



Panasas: Frustration-Free HPC Storage

Businesses and research organizations with complex, data-intensive projects need more than traditional storage solutions. They need storage that delivers the extreme performance, enterprise-grade reliability, and manageability required to process large and complex data sets. Only Panasas offers the technology, services, and support you need to succeed with today's HPC workloads.

High-Performance Applications Demand the Right Storage

Businesses and organizations that want to stay competitive, support research innovation, and deliver the best results to customers are increasingly embracing computationally intensive applications. These high-performance computing (HPC) applications are a great choice for projects such as precision medicine, large-scale engineering simulation, and deep learning. Yet storage can be a frustrating bottleneck when enterprises use these data-intensive applications.

Traditional open source HPC storage systems offer high speed performance, but they are difficult to manage, leading to increased costs and lower productivity and quality. Traditional enterprise storage systems are more manageable, but their performance is insufficient for most HPC applications.

It's no wonder companies are struggling to make the correct storage choices. The wrong option will slow your ability to deliver products to market, compromising your overall competitiveness. The right choice starts with a partner who understands the high-performance storage technology and business opportunities and can show you the way.

THE WORLD'S LEADING ORGANIZATIONS USE PANASAS STORAGE SOLUTIONS TO DELIVER MARKET-CHANGING INNOVATIONS IN RESEARCH AND INDUSTRY.



Chinese manufacturer of premium electric and autonomous vehicles

Holds the record for the fastest electric lap on the Nürburgring Nordschleife



World's largest seller of consumer goods

Spends **\$2 billion annually** on R&D

Choose the Premier HPC Storage Solutions Provider

As a pioneer in the HPC storage market for the last 20 years, we understand what enterprises need from their storage solutions. They want limitless performance, simple solutions that are easy to deploy and manage, and the flexibility to adjust to changing workloads and increasing demands. They also need cost-effective storage solutions that offer both competitive pricing and low total cost of ownership.

Founded in 1999, Panasas shaped the HPC storage world — beginning with the Panasas PanFS® parallel file system, the first storage technology able to keep up with computationally intensive workloads. By commercializing that innovation in the Panasas ActiveStor® solution, we introduced high-performance storage technology that is easy to use, manage, and scale.

We continue to lead the market by developing new data storage technologies that effectively meet the challenges of today's most innovative and complex high-performance computing projects in both research and industry. Our solutions also create a foundation to address the needs of emerging applications.

THE PANASAS EXPERIENCE

To provide an excellent customer experience, **Panasas offers enterprise-class support, professional services, and comprehensive training that helps maximize your storage investment and stay within your budget to get your problem resolved.** When issues arise, you only need to make one phone call to one vendor. The Panasas service agreement promises to respond to issues in hours — not days or weeks.

Panasas ActiveStor Ultra with PanFS 8: Fast and Simple HPC Storage for Today's HPC Projects

Recently, we completely re-engineered our flagship solution from the ground up, creating an intelligent file system for the future. The Panasas ActiveStor Ultra scale-out NAS storage solution with the portable PanFS 8 parallel file system delivers the extreme performance, enterprise-grade reliability, and manageability required to process the large and complex data sets associated with today's HPC workloads and emerging applications such as precision medicine, autonomous driving, and deep learning.

ActiveStor Ultra is delivered as the industry's only scale-out, plug-and-play HPC appliance that runs the PanFS 8 parallel file system on industry-standard commodity off the shelf (COTS) hardware. PanFS 8 runs on Linux and features intelligent data placement across three tiers of media — metadata on NVMe, small files on SSDs, and large files on HDDs — resulting in optimized performance for all data types.

Architected for simplicity and limitless performance, ActiveStor Ultra lets you forget about storage and focus on what really matters: turning your next big idea into reality.



World's largest supplier of sub-surface data for the global energy industry

Helps customers make informed drilling decisions



World's largest biomedical library

Supports billions of searches annually by millions of researchers



Fast

ActiveStor Ultra is consistently fast, regardless of the complexity of your applications. Because the PanFS 8 file system software is designed with an object back-end to enable massive parallelism, you can trust the system to perform consistently and meet your expectations — no matter the amount of data, applications, users, or workloads.

