

THE PURE STORAGE DATA PLATFORM

AT A GLANCE

ACCELERATE

FlashArray for latency-sensitive structured data apps, DBs, and VMs;
FlashBlade for high-scale, high-bandwidth unstructured data apps and big data analytics

CONSOLIDATE

all your Tier 1 applications on an All-Flash Cloud

PROVEN 99.9999% AVAILABILITY

inclusive of maintenance and generational upgrades

2X BETTER DATA REDUCTION

without performance impact

GET TO 100% PCIe/NVMe

FlashArray//X and FlashBlade are 100% PCIe/NVMe

PURE STORAGE NAMED A LEADER IN GARTNER MAGIC QUADRANT

for solid state arrays four years in a row

NPS OF 83.7 – TOP 1%

for customer satisfaction, validated by  Satmetrix

All-Flash Storage Built for the Cloud Era

In business today, data is fast becoming an organization's most valuable asset. For many enterprises, data is, in fact, the lifeblood of the business. To maintain growth and competitive edge, organizations need to make data meaningful and actionable, and leverage it to power new customer services and experiences. Against this business need, the volume of data enterprises must store and analyze is rapidly expanding. New data sources – among them mobile end users and a plethora of internet connected devices and sensors – only add to the pressure.

In this context, enterprises need to drive value by putting their data to work. The Pure Storage Data Platform is purpose built to do just that – effortless, efficient, and evergreen infrastructure that enables organizations to achieve:

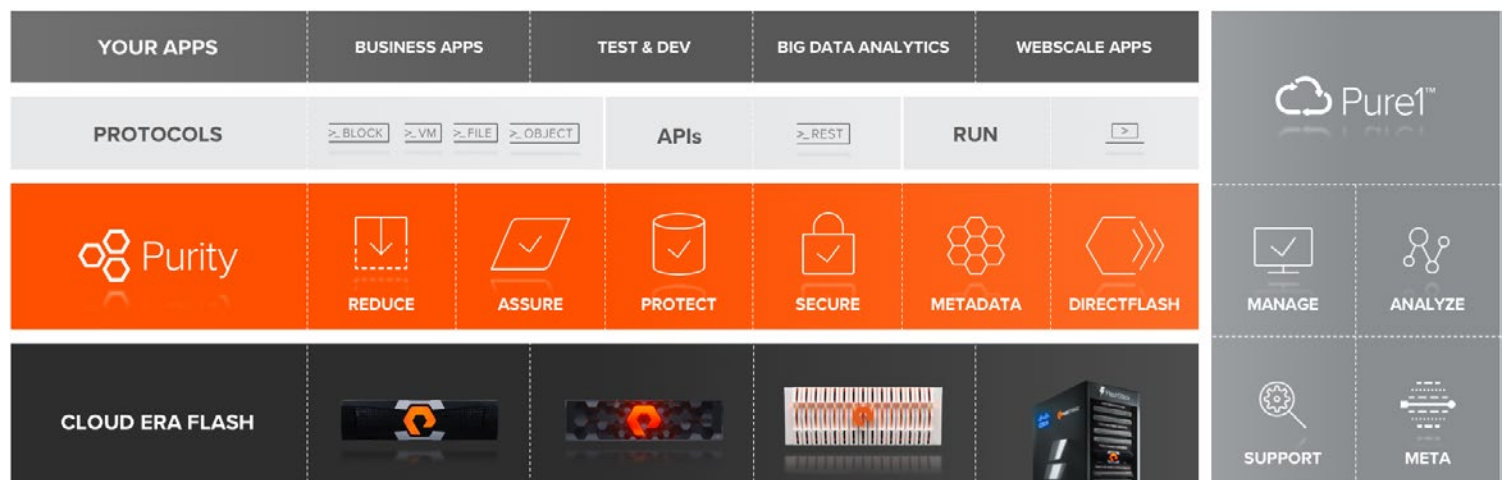
SPEED so organizations can be fast everywhere, across classic applications and new cloud infrastructure.

AGILITY that empowers developers to innovate faster, and develop seamlessly across private, public, and SaaS clouds.

INTELLIGENCE gleaned from analyzing all your data, at massive scale, in real-time.

