A New Standard for Enterprise Data Storage

Differentiators that matter

PURESTORAGE®

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Differentiators That Matter

In IT, small design choices often turn into big headaches, but they don't have to. Pure Storage® builds for the people on call when things break. Here are five ways Pure Storage flips the script: upgrades without downtime, efficiency without trade-offs, guarantees that stick, buying that flexes, and risk that's actually reduced. No matter how strong the tech is, the outcome matters more: fewer fires, fewer gotchas, and more time for the work that matters. Storage should just work, scale cleanly, and stay out of your way. Pure Storage doesn't pile on features—it fixes what's broken in enterprise storage. For the folks living with it, that's the real upgrade.

Introduction

In enterprise IT, small design decisions can lead to significant outcomes. Pure Storage makes every design decision with the people who run the systems in mind. You're the ones who get the late-night call, who live with the consequences when something breaks and have to defend the budget when it doesn't.

This white paper highlights five ways Pure Storage changes the game—zero-downtime upgrades, extreme efficiency, service guarantees you can rely on, buying options, and risk reduction—that make sense in a world that moves faster than your budget cycle. The technology is solid, but what matters more is the outcome: fewer fires to put out, fewer surprises to explain, and more time to focus on the work that matters.

Nondisruptive by Design: How Purity Revolutionized Enterprise Storage

Disruption has long been an unwanted reality in enterprise storage. Pure Storage has engineered a new reality with nondisruptive everything.

Legacy storage always came with strings attached. Every upgrade carried downtime, disruption, and no small amount of dread. Systems stitched together from acquisitions grew more complex over time until outages were no longer rare but routine. Pure Storage chose a different route. From the first line of code, the platform was designed to evolve without disruption, with no forklift swaps or scheduled downtime— just a unified architecture that keeps getting better in place.

And that wasn't a bolt-on feature. It was a foundational choice: design out disruption instead of managing around it. Hardware refreshes, software updates, and flash migrations all happen without forcing applications offline. That's possible because of deep architectural decisions. DirectFlash® Modules replace opaque, commodity solid-state drive (SSD) firmware with Pure Storage software-driven flash management. Data can be evacuated from older modules and rebalanced onto newer ones seamlessly, eliminating the downtime that legacy arrays typically experience.

Stateless architecture doubles down on this principle. In most arrays, controllers store configuration and identity, making upgrades painful. In Pure Storage systems, intelligence resides in the storage devices themselves. Controllers become interchangeable. Install a new one, even from a newer generation, and it instantly assumes the role of the one it replaced without reconfigurations or outages.

Dual-mode design adds another layer of resilience. FlashArray™ and FlashBlade® keep applications running at full performance during upgrades, with all data paths open while background changes occur. There is no need for complicated multipathing software, which in other systems adds complexity and can itself fail. Pure Storage has completed more than 11,000 controller upgrades this way in the past decade, all without downtime.

Global flash management extends the benefit as flash technology evolves. Instead of rip-and-replace cycles, customers add higher-density modules and rebalance data in place. Even shifts like SAS to NVMe adoption happen seamlessly while applications keep running.

Other vendors claim to be nondisruptive in contracts, but in practice, it means running two systems side by side, migrating workloads, and managing weeks of risk. The Pure Storage model is different: all change happens within the system itself—no duplicate arrays, reconfiguration, or sleight of hand.

Where legacy vendors rely on fine print, Pure Storage relies on design.

How Pure Storage Is Transforming Enterprise Data Economics

Inefficiency has drained enterprise storage for decades. Pure Storage rewrote the rules with efficiency that compounds instead of collapses.

Inefficiency is the hidden cost of enterprise storage. Power wasted on underused hardware, racks filled with redundant controllers, and hours lost tuning redundant array of independent disks (RAID) settings all add up to higher expense and wasted human effort. Legacy arrays force users into constant trade-offs between performance, protection, and capacity, often capped with a disruptive refresh every three to five years.

Pure Storage approached the problem differently: start with physics. DirectFlash removes embedded controllers, DRAM, and firmware from SSDs, replacing them with direct access to raw NAND. Instead of 24 drives each carrying 24 little brains, Pure Storage eliminates the redundancy and cuts power, cost, and complexity.

That clean slate enables global flash management. Rather than dozens of isolated drives making their own decisions, the entire flash pool is orchestrated by Purity software. The system sees down to the level of flash cells, managing placement, wear, and endurance holistically. The results are endurance two to five times greater and consistently low latency.

Data protection gets the same treatment. Traditional systems make administrators choose between efficiency and resilience, locking them into RAID levels that rarely fit perfectly. The Pure Storage platform removes the guesswork. Purity automatically applies adaptive RAID

schemes, adjusts stripe sizes on the fly, and rebuilds only affected data after a failure. The outcome: faster recovery, less wasted capacity, and no need for RAID specialists to babysit the system.

