



## PS Family Product Line Gen 3 SAN & NAS Enterprise Data Storage

### PS Gen 3 Features:

#### High Performance and Scalability

- Massive sequential throughput of up to 16GB/s read and 12GB/s write per appliance
- Scalable up to 896 Drives with recommended up to 4 expansion JBODs for best performance and capacity

#### Easy to Use and Manage

- Single namespace for easier data access
- Auto-balancing to reduce the burden of storage management for IT staff

#### High-Density Design

- Reduce hardware footprint with 4U 40/60-bay models

#### Lower Total Cost of Ownership

- Save budgets by using only a few SAS/U.2 NVMe SSDs for cache to reach near all-flash system performance, in both SAN and NAS environments

#### Nondisruptive Operations

- High Availability with 5 9's uptime ensures non-stop operations with a near-zero RTO (recovery time objective)

*PAC Storage PS Gen 3 packed with Intel's new Ice Lake CPU and new hardware and software features is the ultimate of high-performance solutions for enterprises with its unprecedented advantages in performance, flexibility, and high expandability. Supporting hybrid environments that integrate SAN, NAS, and cloud services, this series includes a wide range of models ready to meet different needs, from performance-hungry applications, general enterprise workloads, to storage solutions requiring a high-density hardware design.*

**High Performance** PS provides high throughput to handle large amounts of I/O and file transfers, even under heavy workloads. The G3 models, which feature high-speed transmission interfaces and protocols, deliver up to 16Gb/s read and 12Gb/s write in throughput on a single appliance.

**Simple IT Management** Users can access shared folders in a single root directory under a single namespace, without having to worry about where the data is stored. Auto-balancing is also supported to achieve load balancing, which relieves the burden of manual planning and configuration for IT personnel.

**Complete Data Protection and Backup** PAC Storage's unique RAID technology manages your data to keep it intact in the event of a drive or system failure. With the flexibility of snapshot, you can back up locally by schedule on the PS storage system and revert to a previous version when needed. Remote replication is also available to backup to a remote PS system or to a cloud account utilizing the cloud gateway feature. The object storage function can be used to safeguard against ransomware attacks in conjunction with WORM technology. PS storage systems also offer encrypted drives as an option.

**Symmetric Active-Active Controllers** PAC Storage PS Gen 3 offers symmetric active-active controllers for performance and high availability. Hosts can access the same LUNs simultaneously via both controllers. I/O are more equally distributed across both controllers and all paths, effectively minimizing costly path management time. In the event of a path failure, I/O can automatically continue through the remaining paths with little or no failover.

