



DATA SHEET

Pure Storage FlashArray//XL

Top-tier power for your most demanding apps.

Performance

- Powered for performance tiers with Pure Fusion
- 150µs to 1ms latency
- NVMe and NVMe-oF (Fibre Channel, RoCE, TCP)
- SMB and NFS protocol support

Efficiency

- Industry-leading 5:1 data reduction average, 10:1 total efficiency
- Up to 5.5PB effective capacity
- Includes array software

Highly Available

- Proven 99.9999% availability
- Always-on, IOPs and bandwidth limits
- Built-in business continuity and disaster recovery

Simplicity

- AI-driven management with Pure1® and predictive support
- REST API for orchestration
- Non-disruptive upgrades and capacity expansions

Industry Recognition

- A Gartner® Magic Quadrant™ Leader for storage ten times in a row¹
- Certified Net Promoter Score in the top 1% of B2B companies by Medallia

In a fast-paced digital world where application demand can shoot up in an instant, new apps need to deploy in weeks instead of months, and cyberattacks make the daily news, FlashArray//XL™ storage delivers the performance, scale, and security your business needs to stay ahead. Built to work with the cloud-like operating model of Pure Fusion™, FlashArray//XL from Pure Storage® powers “platinum” storage tiers effortlessly.

Cloud-like Scale for Your Platinum-level Pure Fusion Tiers

[Pure Fusion](#)—an industry-first self-service, autonomous storage platform—marries the best of enterprise storage with the agility and scalability of the cloud. To deliver storage at cloud scale, Pure Fusion needs the power of FlashArray//XL, the most performant and scalable solution from Pure Storage. FlashArray//XL brings extreme capacity and lightning throughput, making it the perfect choice for high-performance, high-capacity, platinum-level storage tiers with Pure Fusion.

Always-on Data Protection and Security

[Purity](#) advanced data services ensure that data stored on FlashArray//XL is secure, available, and easily recoverable after disruptions, including malicious attacks. To meet your environment’s precise needs, Purity provides a full range of enterprise-grade data replication features: [ActiveCluster™](#) delivers symmetric, active-active replication with zero RPO and zero RTO recovery, while [ActiveDR™](#) delivers seamless and continuous data replication across almost any distance. To speed data recovery, improve recovery options, and mitigate ransomware attacks, Purity provides immutable [SafeMode™](#) Snapshots that prevent cyberattackers from tampering with or maliciously destroying critical recovery data on both source and replication target arrays.

Innovation without Delay

The pace of innovation is faster than ever, measured in weeks instead of years. Pure's unique Evergreen® storage plans can keep the decisions you make today from boxing you in as your data grows, you roll out new services, and you support more users. With Evergreen, you get immediate access to ever-improving capabilities in hardware and software with a right-size guarantee when you purchase and non-disruptive upgrades and capacity expansions as your storage needs evolve.

Built on the Proven FlashArray Platform with Purity Data Services

Move beyond basic SSD with DirectFlash®: FlashArray™ moves beyond legacy SSD and architectures made to have flash pretend to be hard disk. [DirectFlash](#), the world's first software-defined flash module, enables the Purity software to speak directly to raw NAND with a super-efficient NVMe protocol for even faster storage network speeds between the FlashArray unit and application servers. With FlashArray//XL, Pure introduces DirectFlash Module with built-in non-volatile RAM (DFMDs). DFMDs reduce rack space requirements by removing dedicated NVRAM slots from the main array chassis. This change allows NVRAM to scale with capacity and improves NVRAM throughput, resulting in increased performance per rack unit and increased storage density within the array chassis.

DirectFlash Shelf: Lets you add additional NVMe capacity beyond the FlashArray chassis. DirectFlash Shelf connects to the FlashArray storage via NVMe-oF protocol with RDMA over converged (RoCE), leveraging 50GB-per-second Ethernet. The shelf maintains the ability to support different sizes of DirectFlash Modules 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: FibreChannel, RoCE, and TCP. DirectFlash Fabric delivers greater performance and efficiency gains, including offloading the host CPU.

Cloud-based management with Pure1®: The [Pure1](#) data management platform provides a single view to monitor, analyze, and optimize your storage from anywhere in the world, and it delivers alerts directly to your phone. The artificial intelligence for IT operations (AIOps) and full-stack monitoring in Pure1 help prevent, identify, and resolve high-severity outages and other critical issues. Its Workload Planner can predict array capacity and performance as well as model existing and new workloads, while Pure1 makes it simple to purchase new or additional services directly from its user interface.

