

The Modern HPC Storage Quick Guide:

Discover the data engine for all your HPC and AI/ML applications

You've entered the era where modern high-performance computing (HPC), artificial intelligence (AI), and machine learning (ML) have converged into a unified ecosystem. HPC applications use AI/ML for large-scale modeling and simulation optimization, and data storage access patterns are diverse and require a wide performance profile. It all adds up to an urgent demand for a storage platform designed for dynamically changing workload patterns and volumes.

Gain extreme flexibility with no mixed results for mixed workloads

39%

of global survey respondents find juggling multiple storage systems for different workloads time consuming.



38%

say they have wasted time on tuning the overall infrastructure for each workload.¹

Challenge

Tuning and re-tuning mixed HPC and AI/ML workloads is a complex, iterative, and time-intensive process that requires specialized expertise to ensure optimal performance and reliability.

Solution

The PanFS® parallel file system automates tasks – including optimal data placement, capacity balancing, tuning and retuning, and recovery logic – to deliver consistent high performance that actively adapts to diverse workloads with different I/O patterns that other parallel file systems struggle to support concurrently.

Banish the complexity of HPC storage

Challenge

Now that HPC has moved to the front room of enterprise IT, teams across all the top verticals face similar challenges: uneven performance, complex management, security concerns, and a scarcity of specialty knowledge.

Solution

With a single point of management, an intuitive interface, and automated enterprise functions, Panasas solutions require no HPC expertise. Easily managed at any scale by a single IT administrator, consolidating high-performance unstructured data workloads onto a scale-out ActiveStor® platform simplifies storage in your data center and drastically reduces operational expenses.

96%

of survey respondents in US, UK, and Germany report challenges in building and managing high-performance storage.²



Get the performance you need and the enterprise-class reliability you can't afford to lose



1.7 days

Other HPC storage systems experience an average of 9.8 failures per year, with the average time to recover from a storage system failure clocking in at 1.7 days.³

Challenge

In the face of converging workloads and rapidly growing volumes of data, compute requirements are increasing, and data storage failures cost more than ever before – anywhere from \$100,000 to over \$1 million.⁴

Solution

The PanFS® parallel file system delivers the most innovative reliability algorithms – per-file erasure coding, quadruple redundant directory copies, parity checks, and automatic background capacity balancing – to keep the system online and automatically tuned to your workloads. Both the storage system and the data on it benefit from fault tolerance and self-healing that together maximize uptime.⁵

Never trade manageability, usability, and reliability for performance again. Turn the convergence of HPC and AI/ML into a competitive advantage with a scale-out storage system that delivers non-stop high performance for whatever type of workload you can throw at it.

Gain a competitive edge with our e-book >



¹ Statistics based on an independent survey conducted by Vanson Bourne, with the primary question being: "What challenges is your organisation [sic] facing when building and managing its storage infrastructure for high-performance applications?"

² Ibid.

³ Hyperion Research cited in Panasas, "Frequent Storage System Failures and Lost Productivity are the Norm in HPC," May 2020.

⁴ Ibid.

⁵ One Panasas storage user reported zero instances of unplanned downtime in eight years. (We might need to check to see if this is a Guinness World Record.)

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