of your workloads and applications?
- What characteristics of a storage platform will empower you to expand the use of your data and utilize it to drive innovation in your business?

The following subsections discuss what factors make for an effective storage platform today—one that will empower your teams to continue developing and utilizing modern apps.

Seamless, Cloud-like Data Management

Modern applications are built with cloud environments in mind, independent of any specific hardware solution, so the ideal storage platform should also take a cloud-like approach. Data management should be comprehensive and cross-platform, covering everything from production applications running in containers to little-used (but important) historical data. With a truly modern data management tool, you and your teams should be able to operate anywhere in your hybrid-cloud infrastructure with equal ease and control. This approach allows IT teams to utilize both on-premises infrastructure and public cloud resources, if needed, while DevOps teams can focus on their work without worrying about where exactly their data lives.



Scalability for Growing Datastores

The more data your applications can utilize, the more powerful and effective they become, but only if they have a powerful storage solution backing them. The ideal storage platform should seamlessly scale resources up or down to deal with spikes in user traffic, data-intensive workloads, or the deployment of new applications. It should also be able to grow with your business as your stores of data expand.

A storage-as-a-service (STaaS) model is a perfect fit. Instead of purchasing a new array every time you need more storage—a cumbersome and costly process, not to mention one that gives you more space than you initially need—STaaS lets you pay as you go. Your costs increase linearly and fairly alongside your datastores. And scaling happens automatically so your IT team doesn't waste time configuring new resources. If your DevOps teams can adapt their applications quickly to take advantage of new data, your storage solution should be able to do the same.

Agility and Automation

In an agile development process, developers work iteratively, making frequent, incremental changes and completing rapid review cycles with their stakeholders. Because data fuels many modern applications, the ideal storage platform should provide developers with easy, fast access to all the data they need. Relying on a storage admin for access just slows development, so the ideal platform should also incorporate self-service capabilities. With a self-service approach, similar to what you'd get in a public cloud setting, your DevOps teams can provision the resources and environments they need, increasing efficiency and agility.

Intelligent automation should be built from the ground up with a storage platform built for modern applications. By taking an AI-driven, automated approach to storage deployment, application deployment, and data management, you can save time and reduce time to market. On the DevOps side, automation adds even more value. By automating routine tasks such as code testing, provisioning, and monitoring, DevOps teams can streamline workflows and focus on more complex design problems. Automation also enables consistent deployment practices across environments, ensuring that applications perform consistently, securely, and reliably regardless of location.

The Right Balance of Freedom and Control

The needs of DevOps teams and those of IT leaders can sometimes seem at odds. Developers want to provision resources easily, and leaders want to know where their resources are going. But this doesn't have to be an issue.

The right storage platform solves this problem with a cloud-like operational approach, featuring a centralized management system and strong observability. For DevOps, self-service portals offer autonomy, allowing developers to access all the required data and spin up development environments. Like with a public cloud infrastructure, developers can leverage cloud tools and have the freedom to get the resources they need to move apps into production fast.

At the same time, IT teams have complete visibility into and control over the entire infrastructure. Governance stays with IT, and an application programming interface (API)-first approach ensures that the platform provides consistent security and data management. Plus, a unified management experience helps reduce shadow IT, as all activity is visible in a single pane of glass (no more hidden data silos).

Centralized Security

Modern applications aim to incorporate security in their design from the beginning, and the ideal storage platform should do the same. Robust, built-in security is a must for your next storage platform. By taking a consistent, centralized approach across the environment, rather than piecing together multiple disparate security policies, you can reduce risk, maintain compliance, and manage the data fueling your applications with the confidence that you're safe from cyberattacks. This topic is discussed in further detail later in this paper.



Why Choose the Pure Storage Platform for Modern Applications?

Modern applications are essential if you want your business to be relevant and scalable. By investing in a storage infrastructure that can support the development and implementation of these applications, you're setting yourself up for success. The Pure Storage platform is that infrastructure.

Efficiently Scale Across Environments

The Pure Storage platform provides a cloud-like storage architecture to match the app architectures your DevOps teams use. Portworx® is a key player for this use case. Part of the Pure Storage platform, Portworx allows you to manage and scale containerized applications across hybrid-cloud environments efficiently. Like the Enterprise Data Cloud, which brings cloud principles to storage, Portworx provides a cloud operating model for Kubernetes data management and offers database as a service via Portworx Data Services. This gives countless DevOps teams the self-service capabilities they need to move at maximum productivity.

