X13 Petascale All-Flash

Revolutionary Petascale NVMe for Unprecedented Density and Performance

All-New 1U Storage Architecture

- **Dual socket 4th Gen Intel® Xeon® Scalable processors**
- **32 DIMM slots per node supporting DDR5-4800MHz**
- **2x AIOM supporting PCIe 5.0 x16 and up to 2x PCIe 5.0 x16 slots**
- **Up to 24 high-performance EDSFF Short (E1.S) drives in a 1U chassis**
- **E1.S (9.5mm and 15mm) form factor support**

Ultimate Storage Performance

Supermicro X13 All-Flash systems offer industry-leading storage density and performance with EDSFF drives allowing unprecendented storage capacity in a single 1U chassis. The advanced high-density server design paired with the unmatched efficiency of EDSFF flash media provides exceptional IOP-per-Watt performance. This combination of performance and TCO value will accelerate the transition from legacy HDD for many large scale, capacity hungry applications used across a range of data-intensive industries.

Designed for the Most Demanding Storage Workloads

X13 Petascale storage systems are ideal for depoyments where storage performance, density and latency are paramount, including mission-critical databases, virtualization, next-gen big data, HPC, media & entertainment, content distribution and hot-tier caching. Petascale systems can also be used with industry-leading file systems including Weka, Lustre and MinIO as well as database systems such as MongoDB, Redis and MySQL.

New All-Flash Form Factors

Supermicro's all-new Petascale family leverages the latest industry-standard EDSFF E1.S form factor designed specifically for solid-state media for maximum performance, efficiency and future-proofing. The E1.S drives are supported in both the 9.5mm and 15mm form factors to allow flexibility depending on capacity and storage needs and all EDSFF drives share a common connector standard which will facilitate easy migration to new versions of PCIe as they are released. The optimal thermal designs of these new drives maximize airflow through the front of the chassis, providing ample cooling to not only the drives themselves, but also the dual CPUs and other components.

High-Speed Networking

High performance storage of this caliber is nothing without networking to match. Supermicro X13 Petascale systems feature dual PCIe 5.0 x16 AIOM slots for high-speed networking cards, as well as dual PCIe 5.0 x16 expansion slots for additional I/O and accelerators such as DPUs.

Powered by 4th Gen Intel Xeon Scalable Processors

Just like the X13 Petascale systems themselves, the new 4th Gen Intel Xeon Scalable processors are optimized for storage workloads, with storage-specific CPUs engineered to enhance data movement and compression performance. Inside, built-in accelerator engines including Intel Data Streaming Accelerator (Intel DSA) and Intel QuickAssist Technology (Intel QAT) offload common storage tasks from CPU cores to provide additional workload capacity.

Petascale	SSG-121E-NES24R
Processor Support	Dual Socket E (LGA-4677) 4th Gen Intel® Xeon® Scalable processors†
Outstanding Features	Two PCIe 5.0 x16 slots & two AIOM connectors (OCP 3.0 SFF compliant) Supports 32 DIMMs with 2DPC, up to 12TB memory capacity with 16 DIMMs of 256Gb 3DS RDIMM/ RDIMM DDR5 ECC memory and 16 DIMMs up to 512Gb each supporting Intel® Optane PMem 300 Series Redundant Titanium 2000W Power Supplies Composable Infrastructure Platform 24x hot-swap E1.S (9.5mm or 15mm) NVMe drive bays
Memory Slots & Capacity	32 DIMM slots UP to 8TB: 32x 256GB DRAM
I/O Ports	1 RJ45 Dedicated IPMI LAN port 4 USB 3.0 port(s) (2 front; 2 rear) 1 COM Port (1 rear) 1 VGA port
Motherboard	X13DSF-A
Form Factor	1U Rackmount Enclosure: 438.4 x 43.6 x 773.25mm (17.2" x 1.7" x 30.4") Package: 604.774 x 199.898 x 1029.97mm (23.81" x 7.87" x 40.55")
Expansion Slots	2 PCIe 5.0 x16 AIOM slot(s) 2 PCIe 5.0 x16 FH slot(s)
Drive Bays	24x E1.S Hot-swap NVMe (9.5mm or 15mm) drive slots
Cooling	8x 4cm heavy duty fan(s)
Power	Redundant 2000W Titanium level (96%)

† Supports up to 350W TDP CPUs (Aircooled). CPUs with high TDP supported under specific conditions. Contact Technical Support for details.