WHITE PAPER

Five Ways an Enterprise Data Cloud Simplifies Operations

Unlock operational simplicity with a unified data platform built for the modern hybrid enterprise.
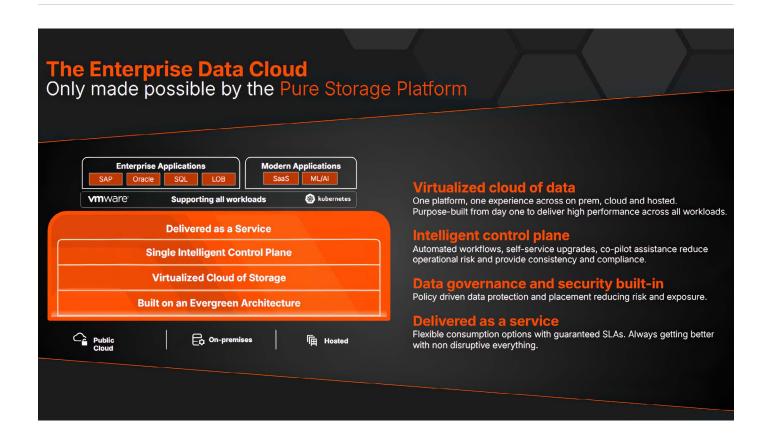
Contents

Introduction

Storage teams are under immense pressure to deliver resilient, high-performance infrastructure that can scale on demand, support emerging workloads such as AI and containerized applications, and maintain compliance with stringent data protection regulations. Yet, they must achieve all this while managing costs, reducing operational overhead, and navigating complex hybrid cloud environments.

Legacy storage architectures—and the fragmented toolchains that support them—often force teams into manual, error-prone processes. Disparate consoles, custom scripts, and siloed systems create blind spots, delay deployments, and increase risk exposure. These challenges slow innovation and drain valuable resources.

An Enterprise Data Cloud (EDC) supported by the Pure Storage platform, addresses these operational hurdles by providing a unified, software-defined platform that spans on-premises arrays and cloud instances. With integrated automation, built-in security, and real-time insights, an EDC frees storage teams from low-value tasks, empowering them to focus on strategic business outcomes.

The Enterprise Data Cloud
Only made possible by the Pure Storage Platform

Enterprise Applications
SAP | Oracle | SQL | LOB

Modern Applications
SaaS | ML/AI

vmware   Supporting all workloads   kubernetes

Delivered as a Service
Single Intelligent Control Plane
Virtualized Cloud of Storage
Built on an Evergreen Architecture

Public Cloud | On-premises | Hosted

Virtualized cloud of data
One platform, one experience across on prem, cloud and hosted. Purpose-built from day one to deliver high performance across all workloads.

Intelligent control plane
Automated workflows, self-service upgrades, co-pilot assistance reduce operational risk and provide consistency and compliance.

Data governance and security built-in
Policy driven data protection and placement reducing risk and exposure.

Delivered as a service
Flexible consumption options with guaranteed SLAs. Always getting better with non disruptive everything.

1 Provision Once, Scale Forever

Traditional provisioning workflows are often fraught with manual steps, including capacity planning, performance profiling, complex LUN setups, zoning, masking, and security reviews. Each step adds time and risk, and mistakes can lead to hours of troubleshooting or production outages.

Inconsistent processes across on-prem and cloud environments amplify these challenges. Teams must maintain multiple toolsets and specialized expertise, which creates bottlenecks and limits their agility.

An EDC revolutionizes this by providing an API-first provisioning framework with centralized templates and policy-driven guardrails. Whether provisioning for development, QA, or production, teams can deploy storage in minutes, confident that each volume meets performance, security, and budget requirements.

How an EDC Delivers Simpler, Smarter Provisioning

- **API-first automation:** Gain rapid, consistent provisioning across your fleet—on prem or in cloud— via integrated APIs and policy-driven workflows.

- **Pre-validated templates:** Deploy best-practice configurations instantly with built-in, tested templates that eliminate manual setup.

- **Secure-by-design architecture:** Every volume is encrypted by default and governed by role-based controls to maintain compliance.

- **Minimized human error:** Automated workflows remove manual steps, reducing configuration mistakes and operational delays.

- **Non-disruptive growth:** Scale capacity and performance transparently and without impacting running applications or requiring maintenance windows.

- **Self-service with guardrails:** Empower teams to provision storage securely within IT-defined policies and budgets, accelerating project timelines.

