DATA SHEET

Pure Storage FlashArray//C

Consolidate, accelerate, and protect your data with economical, all-flash storage.

Pure Storage® FlashArray//C™ lets you consolidate workloads with consistent all-flash NVMe performance. You'll get forward-thinking data protection—at a lower TCO than hybrid storage.

Today, most business-critical applications run on high-performance all-flash storage arrays, but some applications still use hybrid flash and legacy disk systems. These legacy systems suffer from inconsistent performance, complex management tools, and an architecture which impairs innovators.

FlashArray//C provides a all-flash foundation for databases, test and development, multisite disaster recovery, data protection, and content repositories. Your organization can easily improve business continuity with

Pure Storage ActiveCluster™ fully symmetric active/active bidirectional synchronous replication solution, which provides RPO zero and automatic transparent failover for RTO zero—and supports both Fibre Channel (FC) and TCP/IP environments.

Consolidate Workloads and Large Data Stores

Pure FlashArray//C densities scale from 779TB to 8.9PB in compact three- to nine-rack unit arrays, and deliver consistent 100% NVMe performance. You can now consolidate production workloads, test/dev, disaster recovery, backup and restore data, and more on a single array. Let your IT organization drive simplicity into your infrastructure and eliminate complex siloed approaches to deploying these applications across multiple disparate hybrid disk-based solutions.

Cloud-based Management

The Pure1® platform provides simple cloud-based management and effortless predictive support with full-stack analytics and the AI-driven power of Pure1 Meta™. Pure1 provides a snapshot catalog of all your backups in one place, whether the target is another FlashArray™, a FlashBlade®, another NFS target, or a public cloud like Amazon S3.

Intuitive, Evergreen Experience

- All-flash NVMe Evergreen Storage™ with data reduction, built for 99.9999% availability, replication, and cloud portability.

Hyper-consolidation

- Consolidate massive data stores with up to 8.9PB effective in a three-, six-, or nine-rack unit.

Performance

- Predictable, consistant latency as low as 2ms, suitable for business-critical workloads
- NVMe and NVME-oF (Fibre Channel, RoCE, TCP)

Built-in Symmetric Clustering

- ActiveCluster provides zero RPO and RTO, is easy to use, and comes built-in at no extra cost.

Better TCO

- Pair hybrid storage economics with less management overhead, power, cooling, and data-center real estate.

Industry Recognition

- A Gartner® Magic Quadrant™ Leader for storage nine times in a row.[1]
- Certified Net Promoter Score in the top 1% of B2B Companies.by Medallia

Purity: The Software-defined Heart of FlashArray

Purity for FlashArray delivers rich, enterprise-level data services; DirectFlash global flash management; and Evergreen improvements with every release. Features such as ActiveCluster™ for business continuity, ActiveDR™ for disaster recovery, ActiveWorkload for workload migration, VMware Virtual Volumes (vVols), NVMe-oF, Snap to NFS, Purity CloudSnap™, and SafeMode™ are all examples of new features provided over time with non-disruptive, no-additional-cost Purity upgrades. All Purity storage services, APIs, and advanced data services are built-in and included with every array.

- **Data reduction:** Purity averages an industry-leading 5:1 data reduction with a total efficiency of 10:1 (including thin provisioning).

- **Always-on encryption:** Purity's "encrypt everything" approach provides built-in enterprise-grade data security without user intervention or key management.

- **High availability:** Purity protects against concurrent dual-drive failures and initiates re-builds automatically within minutes. Purity also treats performance variability as a failure and uses parity to work around bottlenecks to deliver consistent latency.

- **Unified storage with file services:** 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.

- **Always-on ransomware remediation:** Cost-efficient, portable, SafeMode snapshots prevent cyber attackers from tampering with or maliciously destroying critical recovery data.

- **Intelligent quality of service (QoS):** Purity continuously tunes infrastructure using always-on QoS to prevent workloads from hogging resources and to ensure maximum utilization of the array.

- **Faster, more consistent performance:** Pure DirectFlash Fabric gives you maximum throughput with microsecond latency that's far more predictable than with conventional SSDs.

- **On-demand data portability:** Quickly and easily move data where they most cost-effectively meet service level agreements to satisfy your customers: between both physical and virtual machines, between on-premises and the cloud.
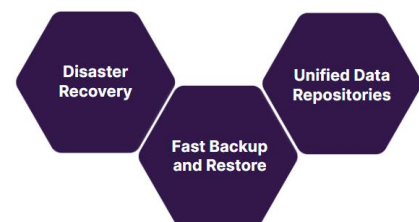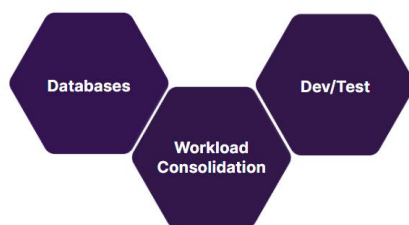
Speed Recovery Effortlessly with ActiveCluster and ActiveDR

Make slow recovery a thing of the past with Purity, ActiveCluster, and ActiveDR. ActiveCluster uses synchronous replication and a symmetric active-active design to deliver zero RPO and zero RTO automatic failovers without user intervention. Unlike active-passive implementations, Purity ActiveCluster simultaneously serves I/O on the same volume from both sites.

ActiveDR offers continuous data protection that seamlessly replicates application data across almost any distance, with the lowest possible RPO. ActiveDR radically simplifies remote site recovery with a single failover command, straightforward

failback (re-protect), and non-disruptive disaster recovery testing. With ActiveDR, you can respond quickly to real-world outages and compliance testing requests with a single click or with a single API/CLI command.