The economic impact compounds at scale. Efficiency at the device level grows into efficiency across racks, then across data centers. Organizations reduce energy use, cooling demand, and operational overhead while boosting usable capacity and performance. That foundation allows IT to shift from managing constraints to enabling growth.

The Pure Storage take on efficiency isn't just shaving a few watts. It's rethinking the model so storage scales without waste and economics align with modern data demands. Efficiency is the difference between a platform that buckles under AI and cloud workloads, and one that powers them.

Smart SLAs Start
with a Smart Platform

SLAs often promise the world but show up only after the damage is done. Pure Storage built a platform that keeps them from breaking in the first place.

Service level agreements (SLAs) are supposed to build trust. In practice, they usually show up only after something breaks. In enterprise storage, that's not good enough. The stakes are too high—outages cost money, reputations, and sometimes regulatory standing.

SMART SLAS START WITH A SMART PLATFORM ....

Pure Storage Evergreen//One™ flips the script. It's a subscription covering block, file, object, and cloud storage under one model. Supporting it is Pure1®, the AI-driven management layer that monitors workloads, capacity, and health across environments. Instead of waiting for customers to raise a red flag, predictive analytics detect and prevent issues before they trip an SLA.

The service guarantees are broad and specific. Four core SLAs back the model: performance, six nines of availability, buffer capacity, and market-leading energy efficiency. Wrapped around these are further guarantees: zero data loss, zero planned downtime, and no disruptive migrations. Evergreen® design ensures 25% headroom is always available, absorbing spikes and growth without drama.

Optional add-ons raise the bar. Cyber recovery and resilience programs enable fast restoration after ransomware or disaster. Site rebalance adjusts commitments annually across locations. Paid power and rack space, an industry first, turn operational costs into part of the subscription. Evergreen architecture ties it all together by ensuring that systems keep improving nondisruptively.

The result is a different relationship with SLAs. Instead of fine print designed to protect the vendor, SLAs become active commitments customers can count on. They set clear expectations, clarify risk, and reduce disputes. Most importantly, they prove out in practice. Pure Storage sets the standard as the platform engineered to meet enterprise storage SLAs with certainty, at any scale.

SLAs don't need to be filed away as paperwork. They can be real, enforceable, and lived every day by the platform itself.

The Buying Process That's Modernizing Enterprise Storage Procurement

Procurement used to be a gamble on the future. Pure Storage made it a data-driven, flexible experience that moves at the speed of business.

Procurement has long been a guessing game. Predict three to five years of demand, negotiate rigid contracts, and hope the math works out. In today's environment of unpredictable workloads and fast-changing business needs, that model doesn't hold.

THE BUYING PROCESS THAT'S MODERNIZING ENTERPRISE STORAGE PROCUREMENT .... **CONTINUED**

Pure Storage offers something different: buying designed to match the pace of modern IT. Instead of reactive scrambling, organizations move to data-driven, flexible procurement. Pure1 Meta®, the AI-powered engine, analyzes usage and predicts needs before bottlenecks appear. Leaders get specific recommendations on what to buy, when, and at what cost. That means fewer "just-in-case" purchases and more right-sized decisions.

Universal Credits unlock even more flexibility. Instead of tying purchases to one workload or location, credits can be spent on any storage service—block, file, object, or cloud-native—wherever it's needed. Finance teams get predictable spend while IT teams gain freedom to shift priorities quickly. Credits carry over with contract extensions, avoiding the usual "use-it-or-lose-it" trap.

The in-product marketplace turns procurement into a seamless experience. Purchases, expansions, and upgrades happen inside the same platform used to manage storage. That means no extra workflows, fewer delays, and faster response to new demands. Even upgrades that once triggered complex cycles now execute autonomously and nondisruptively.

The payoff is cultural as much as technical. Procurement shifts from a battleground of competing priorities to a collaborative optimization exercise. Finance sees precise forecasts, IT gets agility, and everyone benefits from fewer bottlenecks.

Rigid buying cycles belong to the past. The modern approach is flexible, intelligent, and cloud-first. Procurement is a partner to innovation rather than a brake on it.

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Cyber Risk Starts in Storage, but the Enterprise Data Cloud Model Shuts It Down

Ransomware exposes every crack in fragmented storage. Pure Storage closes them with a unified cloud model that makes resilience a default, not a dream.

Ransomware doesn't just lock up data; it highlights weaknesses in fragmented storage strategies. Backups scattered across platforms, each with their own patch cycle and rules, create gaps attackers can exploit. One missed update is often all it takes. Recovery then becomes a slow, uncertain scramble, and every minute without data hurts customers, compliance, and revenue.

CYBER RISK STARTS IN STORAGE, BUT THE ENTERPRISE DATA CLOUD MODEL SHUTS IT DOWN .... **CONTINUED**

The Enterprise Data Cloud (EDC) closes those gaps at the platform level. By unifying block, file, and object into one virtualized cloud, managed by an intelligent control plane, EDC removes silos and enforces security consistently. Policies for encryption, access, and retention apply everywhere, automatically. Drift and misconfiguration are engineered out.

