



## DATA SHEET

# Purity Operating Environment

Discover Agile Data Services for the Modern Data Experience™.

### Store

Proven 99.9999% availability, unmatched data reduction, always-on encryption, and non-disruptive upgrades

### Safeguard

Active-active synchronous replication, near-synchronous disaster recovery, and advanced data availability with RAID-HA

### Access

Latency as low as 150µs, multiprotocol access, predictable high-speed access for critical workloads, and built-in QoS for high IOPs and throughput

### Mobilize

Elimination of data silos, snapshot mobility moves entire workloads to the cloud, hybrid-cloud enabled and multicloud capable

### Manage

Always-on operations, service orchestration and REST APIs

As your data grows, so does your opportunity. You need your data to be secure, efficiently stored, and managed, yet still easily accessible wherever you need it. The Purity Operating Environment delivers Agile Data Services that help put your data at the center of every decision you make. Purity provides you with the agility you need to move your business quickly, the choice in how you use the cloud, and ways to reduce costs while protecting your data.

## Intelligently Manage Your Data

Secure, highly scalable, and simple to use, Purity powers all of Pure Storage®, including FlashArray//X to deliver comprehensive data services for performance-sensitive applications, FlashArray//C for capacity-oriented applications, and Pure Cloud Block Store™ for seamless data mobility.

Purity intelligently manages your data—in data centers, at the edge, or in the cloud—and allows you to simplify data management, eliminate the storage silos that can throttle innovation, and extract greater value from ever-growing volumes of data. And with Pure's Evergreen Storage™ subscription model you can forget about expensive upgrade cycles, disruptive downtime, and rebuys of terabytes you already own. An Evergreen Storage subscription gives you continuous improvements and a Right-Size Guarantee™ to keep your storage fresh, modern, and agile without effort.

With Purity, you can store, safeguard, access, mobilize, and manage your data like never before for a Modern Data Experience.

## Store: Safe, Efficient Storage Capacity

Purity gives you the confidence of knowing that your data is stored in a way that ensures data security and availability.

# The Modern Data Experience



**Data reduction:** Purity delivers the industry's most granular and complete data reduction for unmatched storage efficiency. Only unique blocks of data are saved on flash, which removes duplicates that fixed-block architectures often miss. And repetitive binary patterns are removed before data is deduplicated and compressed, streamlining the data reduction process.

**Always-on encryption:** Purity's "encrypt everything" approach provides built-in enterprise-grade data security without user intervention or key management. Pure Storage EncryptReduce™ encrypts data in flight without affecting data compression and deduplication. It also provides physical security through the Key Management Interoperability Protocol (KMIP).

**High availability:** Purity ensures business continuity by reducing your risk of downtime while keeping mission-critical applications and data online and accessible. Designed from the ground up for flash, Purity RAID-HA protects against concurrent dual-drive failures and initiates re-builds automatically within minutes, and detects and heals bit-errors. Purity also treats performance variability as a failure and uses parity to work around bottlenecks to deliver consistent latency.

**Non-disruptive everything:** Downtime isn't an option when your storage array hosts hundreds of applications. With Purity, you can expand flash capacity, upgrade controllers, replace failed components, and upgrade Purity software itself—all without taking the storage offline or impacting application performance. It's truly non-disruptive.

**Intelligent quality of service (QoS):** Purity continuously tunes infrastructure using always-on QoS to prevent workloads from hogging resources. Without artificial limits on workloads, it's always possible to get maximum utilization of the array, and you're assured of full performance for all your workloads.

## Safeguard: Proactive Data Protection and Disaster Recovery

Protect data and keep business running uninterrupted with a full range of business-continuity and disaster-recovery capabilities.

**Geo-distance resiliency:** Purity ActiveDR™ uses continuous replication to seamlessly protect application data across almost any distance with near-zero RPO and minimal recovery time. With single-command failover, intelligent fallback, and non-disruptive disaster recovery testing, ActiveDR accelerates your responsiveness to outages.



**Effortless affordable business continuity:** Achieve new levels of data availability across racks, data centers, or metro regions without additional hardware or software. With synchronous, active-active replication from ActiveCluster™, any configuration changes—adding new volumes, increasing volume size, creating snapshots, applying volume QoS limits, and more—occur simultaneously on both arrays. ActiveCluster delivers zero RPO and RTO by automatically failing over without user intervention.

**Backup operations to the cloud:** Pure Cloud Block Store protects your cloud data with quick restores for low RTO and RPO, plus compliance monitoring and longer-term backup for volume-level restores. Purity CloudSnap™ provides cloud-based data mobility for off-premises flexibility including test dev, longer-term retention, multiple recovery scenarios, and lower costs.