- **Always-on operations:** Expansion, upgrades, and workload additions occur seamlessly, so storage never becomes a bottleneck.

- **True service partnership:** Outcome-based SLAs with up to 100% service credits ensure vendor commitment aligns with your success.

Why It Matters

Provisioning is the cornerstone of IT delivery. The Pure Storage platform enables an EDC through its unique architecture to transform it from a high-risk, time-consuming task into a streamlined, automated service. By eliminating manual steps and enforcing policies at provisioning time, storage teams can deliver infrastructure faster, with fewer errors and greater confidence, even as demands grow.

2 See Everything, Miss Nothing

In many organizations running legacy systems, monitoring is a patchwork of point tools, custom scripts, and siloed dashboards. This fragmentation leads to alert fatigue, blind spots, and reactive firefighting, with IT teams often discovering issues only after they impact applications.

Performance tuning becomes an ongoing battle, with teams spending significant time correlating metrics from disparate sources and identifying root causes across multiple systems.

An EDC embeds end-to-end telemetry directly into the platform. With unified dashboards and AI-driven analytics, you gain holistic visibility into performance, capacity, and security—no add-ons required.

How an EDC Delivers Unified Performance Monitoring

- **Real-time, end-to-end visibility:** Monitor performance metrics across on-prem arrays, cloud instances, and application tiers from a single pane of glass.

- **Unified metrics tracking:** Automatically collect and correlate IOPS, latency, throughput, and availability data aligned to application SLAs.

- **Reduced complexity:** Replace multiple monitoring consoles and custom scripts with a built-in analytics engine that surfaces critical insights.

- **AI-driven alerts and automation:** Intelligent alerts reduce noise and can trigger automated remediation workflows for common issues.

- **Proactive anomaly detection:** Identify performance degradation patterns before they affect application performance or user experience.

- **Security and performance correlation:** Combine performance telemetry with security events to detect threats, such as ransomware or anomalous access.

- **Integrated reporting:** Generate customizable reports that map storage health to business outcomes for stakeholders and audit purposes.

- **Seamless integration:** Leverage REST APIs and webhooks to integrate monitoring data with ITSM, DevOps, and dashboard tools.

Why It Matters

Comprehensive visibility is crucial for maintaining service level agreements (SLAs) and ensuring application performance. Integrated telemetry and AI-driven insights from the Pure Storage platform eliminate blind spots, reduce alert noise, and empower teams to address issues, minimizing downtime and optimizing infrastructure efficiency proactively.

3 Refresh without Rebuilding

Storage refresh projects are often multi-quarter initiatives involving hardware replacement, data migration, extensive testing, and team coordination. These projects consume budget and divert focus from innovation.

Switching to a platform that is always evolving, without disruption truly reimagines modernization. It is at the core of what an EDC needs to provide—instead of discrete refresh events, infrastructure evolves continuously—hardware and software updates occur seamlessly in place.

By decoupling storage modernization from hardware lifecycles, teams avoid disruptive forklift upgrades and lengthy migrations, ensuring systems remain current and performant without manual intervention.

How an EDC Delivers Seamless Upgrades and Refreshes

- **Evergreen architecture:** Hardware and software modernize in place, eliminating the need for forklift upgrades and data migrations.

- **Predictable, subscription-based model:** Refresh schedules align with your business timeline, not vendor constraints, under predictable operating expenses.

- **Non-disruptive controller swaps:** Upgrade controllers and expand storage capacity with zero downtime to applications.

- **Automated upgrade orchestration:** Built-in workflows automatically handle compatibility checks, pre-validation, and rollbacks.

- **Continuous security patches:** Regular software updates and security fixes deploy seamlessly to maintain compliance and resilience.

- **Simplified decommissioning:** Securely retire legacy hardware with automated data migration and audit logging for compliance.

- **Performance and capacity forecasting:** Integrated analytics help predict future needs and automate pre-emptive upgrades.

- **SLA-backed assurance:** Outcome-based SLAs with service credits guarantee refresh and upgrade performance.

Why It Matters

Continuous modernization keeps your infrastructure aligned with evolving business needs and technological advances. The unique Evergreen® architecture as the foundation of the Pure Storage platform removes project-based disruptions, reduces operational risk, and ensures that storage remains a strategic asset rather than a liability.

4 Built-in Protection, Not Bolt-on

Backup and compliance strategies typically involve separate appliances, software, and processes. Managing snapshots, backups, retention policies, and compliance reporting across multiple systems adds complexity and creates single points of failure.

