SOLUTION BRIEF

FlashBlade Unified Fast File and Object Storage

Deploy Pure Storage® FlashBlade® to get more from your data and move to a Modern Data Experience™.

Data is your organization's most valuable asset, but slow, complex legacy storage systems hinder your ability to realize its value. The Pure Storage Flashblade unified fast file and object (UFFO) platform consolidates data silos and accelerates your progress to discovery, insight, innovation, and time to market.

UFFO: A New Category of Storage

Traditional storage systems for unstructured data typically fall into two categories: slow but highly scalable for data storage or fast but intended for delivery of smaller data sets. Furthermore, they are generally designed to support either file *or* object protocols. These systems are engineered for legacy technologies, including spinning disk. They leverage retrofitted software and are known for being complex and difficult to manage.

In contrast, Pure's modern architecture is massively parallel and leverages flash for maximum performance, all but eliminating bottlenecks. Pure FlashBlade stores and delivers file and object data with high performance, introducing a new UFFO storage category.

From artificial intelligence to analytics, data is at the center of today's innovations. But legacy infrastructures prevent you from moving your data at the speed of your business. FlashBlade is the industry's most advanced scale-out storage, designed to accelerate modern workloads and simplify infrastructure. FlashBlade delivers high performance for both files (with native SMB and NFS support) and objects.

Fast

- Performance that scales with data
- Always fast, from small to large files
- Massively parallel architecture from software to flash

Big

- Petabytes of capacity
- Elastic concurrency, up to tens of thousands of clients
- Tens of billions of objects and files

Simple

- "Tuned for Everything" design eliminates need for manual optimizations

Powered by Industry Firsts

- **Blade:** Compute and storage are integrated with Pure DirectFlash®. You can hot-plug blades into the system to add capacity and performance.
- **Purity//FB:** FlashBlade's software is architected on a massively distributed key-value pair database for immense scale and performance with simplicity.
- **Elastic fabric:** Powered by an innovative converged fabric, FlashBlade delivers up to 1.6Tb/s aggregate bandwidth.

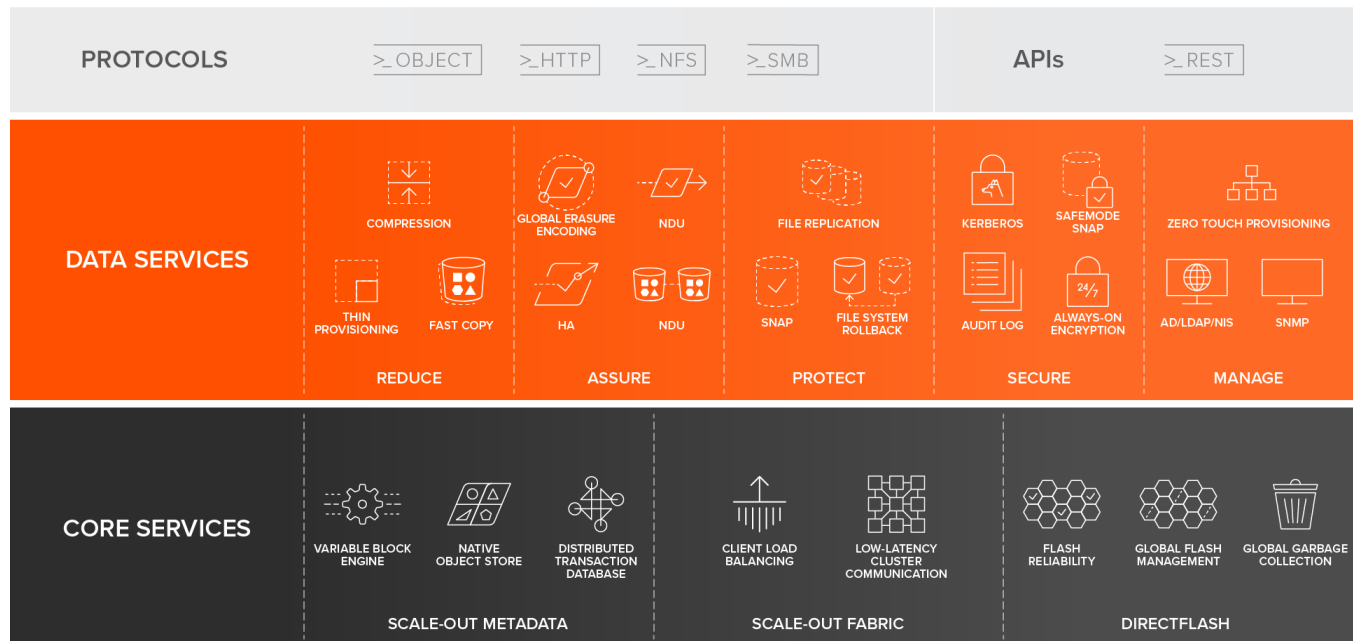Together these elements combine to create a platform that allows you to:

