

PAC STORAGE

PAC STORAGE PS HYBRID FAMILY PRODUCT LINE



NAS, SAN & OBJECT ENTERPRISE DATA STORAGE

PAC Storage PS Hybrid Line delivers the perfect combination of performance, scalability, and efficiency for today's data-intensive work-load environments. Balancing high-speed SSDs with high-capacity HDDs, these systems provide lightning-fast throughput while maximizing storage density and cost efficiency. With full redundancy, multi-protocol support (NAS, SAN, and object storage), and seamless scalability up to multi-petabyte levels, the PS Hybrid Line is engineered to handle everything from enterprise databases and virtualization to media production and AI workflows—all with the reliability and flexibility your business demands.



Controller Quick Reference Guide:

2000: Best for Small Block-Level Size Requirements
3000: Best for Mid-Size Media and Database Requirements *Most Popular
4000: Large-Scale Post-Production & HPC
5000: Extreme Performance + Large Capacity, AI/ML Enterprise Data Center requirements

HIGHLIGHTS OF PS HYBRID LINE:

High Performance & Scalability

- Massive Sequential Throughput up to 45GB/s read, 20GB/s write
- Scalable up to 896 Drives with recommended expansion up to 4 JBODs for optimal performance
- Symmetric Active-Active Controllers

Full Redundancy, Complete Data Protection

- High Availability with 5x 9's uptime
- All Components are hot-swappable
- RAID, Snapshot, Remote replication and Cloud Gateway technology
- Object Storage and Immutable Data Options

Extreme Flexibility and Simple Management

- Can run NAS (file), SAN (block) and object storage simultaneously
- Many Connectivity options up to 200GbE with swappable HBAs
- Easy User Interface- CLI and Web Based
- Single Namespace

Complete US Based Service & Tech Support

- Comes standard with 3 year warranty expandable to 10 years
- US-Based Service and Tech Support
- Government GSA Certified & Approved
- Next business day advance replacement
- Emergency support for weekends & outside normal business hours