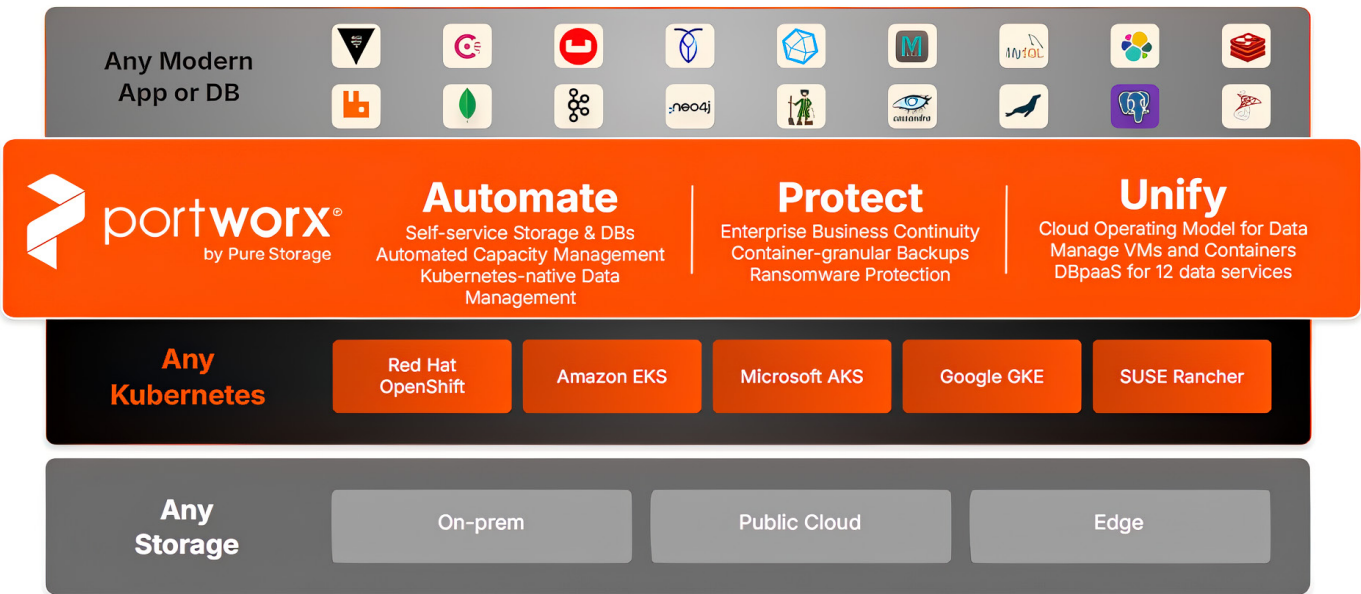


FIGURE 1 | Orchestrate modern Kubernetes applications

Streamline IT Operations

With the Pure Storage platform, centralized, policy-based governance works smoothly and automatically across the entire infrastructure. That means your IT administrators have complete visibility into and control over each team's access to data and resources, whether you're most concerned about cost control or data security. And to free up valuable time for IT teams, the Pure Storage platform automates capacity management and provides container-granular backups, protecting your applications in all stages of development.

Boost Efficiency and Security with Automation

To increase efficiency even further, the Pure Storage platform offers a host of automation opportunities through Pure Fusion™ and Pure1®. Dynamic and AI-driven workload orchestration, proactive problem detection, and capacity and performance tracking equip IT teams with the tools they need to support DevOps while still having time for innovations of their own. Plus, an infrastructure-as-code approach allows DevOps to automate simple repeated tasks and accelerate time to market. Just as automation can save time for IT teams, it can also free up space for developers to tackle the hardest tasks in front of them, from ideating on the most compelling user interface to fixing the trickiest bug.



Automation also assists in security, which you can integrate right into the development process with the Pure Storage platform. Robust security across the entire infrastructure helps you avoid security breaches during development. It empowers you to release applications quickly with the confidence that security has been integrated from the beginning. Container-granular backups from Portworx protect your data (both at rest and in transit) and your applications (in all stages of development).

Scale for Success

Building successful apps is no easy task, but let's assume your DevOps teams succeed. Your applications are thriving, your profits are rising, and customer demand is growing. How do you scale your storage to meet the growing demand? The answer is Evergreen//One™. Taking an STaaS approach, this architectural model lets you start small and scale resources on demand. For larger upgrades, we handle both hardware and software nondisruptively and in a modular fashion. Gone are the days of purchasing a new array or replacing an old one only to create even more data silos. With Evergreen®, your hardware always stays current. It helps that Pure Storage systems are highly reliable and long-lasting: 97% of Pure Storage arrays sold in the last six years are still actively running in production.²

The Bottom Line

The Pure Storage platform is a modern platform built for modern apps. DevOps and IT teams get the resources and control they need to minimize time to market, maintain a secure infrastructure, and save precious time. Pure Storage guarantees 99.9999% uptime so you can ensure business continuity for all your most critical applications (whether still in development or in production).³ This reliability is paired with built-in security and all-flash speed to help your team complete even the most demanding tasks faster, from failure analysis and concurrent builds to refreshing data from development to production.

Conclusion

Modern applications require more than just faster hardware. They demand a completely new approach to storage, one that aligns with agile development cycles, supports hybrid and multicloud strategies, and gives both DevOps and IT teams the tools they need to innovate without friction. The Pure Storage platform is purpose-built for today *and* tomorrow. It delivers cloud-like agility, intelligent automation, and enterprise-grade security while providing the centralized visibility and control IT leaders need.

Additional Resources

- Explore [the Pure Storage platform](#).
- Learn more about [the Enterprise Data Cloud](#).
- Read about how the Pure Storage platform [supports AI and other solutions](#).
- [Learn how to build your Enterprise Data Cloud with the Pure Storage platform](#).

1 | <https://www.redhat.com/en/resources/app-modernization-report>

2 | <https://www.purestorage.com/products/staas/evergreen/forever/subscriptions.html>

3 | <https://www.purestorage.com/content/dam/pdf/en/datasheets/ds-pure-storage-purity.pdf>