- Accelerate AI data pipelines while keeping GPUs fully utilized.
- Restore data rapidly to help meet SLAs for disaster recovery.
- Shorten design cycles by eliminating bottlenecks.
- Consolidate data warehouses and data lakes for simplicity and real-time performance.
- Meet ever-growing demands of modern DevOps environments.
- Unleash data-intensive simulations from genomics and finance workloads.
- Modernize your applications with high-performance public cloud-like storage access.

> "Pure Storage FlashBlade is about 10 times faster out of the box, with no specific tuning or effort. It enabled us to boost our GPU from about 20% average utilization to close to 100% utilization."

Jeremy Barnes, Chief Architect, Element AI

Purity//FB

Purity operating software is the soul of FlashBlade, enabling it to scale tremendously in capacity and performance. Purity//FB provides native support for both file and object protocols to deliver high throughput for file and object storage on a single platform that simultaneously supports multiple workloads. Engineered from the ground-up for flash, Purity//FB has a variable block metadata engine and scale-out metadata architecture. Purity can handle billions of files and objects while delivering unprecedented performance for any workload and file size, whether it is with sequential or random access. Purity//FB enables cloud-integration with FlashBlade object replication and disaster recovery with FlashBlade file replication. Purity//FB has been architected from a clean sheet design to provide unified fast file and object storage that delivers a modern data experience.

Purity /FB/

PROTOCOLS	>_ OBJECT	>_HTTP	>_ NFS	>_ SMB	APIs	>_ REST

DATA SERVICES

COMPRESSION	GLOBAL ERASURE ENCODING	NDU	FILE REPLICATION	KERBEROS	SAFEMODE SNAP	ZERO TOUCH PROVISIONING
THIN PROVISIONING / FAST COPY	HA	NDU	SNAP / FILE SYSTEM ROLLBACK	AUDIT LOG	ALWAYS-ON ENCRYPTION	AD/LDAP/NIS / SNMP
REDUCE	ASSURE		PROTECT	SECURE		MANAGE

CORE SERVICES

VARIABLE BLOCK ENGINE	NATIVE OBJECT STORE	DISTRIBUTED TRANSACTION DATABASE	CLIENT LOAD BALANCING	LOW-LATENCY CLUSTER COMMUNICATION	FLASH RELIABILITY	GLOBAL FLASH MANAGEMENT	GLOBAL GARBAGE COLLECTION
SCALE-OUT METADATA			SCALE-OUT FABRIC		DIRECTFLASH		

Replace Legacy Racks with FlashBlade

Some storage alternatives claim to be performant but are complex to deploy. Others promise large capacity but deliver data slowly. FlashBlade is the first scale-out storage solution to intersect on all three dimensions of fast, big, and simple. FlashBlade delivers unprecedented performance in a small form factor. It is tuned to deliver multi-dimensional performance for any data size, structure, or access. And it delivers significant savings in power, space, and cooling compared to legacy solutions.

Scalability	Performance	Connectivity	Physical
Start with 7 blades and simply add more to scale up to 150	Up to 15GB/s bandwidth with 15 blades in a single chassis[1]	Up to 16 100Gb/s Ethernet ports per FlashBlade system	4U per chassis
Each blade adds capacity and performance	Up to 24M NFS IOPS from a FlashBlade system with 150 blades[2]	2x FlashBlade External Fabric Modules (XFM) to scale up to 150 blades	Up to 2900 watts per chassis (nominal at full configuration)[3]

1 Large block read IO with 1.5:1 average compression ratio. This is not a guarantee as you might achieve different compression ratios based on your workload.

2 Results from a 100% NFS V3 GETATTR operations test.

3 With a 15x52TB configuration.

Additional Resources

- Find out more about FlashBlade and unified fast file and object storage.

- Discover what Purity can do for you.