The Data Platform provides all the storage services – block, VM, file, or object – needed to consolidate everything, whether databases, virtual machines, analytics, or webscale applications. It delivers Tier 1 data services to all workloads, and drives productivity with industry-leading data reduction, proven 99.9999% availability, non-disruptive everything, built-in data protection, global flash management, endless extensibility, and effortless simplicity.

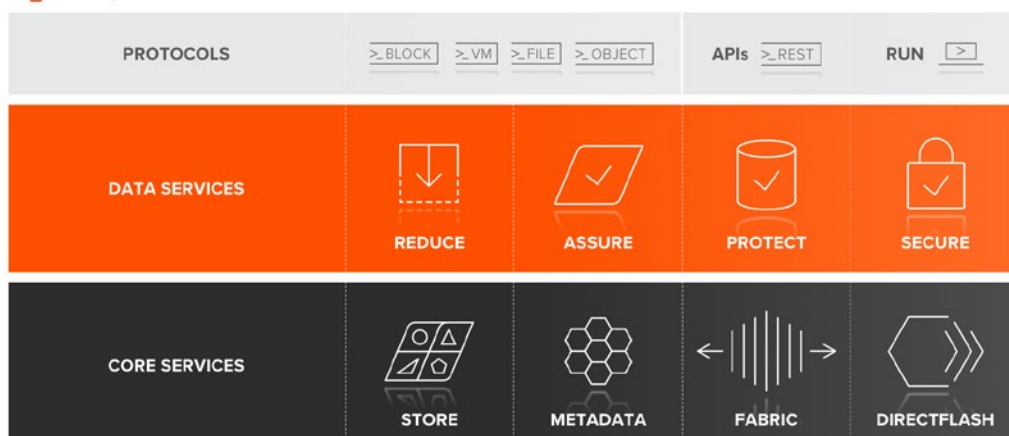
Software-defined via the Purity Operating Environment and 100% flash, the Data Platform includes FlashArray for block and virtual volumes, FlashBlade™ for file and object, and FlashStack™ for converged infrastructure solutions. Whether it's accelerating a single database, powering VMs and desktops, or the foundation of an all-flash cloud, the Data Platform empowers organizations to put data at the center of everything they do.





Purity Operating Environment is the software that powers every Pure all-flash array.

Purity Operating Environment is software purpose-built for the cloud era. All Purity software-defined storage services and APIs, advanced data services, and global flash management are built-in and included with every array. For FlashArray, Purity//FA 5 will add ActiveCluster, QoS, File, and VVols; for FlashBlade, Purity//FB 2 delivers S3, snapshots, SMB, LDAP, network lock management (NLM), and IPv6 – at no extra charge.



NOW WITH ACTIVECLUSTER

Achieve new levels of availability with Purity ActiveCluster – multi-site Active/Active stretch cluster. Get business continuity and zero RTO & RPO across your data center, metro region, or globally across three data centers. Set up in minutes, no third site required – and included with Purity//FA 5.

PURITY REDUCE implements five forms of inline and post-process data reduction, including compression and deduplication, to offer data reduction that's typically 2x better than the competition. Data reduction is always-on and operates at a 512-byte variable block size, enabling effective reduction across mixed workloads without tuning.

PURITY ASSURE provides high availability, dual-parity RAID-HA, non-disruptive Always-On QoS, and encryption – all of which are designed to deliver consistent performance to FlashArray during component failures and maintenance.

PURITY REST APIS leverage Purity's open platform, cloud connections, and integrations to drive automation with VMware®, Microsoft®, and open-source tools such as OpenStack®.

PURITY PROTECT combines Purity ActiveCluster with space-saving snapshots, replication, and protection policies into an end-to-end data protection and recovery solution that protects data against loss locally and globally. All Purity Protect services are fully-integrated in FlashArray and leverage native data reduction capabilities.

PURITY SECURE means FlashArray meets the highest security standards with FIPS 140-2 validated always-on encryption, NIAP/Common Criteria Certification, and Rapid Data Locking.

PURITY RUN provides an open platform for running VMs / Containers right on the FlashArray. Now you can run custom code, extend interfaces, and enable analytic processing to happen where data is stored.

