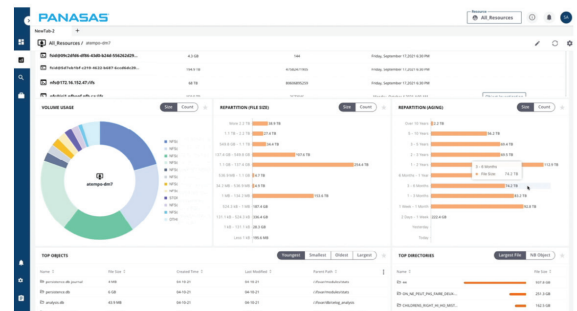# Data Storage Solutions for Microscopy Workflows

The Data Foundation for the Resolution Revolution

Are you struggling to manage your cryo-EM or other imaging data output? Maybe you're experiencing challenges due to an increase in the number of users, longer runtimes, or adding new technology. Alternatively, you may have just installed a single microscope and are unsure about the rate at which your data storage requirements will grow. Either way, we have your solution.

Panasas data storage starts with a small entry-point and scales limitlessly to match your research needs. With the Panasas PanFS® file system and software suite, you can easily manage anything from hundreds of TBs to multiple PBs of data. Panasas storage solutions have been deployed at numerous imaging departments across the globe, as well as various other scientific research areas.

"This area of research is very data intensive, and partnering with Panasas represents a big step for us in realizing our vision in this sector."

Dr. Antoine van Oijen, Executive Director at Molecular Horizons, University of Wollongong

Accelerate analysis. High-speed data access allows researchers to quickly analyze and retrieve large datasets without delays. Our architecture handles the enormous amount of data generated by imaging equipment and software, ensuring smooth storage and retrieval, and multiple teams can work together on the same dataset simultaneously.

Improve insights. Researchers can quickly locate specific datasets and experiments using an intuitive interface with powerful scan and search capabilities. Visually explore your storage data with comprehensive visualization reports on files and users.

Enable simplicity. A turn-key storage solution with unparalleled ease-of-use means a part-time IT admin can manage a Panasas environment of any size. You avoid having to tune or retune your systems as your workloads change. And as your data environment grows, you won't need any more effort to maintain it — so you can focus on science instead of data storage.

Panasas Solutions for Life Sciences

Panasas Benefits:
• Limitless scalability in performance, capacity, and data protection.
• Expand on the fly without creating new storage locations or interrupting workflows.
• Automatically balance data and capacity.
• Get data insights and advanced search capabilities that make locating specific datasets or experiments effortless.
• All features and unlimited users and clients are included in the price.

PanFS Parallel File System

PanFS, the operating environment for the Panasas ActiveStor® architecture, maximizes the efficiency of all storage media in a seamless, total-performance storage system. PanFS uses Dynamic Data Acceleration to automatically adapt to the changing file sizes and workloads in life sciences computing, delivering consistently superior performance at the industry's best total cost of ownership (TCO).

Product	Minimum Performance	Minimum Capacity	Use Cases
ActiveStor® Ultra Edge	4GB/s	100TB	Entry level storage, single microscope
ActiveStor® Flash	32GB/s	150TB	Multiple microscopes and GPU servers, highest performance
ActiveStor® Ultra	12GB/s	1PB	Mixed workloads, multiple microscopes
ActiveStor® Ultra XL	10GB/s	2PB	Data storage and retrieval for multiple labs
PanMove™	N/A	Any	Data movement between storage systems
PanView™	N/A	Any	Insights into storage: capacity, file type, etc.

PanMove™ and PanView™
Data Mobility and Insight Solutions

PanMove and PanView expand the capabilities of your Panasas storage by providing data insights and data movement functionality to better manage your experiments and users.

PanMove enables S3 or NFS destinations for your data for backup and archive purposes. PanView provides graphical storage reporting, allowing users to view metadata such as file type, age, and user. PanView also supports rich search functionality to help navigate vast amounts of data and experiments. For example, you can identify all projects associated with a particular user, and move unused files to long term storage.

PanMove and PanView enable previously impossible storage insights. You can now dive into different experiments and users to identify data, old files, and improve user and storage management.

Lifescience@panasas.com