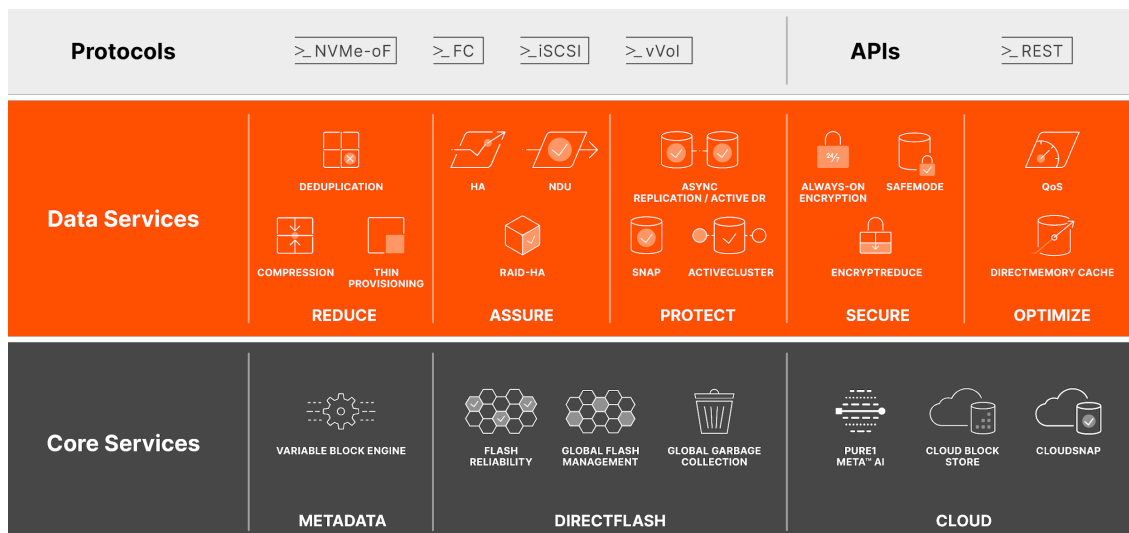


Figure 1. Purity FlashArray features²



A Powerful Evolution of the FlashArray Family

Increased capacity and performance: The larger 5U chassis of FlashArray//XL is designed for today's higher-powered multi-core CPUs, which allows FlashArray//XL to increase performance over our FlashArray//X models. The larger 5U XL chassis provides more space for fans and airflow, which improves cooling efficiency, and for wider controllers that enable performance to scale today and well into future generations of FlashArray//XL. With greater storage density, FlashArray//XL supports up to 40 DirectFlash Modules in the main chassis. To increase capacity further, up to two [DirectFlash Shelf](#) expansion shelves can be connected.

Increased connectivity, greater reliability, and improved redundancy: FlashArray//XL doubles the host I/O ports compared to FlashArray//X, for up to 36 ports per controller, and the //XL model provides more expansion slots for configuration flexibility. It doubles the bandwidth for each slot, including full bandwidth for mixed protocols. FlashArray//XL offers multiple 100GbE RDMA over Converged Ethernet (RoCE) links that are very robust to hot-plug and provide faster controller failover speed. The RoCE controller links also offer increased resiliency capabilities, including improved "cross-controller" high availability (HA) with a nearly three-times increase in bandwidth, more stability at high array load, minimal disruption during failover, and four power supplies that operate in an N+2 configuration.

DirectFlash Modules with distributed NVRAM: DirectFlash Modules include onboard distributed non-volatile random-access memory (DFMD). Separate NVRAM modules are no longer required. With DFMD, NVRAM capacity, NVRAM write bandwidth, and array capacity scale with the number of DFMDs, lifting the limit on write throughput.

DirectCompress Accelerator: Included with every FlashArray//XL shipment, the DirectCompress Accelerator (DCA) increases compression efficiency by offloading inline compression to a dedicated PCIe card. It ensures maximum compression rates, even when the system is under a heavy load, and stretches capacity to reduce overall storage costs and to extend the value of your FlashArray//XL.



Technical Specifications

	Capacity	Physical
//XL170	Up to 5.5PB / 5.13PiB effective capacity* Up to 1.4PB / 1.31PiB raw capacity**	5-11U; 1850-2355W (nominal-peak) 167lbs (75.7kg) fully loaded; 8.72" x 18.94" x 29.72"****
//XL130	Up to 3.8PB / 3.5PiB effective capacity Up to 1024TB / 932TiB raw capacity	5-11U; 1550-2000 watts (nominal-peak) 167lbs (75.7kg) fully loaded; 8.72" x 18.94" x 29.72"
DirectFlash Shelf	Up to 3.8PB / 3.5PiB effective capacity 3U; 460-500 watts (nominal-peak)	Up to 1024TB / 932TiB raw capacity 87.7lbs (39.8kg) fully loaded; 5.12" x 18.94" x 29.72"

Connectivity

Onboard Ports	I/O Expansion Cards (6 slots/controller)
• 2 x 1Gb (RJ45)	• 2-port 10/25 Gb Ethernet, NVMe/TCP, NVMe/RoCE
Management Ports	• 2-port 40/100Gb Ethernet, NVMe/TCP, NVMe/RoCE
• 1 x RJ45 Serial	• 2-port 16/32/64*Gb FCP, NVMe/FC
• 1 x VGA	• 4-port 16/32/64 Gb FCP, NVMe/FC
• 4 x USB 3.0	

* 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.

**Calculated using raw label capacity.

***Some maximum capacity configurations may use Pure Storage DirectFlash Shelf or Pure Expansion Shelf.

*64Gb FC support will be enabled via 64Gb SFP+ upgrade on the same HBA shortly after release.

Additional Resources

- Learn more about [Pure Fusion](#).
- Explore the features of [Purity](#).
- Read more about [Pure1](#).

¹ Pure Storage has been named A Leader again in the 2023 Gartner® Magic Quadrant™ for Primary Storage. This marks the fourth consecutive year being positioned highest for Ability to Execute and furthest for Completeness of Vision in the Gartner® Magic Quadrant™ and the 10th year in a row as A Leader. Pure Storage was a Leader in the Magic Quadrant for Solid-State Arrays for the previous five years. Gartner has retired this latter report and is provided here for historical purposes only.

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² Not all Purity features are supported on all FlashArray models.

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