

VAST Data Platform for HPC



Parallel file system performance. Enterprise NAS simplicity. Zero compromise.

Taking on the world's most complex computational workloads requires a relentless focus on performance at scale. These workloads demand massive parallelism that in the past could only be delivered by solutions based on parallel file systems for high performance scratch space, combined with lower-performance tiers to provide archive storage. The compromise forced the use of custom file system clients, complex data pipelines, and frequent outages for upgrades, tuning, and expansion.

Enter the VAST Data Platform, with the revolutionary disaggregated, shared-everything (DASE) architecture that builds an inherently parallel foundation for world-class HPC performance and scalability. Leading HPC teams are proving that VAST delivers all the performance and scale of parallel file systems via standard NAS protocols like NFS while gaining unparalleled simplicity and reliability.

VAST's archive economics make it affordable to consolidate scratch and nearline tiers to a single flash tier. When all data is available for processing at NVMe speed, researchers no longer need to stage or curate data sets and AI-powered workloads benefit from uncompromised random IO performance. Further simplifying data management, VAST automatically indexes file and object metadata to the built-in and always-in-sync VAST Catalog. Researchers can search and find data faster and administrators can analyze application behavior and audit access with an intuitive UI and SQL interface for advanced queries.

Why VAST?



HPC Performance With Unrivaled Simplicity

Eliminate the need for tiering appliances, client agents, and data migrations, with a single, simple-to-manage, enterprise solution



All Flash at Archive Economics

Deploy all-flash infrastructure for all your data sets. VAST's no-compromise data reduction technology delivers lower TCO than hybrid storage alternatives



AI-Optimized Client Access

VAST support for RDMA and GPU-optimized access delivers the performance of a parallel file system without the complexity and fragility of bespoke file system clients



Simplified Data Pipelines

Unify unstructured (NFS, SMB, and S3) and structured data with support for popular data engines such as Spark and Trino



Unrivaled Uptime

Always online upgrades and expansions and a fail-in-place architecture deliver non-stop operations

Simplicity Fuels Innovation

When teams spend less time on tuning and troubleshooting, when scheduled downtime and outages are eliminated, researchers get more time to run simulations and analyze data. With all-flash performance that is orders of magnitude faster than spinning disk, computational jobs finish faster, reducing power consumption to make HPC data centers more sustainable. And when researchers need 1000s of cores for complex simulations VAST's global namespace unifies cloud, edge, and core making it simple to consume cloud infrastructure while minimizing data movement. The VAST Data Platform is built as a singular intelligent system that increases the productivity of HPC and AI-powered research and helps customers drive value from their supercomputing investments.



"The novel use of different flash technologies along with the ease of NFS access is what made VAST work for our needs. We get high-performance, a novel architecture with cool data reduction technology, and the ability to access it anywhere without needing specialized software on the client side. This, combined with its high availability, made VAST the right solution for us."

Cameron Harr

HPC Systems Engineer, Lawrence Livermore National Laboratory (LLNL)

About VAST

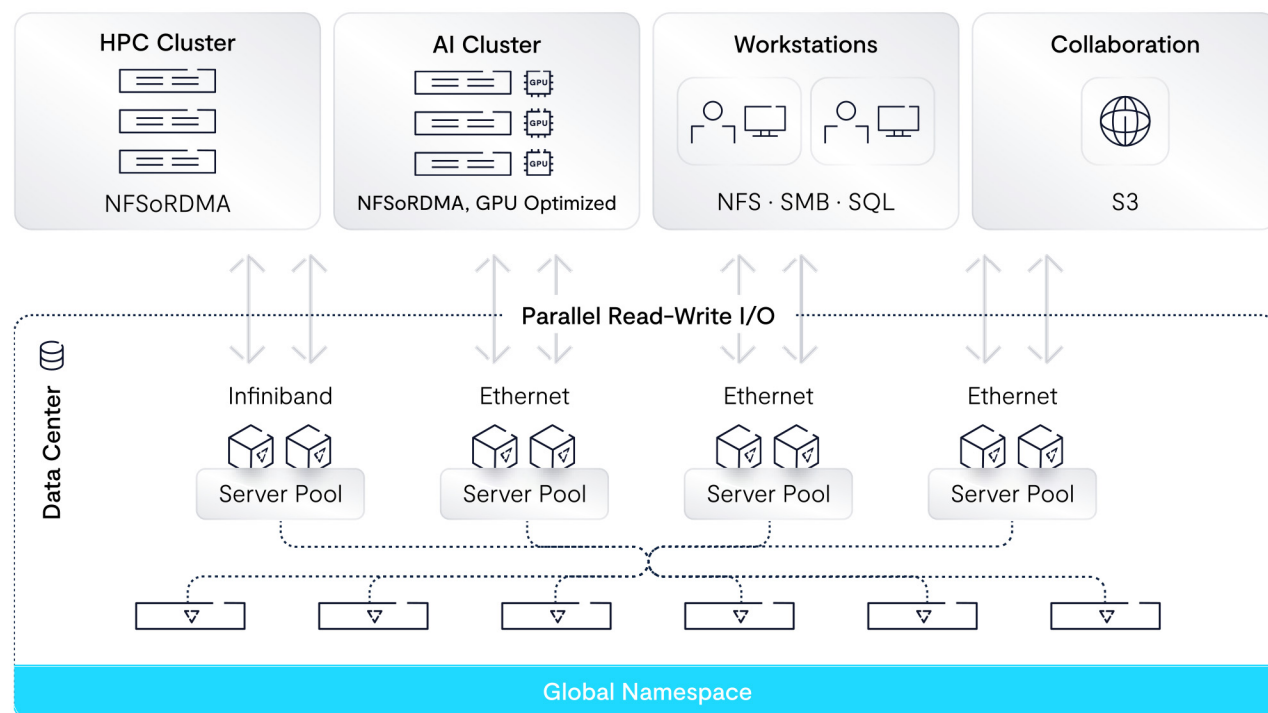
VAST Data is the data platform software company for the AI era. Accelerating time-to-insight for workload-intensive applications, the VAST Data Platform delivers scalable performance, radically simple data management and enhanced productivity. Launched in 2019, VAST is the fastest-growing data infrastructure company in history.

Looking to simplify your data center and unlock insights from all of your data?

Contact us at hello@vastdata.com



[Scan Here to Learn](#) more about the benefits of VAST for High Performance Computing



Trusted by Industry Leaders

VAST is trusted by leading companies around the world to leverage a single radically affordable all-flash innovative platform.

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PIXAR

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core42
A G42 company

Lawrence Livermore
National Laboratory

NIH

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DEFENSE

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