Recovery is equally hardened. EDC uses SafeMode™ Snapshots, which can't be deleted or altered, even with stolen credentials. Protection follows data across FlashArray, FlashBlade, and Pure Storage Cloud Dedicated, giving consistent recovery points. Recovery objectives are set once, and the system enforces them everywhere. Pure1 telemetry flags anomalies instantly, providing security and infrastructure teams with shared visibility to act quickly.

If an attack succeeds, recovery stays controlled. Pure Fusion™ provisions a secure, clean-room environment where teams restore from immutable snapshots, validate integrity, and confirm workloads before returning them to production. That avoids reinfection or hidden corruption, the twin nightmares of rushed recovery.

The shift is profound: resilience stops being a manual effort and becomes a built-in capability. For infrastructure owners, the benefits are straightforward: risk reduced, downtime shortened, and confidence restored. Leadership can hear exactly how fast recovery will be, not as a guess but as a tested reality.
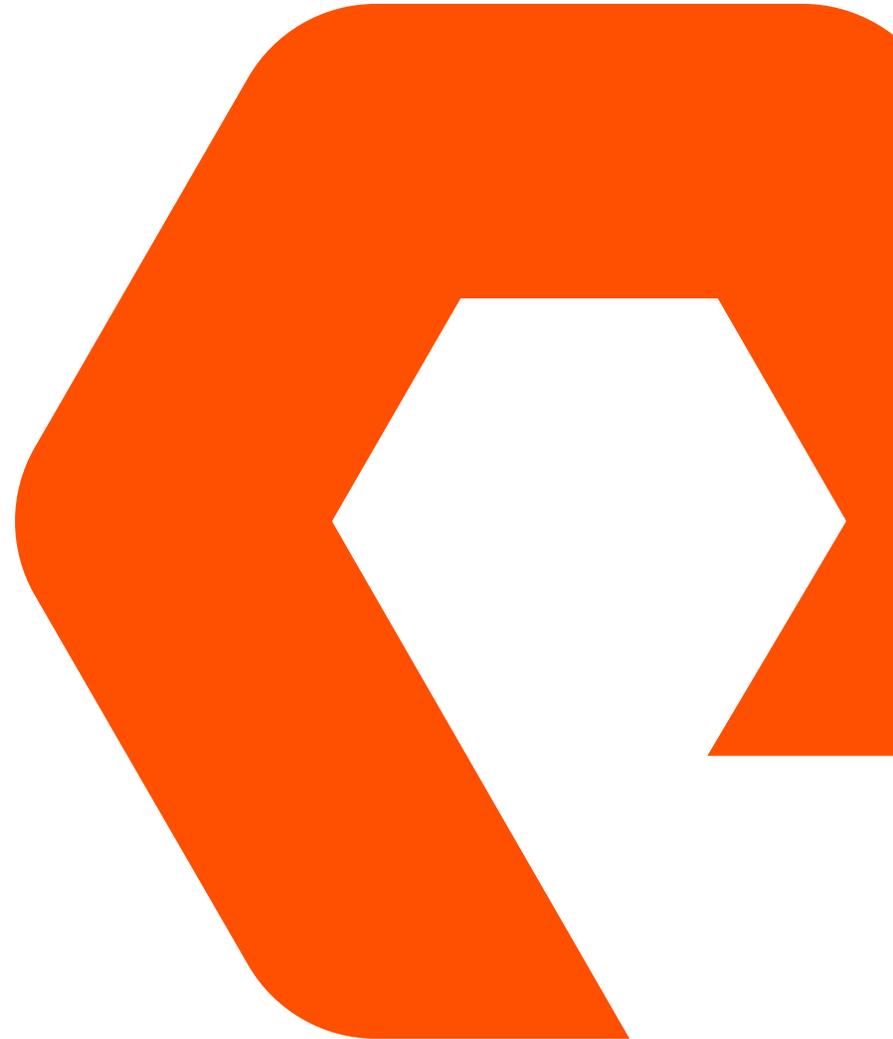
Cyber risk often starts in storage. With EDC, that's also where it ends.

Conclusion

The future of enterprise storage will be defined by platforms that remove complexity, scale without waste, and keep improving without forcing compromise. Pure Storage differentiators are not incremental upgrades; they're core shifts in how storage is designed, delivered, and consumed. For system owners, this means more than better technology. It means a more straightforward, more predictable, and more resilient foundation for everything your business needs to run. Whether it's eliminating downtime, cutting waste, delivering on tough SLAs, or making buying as agile as the cloud, the aim is the same: put you in control.

⬀ Learn more about how to build your Enterprise Data Cloud with Pure Storage today.

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