

# ActiveStor Ultra Edge 100

## High-Performance, Small Form Factor Storage Solution

The ActiveStor® Ultra Edge 100 (ASU-100E) is the newest and smallest addition to the Panasas® ActiveStor product family. Designed for compact primary and remote data centers, as well as hub-and-spoke edge deployments, the ASU-100E delivers parallel file system performance where you need it in a small footprint and at a low-cost entry point.

The ASU-100E is powered by PanFS®, the Panasas parallel file system, and is based on the ActiveStor architecture to orchestrate multiple computers into a single entity that serves data to AI/ML and HPC applications for today’s modern HPC. This is performed without manual intervention while continuously balancing the load across the system, scrubbing the stored data for the highest levels of data protection, and encrypting the stored data to protect it from unwanted exposure.

The ASU-100E is built on an industry standard 2U rack height enclosure chassis with a carefully balanced architecture. Each enclosure contains four server nodes that are configured together to provide flexible and scalable ASU-100E storage solutions.

Together with the PanFS DirectFlow® driver on client systems, the ASU-100E provides parallel and redundant storage access to deliver the highest performance with unlimited scalability, enterprise reliability, and ease of management. The ASU-100E is the ideal compact choice for a high-performance storage solution in manufacturing, life sciences, energy, financial services, media & entertainment, and university & government research.

### ASU-100E Enclosure

As shown in Figures 1 and 2, the ASU-100E enclosure is a 2U, 19-inch rack-mount chassis that contains four nodes and two redundant 2200 W titanium-level power supplies.

The ASU-100E enclosure is available as two model versions: a “Smart” enclosure and an “Expansion” enclosure. The enclosures are differentiated by the number of director and storage nodes as defined in the following table.



Figure 1. ASU-100E enclosure, front-top view.



Figure 2. ASU-100E enclosure, rear view.

Enclosure Model	Director Nodes	Storage Nodes
Smart	1	3
Expansion	0	4

### ASU-100E Storage Nodes

ASU-100E storage nodes are servers in the ASU-100E enclosure that run the PanFS parallel file system and are the core of the data plane, storing data and metadata. Each storage node communicates directly and in parallel with client systems. ASU-100E storage nodes are available with 8 TB or 16 TB HDD options.

### ASU-100E Director Nodes

The ASU-100E director nodes are servers in the ASU-100E enclosure that run the PanFS parallel file system and are the core of the control plane. Director nodes process file system metadata, coordinate action of storage nodes and Direct-Flow drivers for file access, manage membership and status within the storage cluster, and control all failure recovery and data reliability operations.

## ASU-100E Configurations

ASU-100E enclosures are combined into two standard configurations, “Minimum” and “Base”, detailed in the table below. In addition, as the ASU-100E has limitless scalability, standard configurations can be expanded to meet growing demands. Figure 3 shows the “Minimum” configuration.

Configuration	Minimum	Base
Smart Enclosures	3	3
Expansion Enclosures	0	1
Director Nodes	3	3
Storage Nodes	9	13
Usable Capacity	126–265 TB	227–477 TB
Rack Height	6 RU	8 RU



Figure 3. ASU-100E “Minimum” configuration of three “Smart” enclosures.

## PanFS Software Suite

ASU-100E systems include the PanFS Software Suite with DirectFlow Client, NFS, and SMB/CIFS protocol support, PanFS and realm manageability, and security/encryption. The suite also features PanMove™ and PanView™ software families for data mobility, visibility, and analytics.

## Low Cost to Own and Operate

The ASU-100E has an affordable cost of acquisition due to its optimized storage architecture and smaller footprint on commodity hardware. In addition, PanFS reduces operational cost and complexity—only minimal staff are needed to administer and manage the system, with no extensive training required. It takes only part-time attention from a single person to manage an ASU-100E system, no matter how large the storage configuration is.

## About Panasas

Panasas builds a portfolio of data solutions that deliver exceptional performance, unlimited scalability, and unparalleled reliability – all at the best total cost of ownership and lowest administrative overhead. The Panasas data engine accelerates AI and high performance applications in manufacturing, life sciences, energy, media, financial services, and government. The company’s flagship PanFS® data engine and ActiveStor® storage solutions uniquely combine extreme performance, scalability, and security with the reliability and simplicity of a self-managed, self-healing architecture. The Panasas data engine solves the world’s most challenging problems: curing diseases, designing the next jetliner, creating mind-blowing visual effects, and using AI to predict new possibilities.

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## ASU-100E Specifications

ASU-100E Enclosure	
<b>Hardware</b>	2U 19" rackmount chassis with rails
<b>Power Supplies</b>	2x 2200 W redundant titanium-level
<b>Dimensions (HxWxD)</b>	3.47 inches x 17.6 inches x 30.11 inches (88 mm x 447 mm x 765mm)
<b>Operating Temp.</b>	0–35°C (32–95°F)
<b>Non-operating Temp.</b>	-40–60°C (-40–140°F)
<b>Operating Humidity</b>	8–90% (non-condensing)
<b>Input Line Voltage</b>	220–240 VAC, 50–60 Hz
ASU-100E Storage Node	
<b>Storage Capacity</b>	TCG-SED HDDs: 24/48 TB (8/16 TB HDD option) M.2 NVMe TCG-SED SSD: 3.84/7.68 TB (8/16 TB HDD option)
<b>Memory</b>	2x 16 GB DDR4 ECC RDIMMs
<b>NVDIMM</b>	1x 16 GB DDR4 ECC NVDIMM-N
<b>SSD</b>	1x M.2 NVMe TCG-SED (8 TB HDD option) 2x M.2 NVMe TCG-SED (16 TB HDD option)
<b>HDD</b>	3x TCG-SED
<b>NIC</b>	25 GbE Dual SFP28 Network SIOM
<b>Other</b>	Integrated BMC, IPMI, VGA, USB
ASU-100E Director Node	
<b>Storage Capacity</b>	M.2 NVMe SSD: 480 GB
<b>Memory</b>	6x 16 GB DDR4 ECC RDIMMs
<b>NVDIMM</b>	1x 16 GB DDR4 ECC NVDIMM-N
<b>SSD</b>	1x M.2 NVMe
<b>NIC</b>	25 GbE Dual SFP28 PCIe
<b>Other</b>	Integrated BMC, IPMI, VGA, USB

## Timely, High-Quality Service and Support

Unlike open-source solutions and even commercial alternatives from broad portfolio vendors, Panasas offers timely, world-class L1–L4 support.

## More Information and Ordering Details

For more information and ASD-200 ordering details, contact your local Panasas representative or visit [panasas.com/products/activestor-ultra-edge](https://panasas.com/products/activestor-ultra-edge).