# PHYSICAL SPECIFICATIONS

Product Series		PS 3000 G3	PS 4000 G3
Form Factor	2U 12-bay	<b>PS 3012R3/S3</b>	<b>PS 4012R3/S3</b>
	3U 16-bay	<b>PS 3016R3/S3</b>	<b>PS 4016R3/S3</b>
	4U 24-bay	<b>PS 3024R3/S3</b>	<b>PS 4024R3/S3</b>
	4U 40-bay	<b>PS 3040RT3/ST3</b> <b>PS 3040RT3C/ST3C</b>	<b>PS 4040R3/S3</b> <b>PS 4040R3C/S3C</b>
	4U 60-bay	<b>PS 3060RT3/ST3</b> <b>PS 3060RT3C/ST3C</b>	<b>PS 4060R3/S3</b> <b>PS 4060R3C/S3C</b>
Note: <b>S</b> : Single controller, upgradable to dual redundant controllers <b>R</b> : Dual redundant controllers <b>3</b> : G3 <b>T</b> : High performance <b>C</b> : U.2 SSD cache			
Controller	Dual redundant or single upgradable to dual redundant		
Cache Backup Technology	Super capacitor + flash module		
CPU	Intel® Ice Lake Xeon® D 4-Core		Intel® Ice Lake Xeon® D 6-Core
Cache Memory	Single Controller	2U 12-bay/3U 16-bay/4U 24-bay: Default DDR4 8GB Expandable up to 192GB 4U 40-bay/60-bay: Default DDR4 12GB Expandable up to 192GB	
	Redundant Controller	2U 12-bay/3U 16-bay/4U 24-bay: Default DDR4 16GB Expandable up to 384GB 4U 40-bay/60-bay: Default DDR4 24GB Expandable up to 384GB	
Supported Drives	2.5" SAS SSD 2.5" 12Gb/s SAS 10,000 RPM and 15,000 RPM HDD 3.5" 12Gb/s NL-SAS 7,200 RPM HDD 2.5" SATA SSD, 3.5" 6Gb/s SATA 7,200 RPM HDD (for single upgradable to dual controller model only) Bundled 2.5" U.2 NVMe SSD for U.2 SSD cache models		
Note: For the latest compatibility details, refer to our official website for the latest Compatibility Matrix.			
Max. Drive Number	via expansion enclosure, per appliance	896	
	via scale-out with other series of appliances, per cluster	3584	
Max. SSD Cache Pool (Block-level)	4TB		
Onboard 25GbE Ports (SFP28)	4		-
Onboard SAS Expansion Ports	2		
Max. Host Board Slots	4		
Host Board Options	16Gb/s FC x 4 32Gb/s FC x 2 32Gb/s FC x 4 10GbE (SFP+) x 2 25GbE (SFP28) x 2 12Gb/s SAS x 2		
Max. 16Gb/s FC Ports	16		
Max. 32Gb/s FC Ports	16		
Max. 25GbE Ports (SFP28)	12		8
Max. 12Gb/s SAS Ports	8		
Expansion Enclosures (JBODs)	2U 12-bay: JB 3012A, JB 3016A, JB 3060L 3U 16-bay: JB 3016A, JB 3060L 4U 24-bay/40-bay/60-bay: JB 3060L		
Dimensions (Without Chassis Ears and Protrusions) (W x H x D)	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: 443.2 x 176 x 735.8 mm 4U 60-bay: 443.2 x 176 x 849.8 mm		
Package Dimensions (W x H x D)	2U 12-bay: 780 x 379 x 588 mm 3U 16-bay: 780 x 423 x 588 mm 4U 24-bay: 780 x 465 x 588 mm 4U 40-bay: 625 x 460 x 1032 mm 4U 60-bay: 620 x 460 x 1140 mm		
Power Supply Unit	Power Supplies (Redundant and Hot-swappable)	2U 12-bay/3U 16-bay/4U 24-bay: 530W x 2 (80 PLUS Bronze, 80 PLUS Gold for EU) 4U 40-bay/60-bay: 1200W x 2 (80 PLUS Platinum)	
	AC Voltage	2U 12-bay/3U 16-bay/4U 24-bay: 100VAC @10A to 240VAC @5A 4U 40-bay/60-bay: 100-127VAC @10A, 200-240VAC @8A	
	Frequency	50-60 Hz	
Safety Standards	<ul style="list-style-type: none"> <li>Electromagnetic Compatibility: CE, BSMI, FCC</li> <li>Safety: UL, BSMI, CB</li> </ul>		