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HARDWARE SPECIFICATIONS

Product Series			PS 2000	PS 3000	PS 4000	PS 5000
Form Factor	2U 12-bay		PS 2012	PS 3012	PS 4012	-
	3U 16-bay		PS 2016	PS 3016	PS 4016	-
	4U 24-bay		PS 2024	PS 3024	PS 4024	-
	4U 40-bay		-	PS 3040	PS 4040	-
	4U 60-bay		-	PS 3060	PS 4060	-
	4U 90-bay		-	PS 3090	PS 4090	PS 5090
Controller			Dual redundant or single upgradable to dual redundant			
Cache Backup Technology			Super capacitor + flash module			
CPU			Intel® Pentium® 2-Core Intel® Pentium® 4-Core (for T models)	Intel® Xeon® D 4-Core	Intel® Xeon® D 6-Core	Intel® Xeon® Scalable 12-Core
Cache Memory	Single Controller		Default DDR4 16GB, up to 64GB	3000: Default DDR4 96GB, up to 192GB 4000: Default DDR4 192GB		Default DDR5 256GB, up to 512GB
	Redundant Controllers		Default DDR4 32GB, up to 128GB	3000: Default DDR4 192GB, up to 384GB 4000: Default DDR4 384GB		Default DDR5 512GB, up to 1024GB
Supported Drives			• 2.5" SAS SSD • 3.5" 12Gb/s NL-SAS 7,200 RPM HDD • 2.5" U.2 NVMe SSD (for U.2 SSD cache models; must be purchased from PAC Storage)			
Max. Drive Number	Via Expansion Enclosures, per Appliance		896	896	896	896
	Via Scale-out with Other Series of Appliances, per Cluster		3584	3584	3584	3584
Max. SSD Cache Pool (Block Level)			3.2TB	4TB	4TB	4TB
Onboard 1GbE Ports (RJ45)			8	0	0	0
Onboard 25GbE Ports (SFP28)			0	4	0	0
Note: All the ports must be set to the same channel type (block-level or file-level).						
Onboard 12Gb/s SAS Expansion Ports			2	4	4	0
Onboard 24Gb/s SAS Expansion Ports			0	0	0	4
Host Board Slots			4	4	4	4
Host Board Options			• 16Gb/s FC x 4 • 32Gb/s FC x 2 • 32Gb/s FC x 4 • 1GbE (RJ45) x 4 • 10GbE (SFP+) x 2 • 25GbE (SFP28) x 2 • 12Gb/s SAS x 2	• 16Gb/s FC x 4 • 32Gb/s FC x 2 • 32Gb/s FC x 4 • 10GbE (SFP+) x 2 • 25GbE (SFP28) x 2, RDMA • 25GbE (SFP28) x 4, RDMA • 100GbE (QSFP28) x 1, RDMA • 100GbE (QSFP56) x 2, RDMA • 12Gb/s SAS x 2	• 32Gb/s FC x 4 • 25GbE (SFP28) x 2, RDMA • 25GbE (SFP28) x 4, RDMA • 100GbE (QSFP28) x 1, RDMA • 100GbE (QSFP56) x 2, RDMA • 200GbE (QSFP56) x 1, RDMA • 12Gb/s SAS x 2	
			Note: 1. At least 24GB memory is required per controller to use RDMA. 2. It is strongly recommended that you refer to the latest Host Board and Memory Guide on our website for complete information, including supported combinations and important notes, before purchasing any host board for your model.			
Max. 16Gb/s FC Ports			16	16	16	0
Max. 32Gb/s FC Ports			16	16	16	16
Max. 1GbE Ports (RJ45)			8	0	0	0
Max. 10GbE Ports (SFP+)			8	8	8	0
Max. 25GbE Ports (SFP28)			8	12	8	8
Max. 100GbE Ports (QSFP28)			0	4	4	4
Max. 100GbE Ports (QSFP56)			0	8	8	8
Max. 200GbE Ports (QSFP56)			0	0	0	4
Max. 12Gb/s SAS Ports			8	12	12	8
Max. 24Gb/s SAS Ports			0	0	0	4
Expansion Enclosures (JBODs)			12 Bay, 16 Bay, 60 Bay, 90 Bay			
Dimensions (Without Chassis Ears and Protrusions) (W x H x D)			• 2U 12-bay: 449 x 88 x 500 mm • 3U 16-bay: 449 x 130 x 500 mm • 4U 24-bay: 449 x 174.4 x 500 mm	• 2U 12-bay: 449 x 88 x 509.8 mm • 3U 16-bay: 449 x 130 x 509.8 mm • 4U 24-bay: 449 x 174.6 x 509.8 mm • 4U 40-bay: 438 x 176 x 735.8 mm • 4U 60-bay: 438 x 175.8 x 849.8 mm (33.5" depth) • 4U 90-bay: 435 x 175.8 x 1088.8 mm (43" depth*)		• 4U 90-bay: 435 x 175.8 x 1063 mm. (41") *Requires New Modern or XL rack as older/traditional racks are 36"
Package Dimensions (Incl. Pallet for 4U 40/60/90-bay Models) (W x H x D)			• 2U 12-bay: 588 x 239 x 780 mm	• 4U 24-bay: 588 x 325 x 780 mm • 4U 90-bay: 620 x 585 x 1370 mm		
Power Supply Unit	Power Supplies (Redundant and Hot-swappable)	Global	460W x 2 (80 PLUS Bronze)	• 2U 12-bay/3U 16-bay/4U 24-bay: 530W x 2 (80 PLUS Bronze) • 4U 40-bay/60-bay: 1200W x 2 (80 PLUS Platinum) • 4U 90-bay: 1600W x 2 (80 PLUS Titanium)		2700W x2 (80 PLUS Titanium)
		EU	• 2U 12-bay/3U 16-bay/4U 24-bay: 800W x 2 (80 PLUS Titanium) • 4U 40-bay/60-bay: 1300W x 2 (80 PLUS Titanium) • 4U 90-bay: 1600W x 2 (80 PLUS Titanium)		2700W x2 (80 PLUS Titanium)	
	AC Voltage	Global	• 2U 12-bay/3U 16-bay/4U 24-bay: 100-240VAC @10-5A • 4U 40-bay/60-bay: 100-127VAC @10A, 200-240VAC @8A 4U 90-bay: 100-127VAC@12A, 200-240VAC @10A			200-240VAC @16.0-13.5A
		EU	• 2U 12-bay/3U 16-bay/4U 24-bay: 100-127VAC @10A, 200-240VAC @5A • 4U 40-bay/60-bay: 100-127VAC @12A, 200-240VAC @8.5A 4U 90-bay: 100-127VAC@12A, 200-240VAC @10A			200-240VAC @16.0-13.5A
				Note: Please use 200-240VAC for the 4U 60-bay and 4U 90-bay models in both the global and EU versions.		
Frequency			50-60 Hz			
Safety Standards			• Electromagnetic compatibility: CE, BSMI, FCC • Safety: UL, BSMI, CB			