PURITY DIRECTFLASH™ SOFTWARE implements global flash management (allocation, I/O optimization, garbage collection, error correction) at the system level, driving 100% NVMe-connected raw flash within DirectFlash Modules, and eliminating the performance density limitations of large SSDs. DirectFlash avoids the unpredictable latency of SSDs and exploits the full potential of flash. The result is predictable, consistent, microsecond latency alongside higher throughput and reliability, better efficiency, and ultra-high density.



FlashArray //M

Best Value for All-Flash Consolidation

FlashArray//M is ideal for cost-effective consolidation of everything on flash. Whether you need to accelerate a single database, scale your virtual desktop environments, or power your all-flash cloud, there's an //M model that fits your needs. Put all your workloads on FlashArray//M and accelerate safely with proven 99.9999% availability. Start with any FlashArray//M model and scale seamlessly all the way to FlashArray//X.

With the release of Purity//FA 5, every //M will see up to a 4x performance improvement – along with ActiveCluster and the file and container support of Purity//Run.

ZERO-COMPROMISE DATA SERVICES

Consolidating on FlashArray is simple – there's nothing else to buy or install, and all data services are built-in and included. Our industry-leading 5:1 average data reduction (across the entire FlashArray install base) is inline and always-on, which means you'll save on storage, power, cooling, and space. And you can keep that space savings with data reduction-aware snapshots and replication.

Policy-based Always-On QoS ensures your workload performance SLAs are met, and always-on, data-at-rest encryption delivers data protection – while you enjoy consistent mixed workload performance even through component failures and upgrades.

FULL AUTOMATION

Completely integrate & automate FlashArray into an on-demand catalog of cloud IT services via REST, CLI, or Powershell. Seamlessly integrate with VMware vCenter, VMware vRealize, OpenStack, and Docker.

SELF-MANAGING AND PLUG-N-PLAY

Setup is just one item to rack and six cables to connect – no bolt-on controllers and no external management servers. And there's no tuning within the array – no RAID, pool, tiering, caching or performance management – and no tuning of your database, file system, or virtual machine – ever. It's so simple, we've put all the details you'll need on a folding business card.



PRE-VALIDATED FOR YOUR APPLICATIONS

FlashArray//M is tested and validated with a wide range of data center infrastructure and applications to enable seamless deployment and multi-workload consolidation in your data center. Accelerate your deployment further with the Pure FlashStack solution – end-to-end converged infrastructure powered by flash and supported by our partners.

BUSINESS APPLICATIONS



VIRTUALIZATION AND CLOUD INFRASTRUCTURE



DESKTOP VIRTUALIZATION



DATA CENTER INFRASTRUCTURE



FlashArray **//X**

First Mainstream 100% NVMe Enterprise AFA

FlashArray//X is next-generation all-flash storage. Designed for the cloud era, //X delivers the highest performance *and* enterprise reliability for Tier 1 applications. Microsecond latency and GBs of bandwidth – with all the rich data services, proven 99.9999% availability, and unrivaled Pure1® support that the FlashArray family is built on.

Among FlashArray models, //X represents a higher-performance tier for mission-critical databases, top-of-rack flash deployments, and Tier 1 application consolidation. //X is optimized for the lowest-latency workloads and delivers an unprecedented level of performance density that puts previously unattainable levels of consolidation within reach. And yet our Evergreen™ model means that any FlashArray can be fully upgraded, non-disruptively, to //X.

FlashArray//X will drive the next decade of performance advancement in FlashArray. We're forging ahead by enabling storage software to manage flash – directly, intelligently, globally. That's DirectFlash, ready to exploit the full potential of flash, or whatever silicon comes next. (This isn't something you can do just by plugging NVMe drives into a legacy disk array or an all-flash array.)

SMALL & SPEEDY

Run your business with just 10 flash modules – while maintaining all the performance, reliability, and data services of your Tier 1 array. Just half the capacity of a single FlashArray//X chassis provides the density to consolidate all your latency sensitive DBs, VMs, and desktops – and accelerate.

BIG & DENSE

At 1PB in 3U, a full rack of FlashArray//X can deliver 15PBs of effective capacity and enough bandwidth to replace your entire Tier1 footprint. Big or small, every deployment of //X delivers FlashArray's proven reliability and effortless monitoring via Pure1.

