



## UNIVERSAL STORAGE

**STORAGE ARCHITECTURE THAT RADICALLY TRANSFORMS THE FLASH ECONOMIC EQUATION**

By applying new thinking to how storage can be designed, scaled and how data can be efficiently managed, VAST Data has built an architecture with the principal focus of breaking the long standing trade-off that has existed between performance and capacity. We have introduced a new system that saves customers up to 90% vs. what they've paid for legacy flash technology.



The VAST NVMe Enclosure: Petabytes of Capacity in 2U

VAST's disaggregated, shared-everything architecture (DASE) is a purpose built storage cluster architecture designed to scale to petabytes, give tier-1 all-flash performance, and sells for a price point equivalent to what customers pay for archive storage. By breaking the long-standing price/performance trade-off in storage, VAST has built a system architecture that's fast enough, scalable enough and affordable enough for all data and all applications.

When it's finally possible to store all of your data on NVMe flash, new insights not only become possible, but they are always at your fingertips.

### OPTIMIZED APPLICATIONS

#### Artificial Intelligence

RDMA acceleration for GPU servers is 4x faster than NAS and VAST eliminates HDD latency by making flash affordable for all training data.

#### Content Creation

Workflows run faster when you combine the performance of all-flash NAS at the price point of archive storage.

#### Content Delivery

CDNs and cable operators can now afford to eliminate service latency and serve exabytes of content from flash.

#### Data Protection

Enterprise backups are more efficient, recoveries are faster, and data centers are compacted with VAST.

#### HPC

The performance of a parallel file system with the simplicity of a modern NAS platform.

#### Life Science

Accelerate classic and modern bioinformatics pipelines and consolidate storage silos.

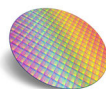
#### Quantitative Trading

Gain ultimate advantage when all research data can be analyzed at NVMe speeds.

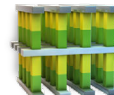
VAST Data had the advantage of starting its architecture efforts at a time when transformative new technologies could be combined to build something entirely different:



**NVMe Over Fabrics**  
Enabling shared-everything clusters.



**QLC Flash**  
Enabling transformative economics and density.

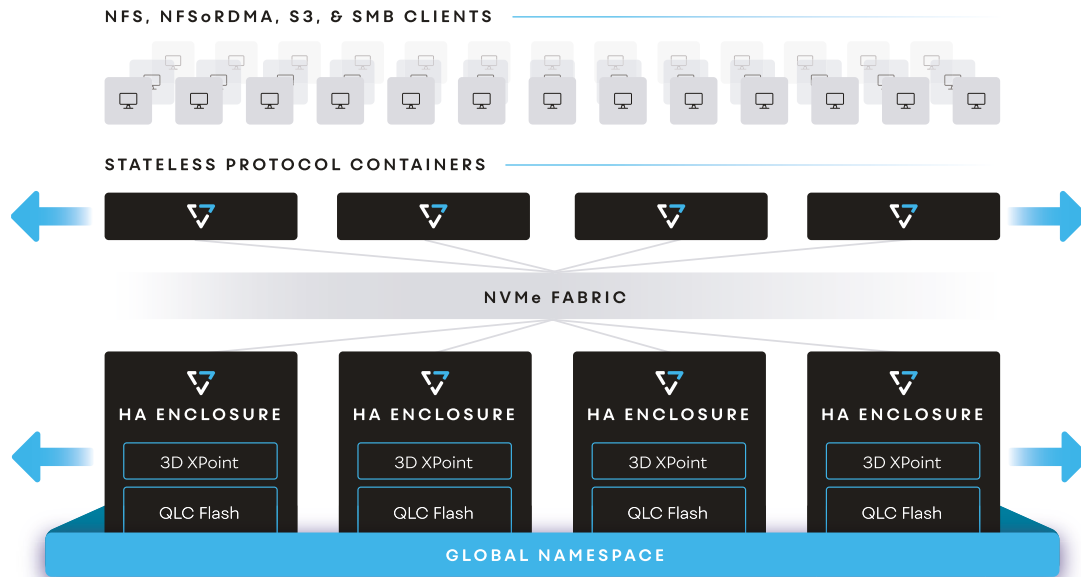


**3D XPoint**  
Enabling QLC Flash and revolutionary storage efficiency.



# THE VAST CLUSTER ARCHITECTURE

Scale Capacity Independently From Performance



## VAST SERVERS

Clusters can be built with 2-10K stateless servers. Servers can be pooled for tenant QOS, scaled on-demand and collocated with applications to bring NVMe over Fabrics speed all the way to the host.

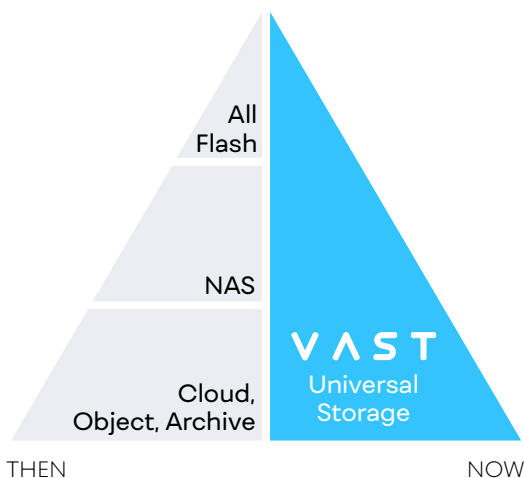
## NVME FABRIC

A redundant independently scalable cluster can be built by connecting every server & device in the cluster over commodity data center networks (Ethernet or IB), enabling VAST's shared-everything concept.

## HA ENCLOSURES

Highly-Available NVMe Enclosures manage up to 1PB per RU. Enclosures can be scaled independent of Servers and clusters can be built to manage exabytes of data in one multi-protocol namespace.

## A VISION OF CONSOLIDATION & SIMPLICITY, POWERED BY REVOLUTIONARY STORAGE INNOVATION



- VAST's **global flash translation software** enables QLC flash to be used in enterprise environments for over a decade, guaranteed.
- VAST's **next generation erasure codes** bring the cost of error correction down to just 3% while delivering 100x more resilience than traditional erasure codes.
- VAST's **similarity-based data reduction** finds patterns across a namespace with granularity that's 4,000 to 4M times smaller than traditional approaches, delivering the best reduction ratios of any storage ever, guaranteed.