SOFTWARE SPECIFICATIONS

Max. Logical Drive Number		30
Max. Logical Drive Capacity		512TB
Stripe Size		16KB, 32KB, 64KB, 128KB, 256KB, 512KB, 1024KB (per logical drive)
Write Policy		Write-back or write-through (per logical drive)
Max. Pool Size		2PB
Max. Pool Number		30
Max. Volume Size		2PB
Max. Volume Number		1024
Max. Host LUN Mapping Number		4096
Max. Reserved Tag Number		256 (per Host-LUN connection)
Max. iSCSI Initiators		416 (per controller)
Max. Host Connection Number		128 (per FC)
RAID Options		RAID 0, RAID 1, RAID 3, RAID 5/5F, RAID 6/6F, RAID 10, RAID 30, RAID 50, RAID 60
Supported Protocols	File Level	CIFS/SMB (version 2.0/3.0), NFS (version 2/3/4), AFP (version 3.1.12), FTP/FXP (vsftp 2.3.4), WebDAV (httpd package 2.4.6)
	Block Level	FC, iSCSI, SAS, NVMe/TCP, NVMe/RDMA
	Object Level	RESTful API
File Level	Max. File System Size	2PB
	Max. Number of Local Users	20000
	Max. Number of Local Groups	512
	Max. Number of Domain Users and Groups	The number depends on the memory capacity of a single controller and the system configuration. • 8/12GB: 50,000 • 16/24GB: 100,000 • 32/48GB: 200,000 • 64GB: 400,000 • 96GB and up: 500,000
	Max. Number of Shared Folders	• Single controller models: 1024 (NFS/CIFS/FTP) 255 (AFP) • Redundancy dual controller models: 2048 (NFS/CIFS/FTP) 255 (AFP)
	Max. Number of Rsync Jobs	1024
	Max. Number of Concurrent Rsync Processes	64
	Max. Number of Connections	2048 (NFS/CIFS/AFP) 1024 (FTP)
Management		• Web-based software • User account management • Group management • Folder management - folder access control • Quota management • Folder encryption with AES • Integration with Microsoft Active Directory (AD) and Linux LDAP • Storage Resource Management to analyze history of resource usage • Multi-factor authentication login mechanism • File-level QoS (network traffic control) • SMI-S standard interface for hypervisor management applications
Availability and Reliability		• Immutable object storage • Hot-swappable hardware modules • Device mapper • Antivirus • Trunk group • Cache safe technology • UPS • WORM (file level only)
Efficiency		• Block level: Offline compression, offline deduplication • File level: Inline compression, offline deduplication
Notification		• Email • SNMP traps
Applications		• Anti-virus • Backup Server • Docker • Project Server • Proxy Server • Syslog Server • VPN Server • Web Server • LDAP Server • Mail Server • Nextcloud
Supported Cloud Services		EonCloud Gateway supports integration with the following cloud providers: Backblaze B2, Amazon S3, Microsoft Azure, Alibaba Cloud, OpenStack, Baidu Cloud, Google Cloud, Tencent Cloud, Wasabi Cloud, etc.
Supported OS		Microsoft Windows Server, Red Hat Enterprise Linux, SUSE Linux Enterprise, Sun Solaris, MacOS X, VMware, Citrix XenServer, OpenStack Cinder Note: For supported OS versions, please refer to the Compatibility Guide.

DATA SERVICES

Thin Provisioning		Block Level	Default	"Just-in-time" capacity allocation optimizes storage utilization and eliminates allocated but unused storage space.	
Local Replication	Snapshot	File Level	Optional	Snapshot images per folder: 1024	
		Block Level	Default	Snapshot images per source volume: 64	Snapshot images per system: 128
	Volume Copy/Mirror	Optional	Snapshot images per source volume: 256	Snapshot images per system: 4096	
		Default	Replication pairs per source volume: 4	Replication pairs per system: 16	
		Optional	Replication pairs per source volume: 8	Replication pairs per system: 256	
Remote Replication		File Level	Default	Support Rsync with 128-bit SSH encryption	
		Block Level	Optional	Replication pairs per source volume: 8	Replication pairs per system: 64
Automated Storage Tiering			Optional	Storage tiers per pool: 4	
Scale-out	File Level	Default	Appliances per cluster: 1		
		Optional	Appliances per cluster: 4		
	Block Level	Default	Appliances per cluster: 4		
SSD Cache	File Level	Optional	Accelerating file operations and data access performance for both read and write		
			Max. SSD number: 8		
	Block Level	Optional	Accelerating data access in random read-intensive environments (e.g. OLTP) Max. SSD number: 4		
			Recommended DIMM capacity per controller for SSD cache pool for PS 2000 and PS 1000 G3		
			DRAM : 8GB	Max SSD cache pool size : 0.4TB	
			DRAM : 16GB	Max SSD cache pool size : 0.6TB	
			DRAM : 32GB	Max SSD cache pool size : 1TB	
			DRAM : 64GB	Max SSD cache pool size : 1.6TB	
			DRAM : 128GB and up	Max SSD cache pool size : 3.2TB	
			Recommended DIMM capacity per controller for SSD cache pool for PS 5000 and PS 4000/3000 G3		
			DRAM : 8GB	Max SSD cache pool size : 0.5TB	
			DRAM : 12GB	Max SSD cache pool size : 0.75TB	
			DRAM : 16GB	Max SSD cache pool size : 1TB	
			DRAM : 24GB	Max SSD cache pool size : 1.5TB	
			DRAM : 32GB	Max SSD cache pool size : 2TB	
			DRAM : 48GB	Max SSD cache pool size : 3TB	
			DRAM : 64GB and up	Max SSD cache pool size : 4TB	