//X IS POWERED BY DIRECTFLASH

DIRECTFLASH SOFTWARE is a new software module within Purity that takes software functions that would normally run inside each SSD (flash management, wear leveling, garbage collection) and implements them once in a global software layer for better efficiency, performance, and reliability.

DIRECTFLASH MODULE is the world's first software-defined flash module, a new Pure-designed NVMe flash module that enables our system-level software to speak directly to flash.

DIRECTFLASH SHELF is another first: a 100% NVMe/F, 50 GB/s Ethernet expansion shelf for FlashArray. Delivering up to 1.5PBs per 3U, DirectFlash Shelf can be deployed with both //X and //M.



μS LATENCY

FlashArray//X delivers consistent latency in the 100s of microseconds

1PB IN 3U

Unprecedented density with 18.3TB DirectFlash modules*

EVERGREEN UPGRADEABLE

Every //M can be fully upgraded to //X online, with no disruptions and no re-buy of storage TBs



 **DirectFlash**
MODULE



 **DirectFlash**
SHELF

* 1PB effective capacity, 18.3TB flash modules available post //X general availability.

FlashBlade **FB**

Harness the Power of Data at Scale

FlashBlade is a new, innovative scale-out storage system designed to accelerate modern analytics applications while providing best-of-breed performance in all dimensions of concurrency – including IOPS, throughput, latency, and capacity. FlashBlade is as simple as it is powerful, offering elastic scale-out storage services at every layer alongside DirectFlash technology for global flash management.

Purity//FB 2 is the industry's most advanced software for scale-out storage, delivering amazing linear performance at unprecedented scale. It supports S3-compliant object store, offering ultra-fast performance at object store scale. It also offers a wave of new enterprise features, like snapshots, SMB, LDAP, network lock management (NLM), and IPv6, to extend FlashBlade into new use cases.

PURPOSE-BUILT FOR MODERN ANALYTICS

FlashBlade is the industry's first cloud-era flash purpose-built for modern analytics, delivering unprecedented performance for big data applications. Its massively distributed architecture enables consistent performance for all analytics applications using NFS, S3/Object, SMB, and HTTP protocols.

MANY, MANY OTHER APPLICATIONS

FlashBlade is proving to be a powerful driver for myriad other use cases as well. To name just a few:

- Accelerating next-generation sequencing pipelines to provide key medical discoveries and treatment
- Simulating and testing increasingly complex science, engineering, and design models in less time, leveraging 1000s of connected compute nodes
- Powering agile software development by increasing the number of concurrent builds to drive design productivity

THE ELEMENTS OF FLASHBLADE



BLADE

SCALE-OUT DIRECTFLASH + COMPUTE

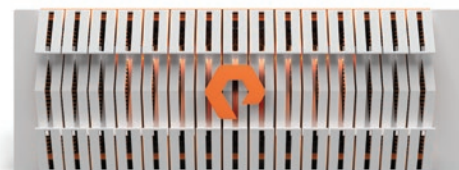
Ultra-low latency, 8, 17 & 52TB capacity options that can be hot-plugged into the system for expansion and performance



PURITY

SCALE-OUT STORAGE SOFTWARE

The heart of FlashBlade, implementing its scale-out storage capabilities, services and management



FAST

- Elastic performance that grows with data – up to 17 GB/s
- Always-fast, from small, metadata-heavy workloads to large, streaming files
- All-flash performance with no caching or tiering

BIG

- Petabytes of capacity
- Elastic concurrency – up to 10s of thousands of clients
- 10s of billions of objects and files
- **75 blade-scale FlashBlade** – 8PB, 75 GB/s read, 25 GB/s write, 7.5M IOPs, 100 GB/s fabric, 1 IP address – due out 2H 2017

SIMPLE

- Evergreen – don't rebuy TBs you already own (see detailed terms)
- "Tuned for Everything" design, no manual optimizations required
- Scale-out everything instantly by simply adding blades



FABRIC

LOW-LATENCY, SOFTWARE-DEFINED NETWORKING

Includes a built in 40Gb Ethernet fabric providing a total network bandwidth of 320Gb/s for the chassis



The New Data Center Building Block

FlashStack™ is streamlined, flexible, and transformative IT that fully supports mission-critical enterprise applications and provides a robust platform for cloud services. With the latest in computing, network, and storage components, FlashStack converged infrastructure solutions accelerate time to deployment, lower overall IT costs, and reduce deployment risk.