**Disaster recovery for VMware:** Purity integration with VMware Site Recovery Manager (SRM) lets your automation software orchestrate application recovery and mobility across sites. With VMware SRM, admins can centralize recovery plans for thousands of VMs to streamline disaster recovery and perform non-disruptive recovery testing.

**Simplified backup and restore:** With Purity, the backup process is as easy as creating a snapshot schedule from the FlashArray™ GUI and choosing FlashBlade®, another NFS device, or an Amazon S3 target. Select any snapshot to restore.

## Access: Ubiquitous Data Access

Gain instant data access from both traditional enterprise applications and new webscale workloads.

**Consolidated workloads and aggregated data:** With Purity, you can easily consolidate workloads and aggregate data with block access over Fibre Channel, iSCSI, NVMe over Fabrics (NVMe-oF), plus native file access for SMB and NFS.

**Faster, more consistent performance:** Pure's 100% NVMe storage has built-in QoS that ensures every workload gets the IOPs and throughput it requires. Pure DirectFlash Fabric gives you maximum throughput for high-performance business applications with microsecond latency that's far more predictable than with conventional SSDs.

**Acceleration of performance-sensitive applications:** For the fastest possible response from databases, Pure DirectMemory™ with Intel Optane Storage-class Memory (SCM) delivers up to an additional 50% reduction in latency. A cache boost for all your business-critical apps—SAP HANA, Oracle, SQL Server, and cloud-native databases—can be as simple as plugging in DirectMemory modules. No configuration or tuning is required.

**File workloads with block applications:** If you run NAS-based apps in addition to SAN-based enterprise databases, Purity's consolidated SAN and NAS capabilities let you avoid the trouble and expense of running two incompatible environments.

**Edge to core to cloud data access:** Authorized users can access their data wherever they are in the world—and wherever their data resides: at core data centers on-premises, remote within branch offices, or in the cloud with native data mobility.

## Mobilize: Seamless Data Portability and Mobility

Automatically place workloads and data on infrastructure that best meets your performance, accessibility, and capacity needs.

**On-demand data portability:** Workloads should be allocated based on where they most cost-effectively meet service level agreements to satisfy end customers. With Purity, you can quickly and easily move data between both physical and virtual machines. You can even move workloads to the cloud when demand spikes outstrip on-premises resources. Pure's space-efficient snapshots are portable between FlashArray devices to FlashBlade controllers, third-party NFS servers, and the cloud.



**Unify your on-premises and cloud experience:** Purity simplifies managing your data, no matter where it resides: on-premises, co-located, hosted, connected to the cloud with low-latency interconnects, or in AWS or Azure using Pure Cloud Block Store.

**Mobilize your applications with multicloud:** Purity delivers the highest level of availability for business continuity of mission-critical apps running in the cloud. When it comes to disaster recovery, Purity lets you develop, migrate, and run applications across a custom hybrid cloud optimized for your business.

**Deploy at the edge:** Whether for optimal performance or due to cost considerations, some workloads are best run at the edge—where the data is captured—rather than in a central location. Purity leverages Pure’s FlashArray NVMe hardware and software to deliver sub-millisecond latency and proven 99.9999% availability<sup>1</sup>.

## Manage: Powerful Data Management

Prevent, identify, and resolve high-severity outages and other critical issues more quickly with Purity’s artificial intelligence for IT operations (AIOps).

**Edge to core to cloud data access:** Authorized users can access their data wherever they are in the world—and wherever their data resides: at core data centers on-premises, remote within branch offices, or in the cloud with native data mobility.

**Integrated with enterprise applications:** Manage Pure from within your enterprise applications’ management environment.

**Simplify VMware cloud management:** VMware Cloud Foundation (VCF) on Pure provides scalable, effortless, and cost-optimized infrastructure for hybrid- or private-cloud environments. With VCF deployed on Pure FlashArray or FlashStack™, you can eliminate workload-based silos and simplify ESXi infrastructure management while supporting VM and container-based applications. FlashArray is also integrated with the full suite of VMware vRealize products, Site Recovery Manager, and vVols.

**Manage FlashArray from Microsoft Windows:** You can manage both on-premises and cloud-deployed FlashArray devices from Windows Admin Center with the Pure FlashArray Management Extension.

**Centralized management from Microsoft SQL Server:** Manage database backup and restore easily with the Pure Microsoft SQL Server Management Studio (SSMS) Extension. You can either create app-consistent snapshots and automate backup and restore operations with the Pure Backup SDK Windows PowerShell Module or manage them in SSMS for all your local and remote databases.

## Additional Resources

Learn more about [Purity](#) and the [Pure Storage product portfolio](#).

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<sup>1</sup> For FlashArray only

[purestorage.com](https://www.purestorage.com)

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