An EDC embeds data protection directly into the storage fabric. Immutable snapshots, encryption, and automated retention policies are core capabilities—with no additional tools required.

This unified approach ensures consistent protection, simplifies audits, accelerates recovery, and reduces operational overhead.

How an DC Delivers Integrated Data Protection

- **Native immutable snapshots:** Protect data with immutable snapshots that prevent deletion or tampering, a crucial defense against ransomware.

- **Unified backup and archive:** Manage snapshots, cloud replication, and backups from one platform without siloed tools.

- **Automated retention policies**: Define data classification and retention rules that enforce compliance consistently.

- **Instantaneous recovery**: Restore volumes or files in minutes with built-in RPO/RTO guarantees and recovery workflows.

- **Automated verification:** Built-in integrity checks and anomaly detection verify backups and detect silent failures.

- **Encrypted data lifecycle:** Ensure data is encrypted at rest, in transit, and in cloud replicas with centralized key management.

- **Audit-ready reporting:** Generate detailed compliance reports with full traceability of data lifecycle events.

- **Consolidated governance:** Use a single pane of glass for managing protection and compliance across on-prem and cloud.

Why It Matters

Data protection and compliance are non-negotiable yet often create operational friction. The integrated protection available as part of the Pure Storage platform simplifies governance, accelerates recovery, and ensures data integrity, making resilience a built-in capability rather than an afterthought. Ensuring security across your entire EDC estate.

5 Hybrid Cloud, One Experience

Hybrid and multi-cloud strategies promise flexibility but often result in silos, inconsistent policies, and unpredictable costs when disparate tools and processes are used. Teams must manage different consoles, reconcile policies, and execute complex migrations, which adds risk and slows down projects.

An EDC delivers a unified hybrid cloud architecture. Consistent APIs, management interfaces, and security policies span on-premises arrays and cloud instances, enabling true interoperability.

This single operating environment simplifies data mobility, enforces governance uniformly, and allows teams to leverage the right environment for each workload without vendor lock-in.

How an EDC Delivers Seamless Cloud Integration

- **Unified hybrid platform:** Use one consistent operating model and management interface for on-prem arrays and cloud instances.

- **Seamless data mobility:** Replicate and migrate volumes across environments without reformatting or data conversion.

- **Consistent security policies:** Apply encryption, IAM integration, and access controls uniformly across on-premises and cloud environments.

- **Automated cloud operations:** Cloud storage scales and updates seamlessly with the Evergreen software model.

- **Cyber resilience:** Instantly recover from cloud or on-prem backups with cross-environment snapshot failover.

- **Cost and performance optimization:** Built-in analytics recommend workload placement and tiering to control costs.

- **Global governance:** Central policy engine enforces compliance and retention rules across multi-cloud deployments.

- **Developer and DevOps Integration:** Full REST API and DevOps toolchain support accelerate cloud-native workflows.

Why It Matters

The EDC architecture, when partnered with the Pure Storage platform, unified hybrid approach transforms the cloud from a series of disjointed projects into an integrated extension of your data center. Consistent operations, security, and governance across environments reduce risk, control costs, and accelerate innovation.

Conclusion

An Enterprise Data Cloud redefines the delivery, management, and safeguarding of storage operations. EDC eliminates the complexity, risk, and operational friction that hold organizations back by unifying provisioning, monitoring, modernization, protection, and hybrid cloud integration into a single platform.

Infrastructure teams gain the agility to deploy and scale storage services in minutes, the confidence to monitor and protect data proactively, and the freedom to extend workloads seamlessly across on-premises and cloud environments. Continuous modernization ensures your systems remain current and performant, while integrated data protection built into the storage fabric safeguards against threats and ensures compliance at every stage.

For storage administrators and IT infrastructure owners, EDC is more than a storage solution—it's a strategic enabler that transforms storage from a cost center into a value driver. With outcome-based SLAs and a true service partnership, your team can focus on innovation and core business priorities instead of routine maintenance and firefighting.

Embrace the simplicity, reliability, and agility of an Enterprise Data Cloud built only on the Pure Storage platform. Experience how EDC can streamline operations, reduce overhead, and propel your organization forward in the modern hybrid enterprise.

For more information about the Enterprise Data Cloud architecture and Pure Storage platform:

↗ **www.purestorage.com/future**

purestorage.com   800.379.PURE

PURESTORAGE®

CM466-01-en 05/25