Pairing the Cisco Unified Computing System™ (Cisco UCS®) and Pure Storage FlashArray in Cisco Validated Designs, FlashStack drives the applications and workloads to make your business better. Get always-on infrastructure for your critical applications and private cloud while you dramatically reduce IT overhead and drive business impact.

EFFORTLESS SCALE & AGILITY

FlashStack scales, without disruption or data migration, from the tiny “FlashStack mini” to over 160 hosts and more than a petabyte of storage. Expand incrementally, one component at a time, as business requires and budget allows.

SIMPLE AT EVERY SIZE

From small to large, FlashStack management remains consistent, efficient, and simple enough to be managed by IT generalists. No matter the deployment size, your FlashStack solution will be tailored to your business and ready to go from day one. Fully tested, fully customizable, and fully supported. Delivered by our FlashStack Partner ecosystem.

YOUR PRIVATE CLOUD

FlashStack is your platform for on-demand IT and private cloud. Leverage FlashStack’s extensive pre-integration with popular private cloud platforms such as Cisco UCS Director, VMware vRealize, and OpenStack to build an impactful cloud, quickly. FlashStack is also hybrid-cloud ready, with support for tools like Cisco’s CloudCenter and use cases such as backup-to-the-cloud and engineering/dev/test.



STREAMLINED

Single, integrated architecture with management from a central place

FLEXIBLE

Easy and dynamic scalability without downtime

TRANSFORMATIVE

Technical innovation without the need to rip and replace

BUILT FOR THE CLOUD

Integration with cloud platforms from Cisco, VMware, OpenStack, and others

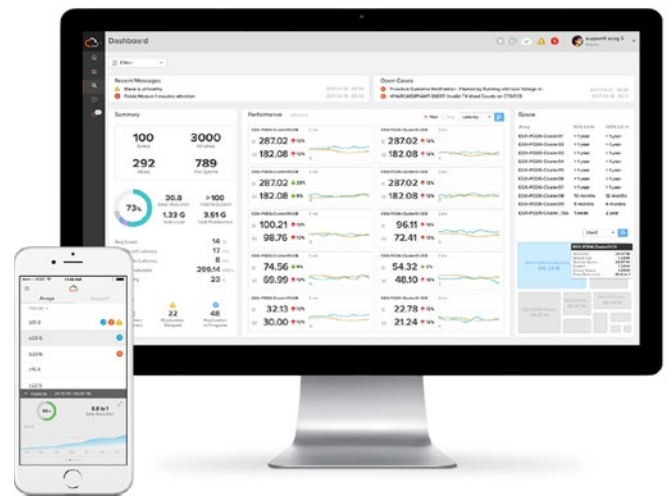


Intelligent, Self-Driving Storage

Pure1, our cloud-based management, analytics, and support platform, expands the self-managing, plug-n-play design of our products with the machine learning predictive analytics and continuous scanning of Pure1 Meta™ to enable an effortless, worry-free Data Platform.

PURE1 MANAGE

In the Cloud IT operating model, installing and deploying management software is an oxymoron: you simply login. Pure1 Manage is SaaS-based, allowing you to manage your array from any browser or from the Pure1 Mobile App – with nothing extra to purchase, deploy, or maintain. Just login, and from a single dashboard you can manage all your arrays, with full visibility on the health and performance of your storage.



PURE1 ANALYZE

For the first time in the industry, Pure1 Analyze delivers true performance forecasting – giving customers complete visibility into the performance and capacity needs of their arrays – now and in the future. Performance forecasting enables intelligent consolidation and unprecedented workload optimization.

PURE1 SUPPORT

Our philosophy is always to do what is right for the customer. No excuses, we focus on delivering a solution no matter the situation. We combine an ultra-proactive support team with the predictive intelligence of Pure1 Meta to deliver unrivaled support that's a key component in our proven 99.9999% availability. You'll be astounded when we fix issues you did not even know existed.



