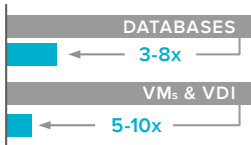# Pure Storage FlashArray

## The All-Flash Enterprise Array

## FlashReduce
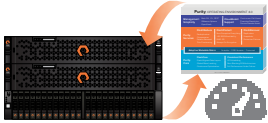**Inline Data Reduction**

- 5-10x space savings
- Inline compression and deduplication

| DATABASES | | |
|---|---|---|
| 3-8x | | |

| VMs & VDI | | |
|---|---|---|
| 5-10x | | |

## FlashProtect
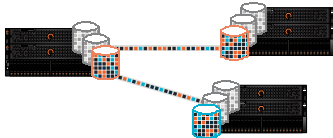**Enterprise Resiliency**

- Non-disruptive everything
- >99.999% availability
- High-availability with full performance
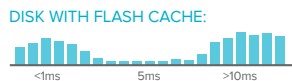
## FlashRecover
**Global Data Protection**

- Space-efficient snapshots
- Replication and recovery leverage space efficiency

## Consistent Performance
**100% Flash Results**

- >10x faster than disk
- 100,000 of IOPs
- <1ms consistent latency

DISK WITH FLASH CACHE:

<1ms     5ms     >10ms

PURE STORAGE ALL FLASH:

<1ms     5ms     >10ms

## All-flash enterprise storage for less than the cost of spinning disk.

FA-405

FA-420

FA-450

## Accelerate Databases and Applications

- Speed transactions by 10x with consistent low latency
- Enable online data analytics across wide datasets
- Mix production, analytic, dev/test, and backup workloads without fear

## Virtualize and Consolidate Workloads

- Easily accommodate the mose IO-hungry Tier 1 workloads
- Increase consolidation rates, reducing servers
- Simplify VI administration and accelerate common administrative tasks

## Deliver the Ultimate Virtual Desktop Experience

- Support demanding users with better performance than physical desktops
- Scale without disruption from pilot to >1000's of users
- Experience all-flash performance for under $100/desktop

## Protect and Recover Vital Data Assets

- Provide an always-on global protection for business-critical data
- Maintain performance, even under failure conditions
- Recover instantly with FlashRecover

## The simplest storage you'll ever use

No more managing performance, RAID, tiers or caching. FlashArray makes storage simple. And if you don't love it, return it for a full refund. It's the broadest guarantee in the storage industry. For details visit **purestorage.com/guarantee**.
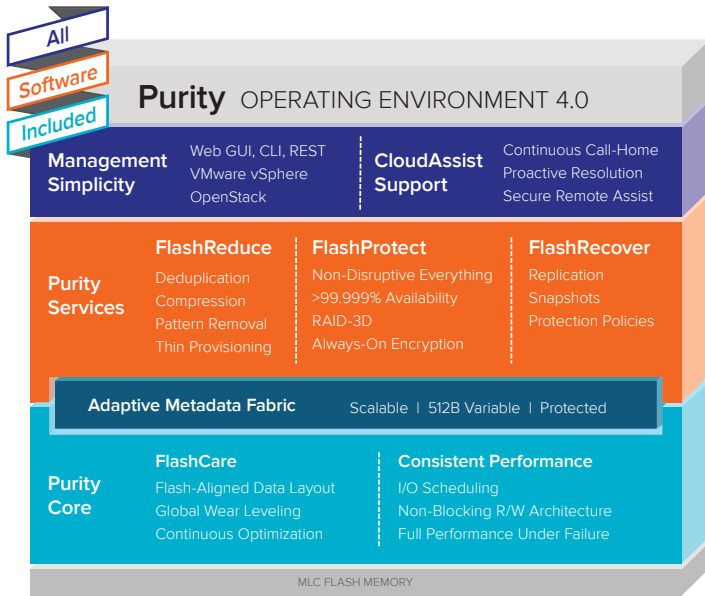
LOVE YOUR STORAGE GUARANTEE

## A better approach to storage acquisition and lifecycles

Tired of forklift upgrades and maintenance extortion? Incrementally expandable and always non-disruptive, we make software and hardware upgrades easy and economical.

