

# Modern HPC Storage for Government Agencies

Government organizations have some of the most demanding workloads in the history of high-performance computing (HPC). The artificial intelligence, machine learning (AI/ML) and HPC applications they use to solve national challenges run on mountains of data stored in multiple locations, formats, and systems.

Storing, protecting, and managing all this mission-critical data can seem daunting – but it doesn't have to be.

Panasas ActiveStor® solutions running the PanFS® parallel file system are designed to drive data-intensive HPC and AI/ML workflows. Here's how we help federal agencies thrive with a modern HPC storage platform that delivers optimized performance, easy data management, and unmatched reliability.

Accelerate all your workloads with an intelligent, high-speed data engine.



### Other parallel file systems

- lack the reliability needed to ensure optimal data integrity and availability,
- require a team of costly HPC storage specialists to oversee and maintain,
- and are narrowly tuned to reach peak performance for only one specific workload type.

### Challenge

Government researchers rely on HPC for everything from CFD simulations of aircraft designs to AI-enabled molecular modeling. These applications demand scalable, low-latency, and high-throughput performance from their storage environment, and traditional storage simply can't keep up. To boost productivity and reduce costs, they need a parallel file system that excels in three key areas: reliability, manageability, and workload flexibility.

### Solution

The PanFS parallel file system avoids those three challenges, sparing you from the unnecessary complexity, cost, and downtime associated with other parallel file systems. Using the proprietary software feature Dynamic Data Acceleration (DDA), this data engine automatically adapts to any workload you can throw at it. As you scale in capacity, reliability increases, while centralized management remains simple – a single IT admin with zero special training can oversee and maintain a Panasas storage environment at any scale in just a fraction of the workday (seriously – it's that easy).



Rest easy with enhanced reliability, availability, and security.

### Challenge

To meet privacy and regulatory demands, government organizations face growing urgency to secure their large datasets. Data loss, storage failures, and security breaches threaten mission-critical deadlines and – most importantly – national interests. Outdated legacy storage and multi-vendor infrastructure sprawl not only reduce data interoperability, but also increase an organization's vulnerability to these threats.



### Three ways to keep federal data safe and available:

1. Follow a defense-in-depth approach to data security.
2. Select a solution with automatic error recovery, continuous data scrubbing, and parallel rebuild.
3. Consolidate legacy systems onto a modern storage platform with a superior reliability architecture.

### Solution

To safeguard data, Panasas takes a defense-in-depth approach: ACLs, SELinux support, and hardware-based encryption at rest prevent unauthorized access while the realm is both online and offline with no performance degradation. The PanFS solution also uses patented client-based per-file object erasure coding to ensure maximum protection, as well as built-in prevention and automated rapid failure recovery logic to avoid corruption issues and maximize your system uptime. These are core elements of Panasas' superior reliability architecture that are not offered by other parallel file systems.



Drive smarter decisions with agencywide data discovery and movement.



### Comprehensive data insight and mobility solutions enable

- parallel multi-threaded operations for pooled data movement,
- extensions for backup and archive to S3 object stores and the cloud,
- and SSL/TLS encryption in flight with customer supplied keys.

### Challenge

Knowing what data you have, where you have it, and how to best act on it is just as important as protecting it all. Monitoring skyrocketing data stores across multiple locations is a challenge for federal IT staff, and manual methods are quickly becoming unsustainable. Federal agencies need intelligent data insight and mobility solutions that promote better data management and decision-making practices throughout the entire organization.

### Solution

The PanFS software suite includes the Panasas PanView™ data insight and Panasas PanMove™ data mobility and protection software families. PanView solutions use powerful scan capabilities to enable agencywide data discovery, while PanMove solutions deliver fast, secure, and reliable data movement between your ActiveStor systems and the cloud. Together, these solutions enable federal agencies to search and analyze their data files so they can mobilize them when and where they are needed.



If you're ready to modernize your high-performance data storage infrastructure, get a free consultation from a Panasas federal storage expert today.

Let's talk

For more information, visit [www.panasas.com/industries/government/](http://www.panasas.com/industries/government/)

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