



PANASAS®

ACTIVESTOR ULTRA

Built for Price/Performance, Engineered for Manageability

The new innovative Panasas® ActiveStor® Ultra scale-out, parallel file system storage appliance delivers the extreme performance, enterprise grade reliability and manageability required to process the large and complex datasets associated with HPC workloads and emerging applications like AI, precision medicine, autonomous driving, AR and VR.

HIGH PERFORMANCE

Panasas ActiveStor Ultra high-performance storage uses a scale-out architecture that grows storage capacity, DRAM caching, and network bandwidth incrementally and linearly as you add more ActiveStor enclosures. It delivers data from storage nodes in parallel to the application, multiplying the bandwidth an application can achieve to a single file, not just aggregate bandwidth. And data flows directly from our storage nodes to the application without any hops through intermediate servers or even extra network links. ActiveStor Ultra stores different datatypes onto the right device ensuring exceptional mixed workload performance.

SURPRISING SIMPLICITY

Panasas ActiveStor Ultra is a single entity you manage from one graphical user interface (GUI) or command-line interface (CLI), no matter how many ActiveStor enclosures you integrate into it. The Panasas ActiveStor solution will automatically rebalance capacity across the ActiveStor enclosures as you add them or if they become unbalanced.

EXTREME FLEXIBILITY

The Panasas ActiveStor solution automatically adapts to dynamically changing workloads and increasing demands. Its scale-out nature inherently spreads the workload, reducing the impact of hot spots, as well as simply growing capacity and performance.

KEY FEATURES

4 Ultra nodes per chassis

6x 3.5" SATA3 drive bays for large file HDDs

Supports Dual Mellanox Infiniband or Ethernet

Intel CPU, 32GB DDR4, 16GB NVDIMM

Redundant 1200W Titanium level PSUs

NVMe SSD for metadata

PanFS® Parallel File System



High Performance

Low cost to own
and operate

Surprising simplicity

Unparalleled Reliability

Extreme Flexibility

Timely, high-quality
support

ABOUT BIOS IT

BIOS IT is a global design house, systems builder and integrated solution provider for enterprise performance computing. We construct bespoke clusters and appliances by hand picking the best components and newest technologies based on specific customer goals. We support well-known organisations at the top of their research fields, across science, engineering, academia and finance disciplines. Our comprehensive range of products and services include: high-performance enterprise servers, storage and networking, on-premise or in the cloud, with associated services, support, hosting and software.

ActiveStor product families offer flexible configuration options for each node to meet specific workflow needs, now and in the future. The solution supports mixing generations of ActiveStor products within a single namespace.

ACTIVESTOR DIRECTOR

The ActiveStor Director functions as the “control plane” of the system, managing metadata services instead of storing user data. The Director controls distributed filesystem operations such as file-level and object-level metadata consistency, client cache coherency, recoverability from interruptions to client I/O, storage node allocation operations, and secure multiuser access to files.

In addition, the Director controls many other aspects of the overall storage system including managing the namespace, health of the system, failure recovery actions, and gateway functionality. The Director also facilitates scalability and virtualizes data objects across all available storage nodes enabling the system to be viewed as a single, easily managed global namespace. The ActiveStor Director nodes can be scaled independently to scale metadata performance.

ACTIVESTOR ULTRA STORAGE NODES

ActiveStor Ultra Storage Nodes feature a multi-tier intelligent data placement architecture that matches the right type of storage media to each type of data to deliver the highest performance at the lowest cost.

- Small files are stored on high IOPs flash SSDs
- Large files are stored on low-cost, high-capacity, high-bandwidth HDDs
- Metadata is stored in a database on low-latency NVMe SSDs
- An NVDIMM-based intent-log protects both inflight data & metadata operations
- Unmodified data and metadata are cached in DRAM

	ACTIVESTOR ULTRA
PERFORMANCE	4GB/s building blocks
HARDWARE	Industry standard hardware 4 nodes / 4U
CAPACITY	HDD: 96TB - 448TB SATA SSD: 0TB - 32TB NVMe SSD: 8TB
NETWORK	8 x 25 GbE, 4 x FDR or EDR IB
PROTOCOLS	DirectFlow®, NFS, SMB

For more information visit www.bios-it.com.



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