**FOREVER** FLASH

**PURE**STORAGE

## The FlashArray is powered Purity Operating Environment, storage software designed for 100% flash:

**All**
**Software**
**Included**

### Purity OPERATING ENVIRONMENT 4.0

| Management Simplicity | Web GUI, CLI, REST<br>VMware vSphere<br>OpenStack | CloudAssist Support | Continuous Call-Home<br>Proactive Resolution<br>Secure Remote Assist |
| --- | --- | --- | --- |

**Purity Services**

| FlashReduce | FlashProtect | FlashRecover |
| --- | --- | --- |
| Deduplication<br>Compression<br>Pattern Removal<br>Thin Provisioning | Non-Disruptive Everything<br>>99.999% Availability<br>RAID-3D<br>Always-On Encryption | Replication<br>Snapshots<br>Protection Policies |

**Adaptive Metadata Fabric**    Scalable | 512B Variable | Protected

**Purity Core**

| FlashCare | Consistent Performance |
| --- | --- |
| Flash-Aligned Data Layout<br>Global Wear Leveling<br>Continuous Optimization | I/O Scheduling<br>Non-Blocking R/W Architecture<br>Full Performance Under Failure |

MLC FLASH MEMORY

" Pure's performance is great–in fact it's over-performing, doing even more than what we need as add additional data sets."
**BRENT ALLEN, DIRECTOR OF INFRASTRUCTURE, SKULLCANDY**
*Skullcandy*

" Previously, this process typically too up to 11 days–which is why we only used to do it ones per quarter. With the FlashArray we can now snapshot all of our SQL databased, copy them, and mount the copies to a scrubbing server in under five minutes."
**DAVID GLOFF, IT OPERATIONS MANAGER, SURE PAYROLL**
*SUREPAYROLL A Paychex® Company*

"Flash was the right answer for all our OLTP environments, while it was a slight CapEx cost premium for us initially, it ended up driving into our TCO much lower and enables developers to do more, storage engineers to do a lot more work, database administration to sleep at night, and just made everything a lot easier."
**JUSTIN STOTTLEMYER, FELLOW, SHUTTERFLY**
*Shutterfly*

" I don't ever need to use a physical host again. The FlashArray enables me to virtualize everything.'
**DAVE COMBER, HEAD OF IT INFRASTRUCTURE SERVICES, INVESTEC**
*Investec Asset Management*

| | FA-405 | FA-420 | FA-450 |
| --- | --- | --- | --- |
| **Front View (dual controllers)** | | | |
| **Rear View (dual controllers)** | | | |
| **Capacity** | • Up to 40+ TBs effective capacity<br>• 2.75-11 TBs raw capacity | • Up to 125+ TBs effective capacity<br>• 11-35 TBs raw capacity | • Up to 250+ TBs effective capacity<br>• 34-70 TBs raw capacity |
| | Effective capacity assumes HA, RAID, and metadata overhead, GB-to-GiB conversion, and includes benefit of data reduction with always-on inline deduplication, compression & pattern removal. Average data reduction is calculated at 6-to-1. Some customers see data reduction in excess of 20-to-1. Effective capacity has no upper limit and will vary depending on workload. | | |
| **Performance** | • Up to 100,000 32K IOPS<br>  @ <1ms average latency<br>• Up to 3 GB/s bandwidth | • Up to 150,000 32K IOPS<br>  @ <1ms average latency<br>• Up to 5 GB/s bandwidth | • Up to 200,000 32K IOPS<br>  @ <1ms average latency<br>• Up to 7 GB/s bandwidth |
| | Why does Pure Storage quote 32K, not 4K IOPS? The industry commonly markets 4K IOPS benchmark to make numbers look high, but real-world environments are dominated by IO sizes of 32K or larger. Pure Storage has optimized the FlashArray for the real-world. FlashArray adapts automatically to 512B-32KB IO for superior performance, scalability, and data reduction. | | |
| **Host Connectivity** | • 8 Gb/s Fibre Channel<br>• 10 Gb/s Ethernet iSCSI<br>• Replication ports | • 8 Gb/s Fibre Channel<br>• 10 Gb/s Ethernet iSCSI<br>• Expansion slot (FC or iSCSI)<br>• Replication ports | • 16 Gb/s Fibre Channel<br>• 10 Gb/s Ethernet iSCSI<br>• Expansion slot (FC or iSCSI)<br>• Replication ports |
| **Size, Power & Weight** | • 2 x 1U HA Controllers<br>• 330 Watts/controller<br>• 33.5 pounds/controller<br>• 1.72" x 17.08" x 23.74" | • 2 x 2U HA Controllers<br>• 400 Watts/controller<br>• 44 pounds/controller<br>• 3.44" x 17.08" x 29.75" | • 2 x 2U HA Controllers<br>• 500 Watts/controller<br>• 44 pounds/controller<br>• 3.44" x 17.08" x 29.75" |

## PURESTORAGE

**sales@purestorage.com | 800-379-PURE | @purestorage**