Secure Data Protection with SafeMode Snapshots

Get flexible backup and recovery built for today's ever-increasing ransomware threats. Pure's immutable snapshots provide simple, built-in, local, and cloud-native protection for FlashArray. FlashArray SafeMode ensures your snapshots will be available to help you recover from a cyberattack. With SafeMode enabled, your snapshots cannot be eradicated for a fixed, configurable period, even by someone with admin privileges. Together, Purity Snapshots, Snap-to-FlashBlade, Snap-to-NFS, and CloudSnap enable free movement of space-efficient copies between FlashArray and FlashBlade® systems, to third-party NFS storage, or to the cloud, respectively.

DirectFlash Innovation

FlashArray is specifically architected for innovators, moving beyond the legacy SSD architectures that have flash pretending to be a hard disk. Instead, DirectFlash speaks directly to raw NAND with a super-efficient NVMe protocol and leverages NVMe-oF. DirectFlash includes multiple components:

DirectFlash software: DirectFlash software manages array I/O globally, for a faster, more efficient architecture. It provides detailed I/O scheduling and performance management. This makes I/Os deterministic and reduces average latency by reducing the number of slow I/Os that would often occur in SSD architectures.

DirectFlash Module (DFM): DFM is a Pure-designed flash module that connects raw flash directly to the FlashArray storage via NVMe. Unlike traditional SSDs that use a flash controller or flash translation layer, DFM is just raw flash. This design removes performance roadblocks of SSDs used by many legacy storage architectures..

DirectFlash Shelf: DirectFlash Shelf is used to add additional NVMe capacity to a FlashArray//C and is external to the array chassis. Instead, it's connected to the chassis via NVMe-oF protocol with RDMA over converged (RoCE), leveraging 50GB-per-second Ethernet. The shelf maintains the ability to support different sizes of DFMs as flash density improves and new forms become available, such as SCM, QLC, and others.

DirectFlash Fabric: DirectFlash Fabric lowers network latency dramatically and enables enterprise-class reliability and data services via shared storage versus DAS. NVMe-oF enables massive optimization between the storage controllers and host over fast networking: Fibre Channel, RoCE, and TCP. DirectFlash Fabric delivers greater performance and efficiency gains, including offloading the host CPU.

Evergreen Storage

With Evergreen Storage, you can deploy once and enjoy a subscription to continuous innovation as you expand and improve performance, capacity, density, and/or features for 10 years or more—all without downtime, performance impact, or data migrations. Pure has engineered compatibility for future technologies directly into the product via the modular, stateless architecture of FlashArray. This means you can upgrade non-disruptively and expand the equipment you already own.

Evergreen programs like Ever Modern and Ever Agile provide full trade-in value when upgrading controllers, giving you the agility you need to grow and modernize.

The Capacity Consolidation program keeps your storage dense as you expand, without becoming obsolete. With Evergreen Storage, you don't have to re-buy terabytes you already own. Keep your storage simple, evergreen, and dense—and always meet your business needs. Pure uniquely offers all of our core solutions either as products (CAPEX) or as services (OPEX) via Evergreen//One™.

//C50 Up to 1.6PB **//C70** Up to 4.8PB **//C90** Up to 8.9PB

* All capacities listed are maximum effective capacities based on 5:1 data reduction

Technical Specifications

	Capacity	**Physical**
//C50	Up to 1.6PB/1.4PiB effective capacity* Up to 482TB/438TiB raw capacity	3U 97.7 lbs (44.3Kg) fully loaded 5.12" x 18.94" x 29.72" chassis
//C70	Up to 4.8PB/4.4PiB effective capacity* Up to 1.3PB/1.1PiB raw capacity	3U-U 97.7-185.4 lbs (44.3-84.1 kg) fully loaded 5.12"-18.94" x 18.94" x 29.72"
//C90	Up to 8.9PB/8.1PiB effective capacity* Up to 2.3PB/2.1PiB raw capacity	3U-9U 97.7-185.4 lbs (44.3-84.1 kg) fully loaded 5.12"-18.94" x 18.94" x 29.72"

*Effective capacity assumes HA, RAID, and metadata overhead, GB-to-GiB conversion, and includes the benefit of data reduction with always-on inline deduplication, compression, and pattern removal. Average data reduction is calculated at 5-to-1 and does not include thin provisioning."

Additional Resources

- FlashArray//X™ data sheet

- Purity data sheet

- Pure1 data sheet

- ActiveCluster

** Not all features available at General Availability.

¹ Pure Storage has been recognized as a Gartner® Magic Quadrant™ Leader for the last nine years: Pure was in the Leaders quadrant of the 2022 Magic Quadrant for Primary Storage for the 4th year in a row and was a Leader in the Magic Quadrant for Solid-State Arrays for the previous 5 years. Gartner has retired this latter report and is provided here for historical purposes only. GARTNER and Magic Quadrant are registered trademarks of Gartner, Inc. and/or its affiliates in the U.S. and internationally and is used herein with permission. All rights reserved. Gartner does not endorse any vendor, product or service depicted in its research publications, and does not advise technology users to select only those vendors with the highest ratings or other designation. Gartner research publications consist of the opinions of Gartner's research organization and should not be construed as statements of fact. Gartner disclaims all warranties, expressed or implied, with respect to this research, including any warranties of merchantability or fitness for a particular purpose.