## SOFTWARE SPECIFICATIONS

Max. Logical Drive Number	30	
Max. Logical Drive Capacity	512TB	
Stripe Size	16KB, 32KB, 64KB, 128KB, 256KB, 512KB, or 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 (per Host-LUN Connection)	256	
Max. iSCSI Initiators (per Controller)	416	
Max. Host Connection Number (per FC)	128	
RAID Options	RAID 0, RAID 1, RAID 3, RAID 5, RAID 6, 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
	Object Level	RESTful API
File Level	Max. File System Size	2PB
	Max. Number of User Accounts	20000
	Max. Number of User Groups	512
	Max. Number of Shared Folder	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	<ul style="list-style-type: none"> <li>• SMI-S standard interface for hypervisor management applications</li> <li>• Multi-factor authentication login mechanism</li> <li>• Web-based management software</li> <li>• User account management</li> <li>• Group management</li> </ul>	<ul style="list-style-type: none"> <li>• Folder management - folder access control</li> <li>• Quota management</li> <li>• Folder encryption with AES</li> <li>• Integration with Microsoft Active Directory (AD) and Linux LDAP</li> <li>• Storage Resource Management to analyze history of resource usage</li> </ul>
Availability and Reliability	<ul style="list-style-type: none"> <li>• Immutable object storage</li> <li>• Hot-swappable hardware modules</li> <li>• Device mapper</li> <li>• Antivirus</li> <li>• Trunk group</li> </ul>	<ul style="list-style-type: none"> <li>• Cache safe technology</li> <li>• UPS</li> <li>• WORM (file level only)</li> <li>• SMB Multichannel</li> </ul>
Efficiency	<ul style="list-style-type: none"> <li>• Inline compression</li> <li>• Offline deduplication</li> </ul>	
Notification	<ul style="list-style-type: none"> <li>• Email</li> <li>• SNMP traps</li> </ul>	
Applications	<ul style="list-style-type: none"> <li>• Web-based file explorer</li> <li>• Proxy server</li> <li>• Syslog server</li> <li>• VPN server</li> <li>• LDAP server</li> <li>• Docker</li> </ul>	
Supported Cloud Services	Cloud Gateway supports integration with the following cloud providers: 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, Mac OS X, VMware.	
	Note: For the latest compatibility details, refer to our official website for the latest Compatibility Matrix.	

## DATA SERVICES

Thin Provisioning	Block level	Default	"Just-in-time" capacity allocation optimizes storage utilization and eliminates allocated but unused storage space.		
File Snapshot		Optional	Snapshot images per folder: 1024		
Local Replication	Snapshot	Block level	Default	Snapshot images per source volume: 64      Snapshot images per pool: 128	
			Optional	Snapshot images per source volume: 256      Snapshot images per pool: 4096	
	Volume Copy/Mirror		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	Rsync with 128-bit SSH encryption		
	Block level	Optional	Replication pairs per source volume: 8      Replication pairs per system: 64	Note: 1. The maximum number of replication pairs per source volume is 8, whether they are remote asynchronous pairs, remote synchronous pairs, or local volume pairs. 2. 16Gb FC x 4, 32Gb FC x 2, and 32Gb FC x 4 host boards do not support Remote Replication.	
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		
HA Service	Block level	Optional	Delivering continuous availability and eliminating downtime for mission-critical workloads that require non-stop operations		
SSD Cache	File level	Optional	Accelerating file operations and data access performance for both read and write Max. SSD number per controller: 8		
			Accelerating data access in random read-intensive environments (e.g. OLTP) Max. SSD number per controller: 4		
	Block level	Optional	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: 1.0TB	
			DRAM: 64GB	Max SSD Cache Pool Size: 1.6TB	
			DRAM: 128GB	Max SSD Cache Pool Size: 3.2TB	
			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: 1.0TB	
			DRAM: 24GB	Max SSD Cache Pool Size: 1.5TB	
			DRAM: 32GB	Max SSD Cache Pool Size: 2.0TB	
			DRAM: 48GB	Max SSD Cache Pool Size: 3.0TB	
			DRAM: 64GB and up	Max SSD Cache Pool Size: 4.0TB	

## WARRANTY AND SERVICE

### Service and Support

All PAC Storage products carry 3 years manufacturer's warranty. This warranty is upgradeable up to a maximum of 10 years from the date of purchase. In addition, we offer advanced replacement of any defective parts within the warranty period.

Our Technical Services Team at PAC Storage provides NAS storage and SAN storage support and customer care, including assistance with installation, configuration, warranty, and repair. We offer tech support for the life of your product during the hours 7 am to 7 pm PST Monday through Friday, and our team is on call to assist with any extremely urgent issues. For service support, you may reach out via email: [support@pacstorage.com](mailto:support@pacstorage.com) or phone: 949.401.9645