PURE1 META

The foundation of Pure1 services, Pure1 Meta is global intelligence built from a massive collection of storage array health and performance data. By continuously scanning call-home telemetry from Pure's installed base, Pure1 Meta uses machine learning predictive analytics to help resolve potential issues and optimize your workloads. The result is both a white glove customer support experience and breakthrough capabilities like accurate performance forecasting. Meta is always expanding and refining what it knows about array performance and health, moving the Data Platform toward a future of self-driving storage.





The Data Platform operates like SaaS and the cloud. Deploy storage 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. Say goodbye to the 3-5 year rip-and-replace cycle – we’ve engineered compatibility for future technologies right into the product, notably with the NVMe-Ready Guarantee for //M and online upgrade from any //M to //X. There’s more: our “Right Size” capacity guarantee ensures you get started knowing you’ll have the effective capacity you need, and our Capacity Consolidation program keeps your storage modern and dense as you expand. With Evergreen Storage, you don’t have to re-buy TBs you already own.

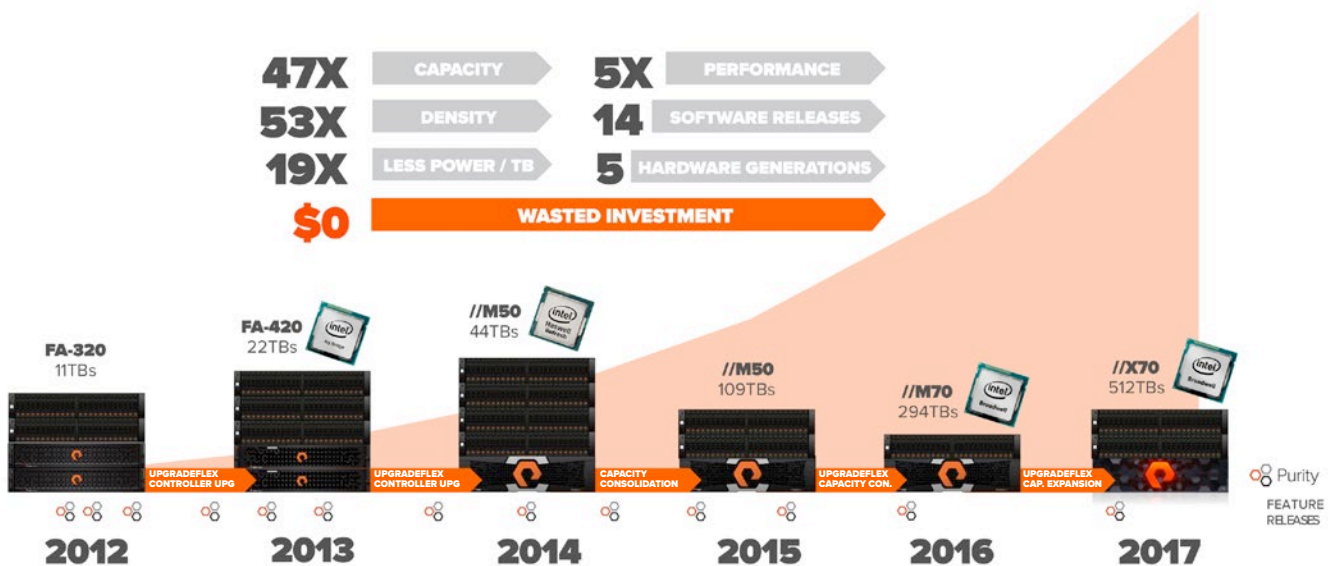
Evergreen Storage offers expandability and upgradability for generations via the modular, stateless architecture designed into the Data Platform from day one. FlashArray, with a chassis-based design and customizable modules, enables both capacity and performance to be independently improved over time along with advances in compute and flash. Meanwhile, FlashBlade’s blade-based architecture delivers the linear scale of DirectFlash and compute simply by adding blades.

Evergreen Storage keeps your storage evergreen, modern and dense – and always ready to meet your business needs.



JUST FIVE YEARS OF EVERGREEN

A typical Evergreen journey delivers multi-dimensional improvements to your infrastructure over time – with nothing lost from your investment.



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