You can easily scale the solution to meet changing needs. Because ActiveStor Ultra linearly scales without limitation, you can immediately put your increased speed and capacity to work.

A balanced design optimizes overall system performance by taking full advantage of the capabilities and speed of state-of-the-art storage technologies. Three-tier data placement ensures that data is stored on the media most appropriate for the type of I/O.



Simple

The foundation of ActiveStor Ultra is simplicity. The solution is easy to deploy, manage, and scale, helping you move from dock to data in just one day.

Automated data reliability eliminates worries about downtime, single points of failure, and late-night emergency calls for a system repair. The Panasas storage solution applies erasure coding to each file and stripes files across different node subsets. As you add more nodes, files and data are more widely distributed, making the system more resilient.

No time-consuming tuning or retuning is needed when workloads change. The self-managing system is pretuned to match the appliance hardware, and advanced algorithms handle complex, data-intensive applications without manual intervention. What's more, the Panasas storage solution supports automatic capabilities such as realm management for new node integration and capacity balancing as well as failure recovery for nodes or drives.



Flexible

It's easy to configure ActiveStor Ultra to meet your specific workflow requirements. You can purchase exactly the bandwidth, capacity, and metadata performance that's needed, without overprovisioning any component. And because the solution uses the Linux operating system on commodity hardware, you can take advantage of best-of-breed advances, including the latest software technologies, a wide range of networking speed options, and the latest industry-standard hardware technologies.

ActiveStor Ultra dynamically adapts to changing workloads and increasing demands without requiring users to rethink or retune their storage. The solution is purpose-built to handle a wide range of HPC use cases and workloads. It handles large and small files equally well and caches metadata in a database in NVMe SSD for high performance and low latency.

As your company grows, you can mix multiple generations of Panasas products within a single namespace, without ripping and replacing existing Panasas solutions. This flexibility helps you get the full value of your investment — now and in the future.



Cost-Effective

To help you meet performance requirements affordably, ActiveStor Ultra offers a competitive acquisition price and the lowest cost of operation of any parallel file system. A mature, hardened file system optimizes performance, and the solution runs on industry-standard commodity hardware, so you get maximum value for your money.

Our storage solution has the industry's lowest administrative overhead. No deep technical skills are needed to manage the solution. System setup takes less than a day, and administrators can add capacity and performance in minutes. Customers need only a part-time person to manage the solution no matter the scale. That's a huge savings over the three or more administrators needed to manage traditional HPC storage systems.

Not only are direct budgetary costs low, but also the solution minimizes your indirect costs. The purpose-built appliance was designed to reduce system outages, tuning, and retuning — maximizing productivity. Your administrators spend less time managing storage and trouble shooting problems and more time focused on strategic activities. High availability, resiliency, and high performance frees employees to work without storage restrictions. ActiveStor Ultra unleashes the full potential of your organization while delivering the industry's lowest total cost of ownership.

Why Choose Panasas?

Compare the benefits of ActiveStor Ultra with other enterprise and traditional HPC storage solutions. Only Panasas offers a complete storage solution that enables speed, simplicity, flexibility, and cost-effectiveness. [Get the fast, simple, storage solution you need, all from Panasas.](#)

	ActiveStor Ultra with PanFS 8	BeeGFS (COTS HW)	IBM Spectrum Scale	DDN Lustre	Dell EMC Isilon OneFS	NetApp ONTAP
Fast	✓	✓	✓	✓		
Simple	✓				✓	✓
Flexible	✓	✓		✓		
Cost-Effective	✓	✓*		✓*		

*Limited to cost of acquisition



World-class research center for aeronautics, exploration technology, and science

Collects, analyzes, and uses global precipitation data

AIRBUS

International aerospace pioneer

Launched a new ultra-long range jet capable of flying up to 9,700 nautical miles



Learn More

Discover how Panasas can create a frustration-free HPC storage infrastructure for your business.

Visit www.Panasas.com or contact us at 888.726.2727.

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