Hammerspace and ScaleFlux

High-performance, scalable file and object storage for AI/HPC that improves flash performance, effective capacity, and endurance

ScaleFlux

HAMMERSPACE

SOLUTION BRIEF

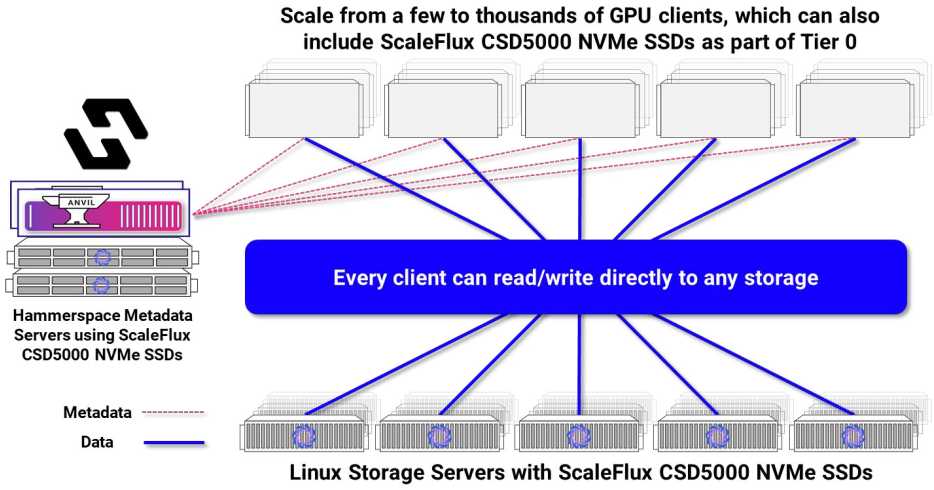
Certified Solution for High-Performance Flash Storage with Better Performance, Capacity, and Reliability

Today's unstructured data workloads, including AI training and inference, require a data platform that delivers high-throughput, low-latency performance at large scale.

Hammerspace is a file and object data platform for hybrid- and multi-cloud AI/HPC infrastructure. It is software-defined and storage agnostic, and seamlessly orchestrates data between sites, clouds, and any storage system.

ScaleFlux provides NVMe SSDs with unique System-on-Chip (SoC) controllers that improve flash performance, effective capacity, and endurance relative to ordinary enterprise NVMe SSDs.

Together, Hammerspace and ScaleFlux provide highly-performant, scalable, and reliable all-flash data storage for demanding file and object workloads.



Benefits:

- **Better system and application performance:** Hammerspace efficient architecture combined with ScaleFlux NVMe SSDs deliver sustained, linearly scalable performance
- **Faster query and transaction processing:** The combined solution delivers fast responsiveness, high-throughput, and low-latency across mixed read/write workloads
- **Less Wasted Capacity and Lower Infrastructure Costs:** Hammerspace parallel architecture cuts server and networking requirements by 2x vs scale-out NAS, while ScaleFlux write-reduction technology enables better capacity utilization and higher fill rates.
- **Seamlessly Orchestrate Data Across Sites and Clouds:** Hammerspace automates data movement in a global namespace that spans sites, clouds, and storage, to bring data to cloud compute resources

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Combined Solution Delivers Record-Setting Performance Results for AI/ML Workloads

Hammerspace uses ScaleFlux NVMe SSDs in its performance lab. ScaleFlux CSD5000 drives are used as the storage inside Hammerspace metadata servers (to improve metadata operations speed, effective capacity, and endurance), and in Hammerspace data servers that serve the data to clients (for example GPU nodes). This combined solution demonstrated record-setting MLCommons MLPerf Storage Benchmark results, exceeding the results of other leading HPC file systems.

ScaleFlux NVMe SSDs combine industry-standard form factors and multiple NAND options with innovative write-reduction technology and metadata management on their SoC controllers. The result is a multiplier in SSD efficiency - improved performance, capacity per $, and endurance relative to ordinary NVMe SSDs.

Enterprise NVMe SSD + **Innovation** = **The Better SSD**

Industry standard form factors
- U.2, U.3, E3.S, E1.S

Multiple NAND options
- TLC, QLC

PCIe Gen 4, PCIe Gen 5

Standard Enterprise Features
- NVMe drivers
- Power loss data protection
- End-to-end data protection
- Transparent HW Encryption
- TCG Opal 2.0 and AES256

Write Reduction Technology
- Transparent Data Compression
- Reduced Write Amplification
- Improved I/O Payload

Meta-data management
- Multiplies effective capacity



Plug-and-play
- Standards-based
- No application changes

Multiplies SSD Efficiency
- IOs / MBs per Second
- Capacity per $
- Performance per watt
- Endurance (DWPD)

Multiplies System & Application Efficiency
- Work per core / watt / sec
- Latency consistency

Learn More

HAMMERSPACE
https://hammerspace.com

ScaleFlux
https://scaleflux.com

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