

# QSAN Hybrid Flash Storage

# XCubeSAN 5300

Best Hybrid Performance for Modern Enterprise Applications

## **Key Benefits**

#### **Outstanding Performance**

- Tiny and dense with dual active architecture
- Ultra-high performance with 20 GB/s and 1.8M IOPS
- Outstanding scale-up capability up to 16.7 PB

#### **Dependable Data Experience**

- 99.9999% high availability design with no single point of failure
- Cache-to-flash to protect cache data in power outage
- Non-disruptive firmware upgrade ensures continuous data service with zero downtime

#### **Versatile Connectivity**

- Each controller with built-in 4-port 10 GbE (SFP+) and maximum 12 host ports allows direct connection to multiple hosts without switches
- Optional high-speed 25 GbE iSCSI and 32 Gb Fibre Channel host cards

### **Modern Simplicity**

- XEVO, a flash-based storage management system, minimizes the learning curve and eases maintenance through an intuitive GUI
- Data can be accessed in 5 minutes after installation
- Wake-on-SAS allows you to remotely power on / off all cascaded XCubeDAS expansion units for power saving



# **Comparable to All-Flash Array Performance**

The XCubeSAN 5300 series is an affordable hybrid flash storage system. The new standard for enterprise-class storage workloads, it provides extreme simplicity, scalability, and a balance of performance and price. Ultra-high performance is designed to be the ideal solution for applications in mission-critical data centers, high-performance computing, virtualization, or media environments.

### **High Availability and Enterprise Reliability**

The XCubeSAN series is a proven high availability SAN storage system with full redundancy in modular design. Its dual-active architecture and automatic failover / failback mechanism, coupled with cache-to-flash technology, enables the system to withstand critical situations.

## Flexible I/O Modules and Scale-up Capacity as Needed

Each controller has two host card slots that can be configured as iSCSI, Fibre Channel, or a mix of both besides built-in 4-port 10 GbE iSCSI (SFP+). As a result, the series offers great flexibility with built-in 8-port 10 GbE iSCSI (SFP+) and up to 24 host ports in a dual-controller system. In addition, the XS5326 provides massive scale-up capabilities by connecting XCubeDAS or 3rd-party expansion units with up to 546 disk drives or 16.7 PB raw capacity for future data growth.

## Proven Simplicity - "Set and Forget" Data Services

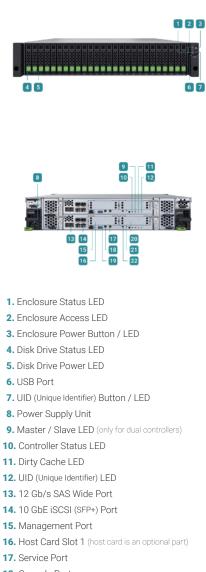
XEVO, a storage management system with intuitive GUI designs, helps to save time in storage deployment considerably. XEVO also delivers enterprise storage features including complete RAID level protection, RAID EE with fast rebuild, thin provisioning, SSD cache, auto-tiering, and more. With the help of an intuitive dashboard and reporting system, managers can analyze business usage and monitor storage status in real time.

### **Advanced Data Protection to Safeguard Assets**

To protect against data loss and downtime events, XEVO provides complete arraybased backup functions including local backup and remote replication. Based on snapshot technology, a solid safety net for disaster recovery can be built to meet the required RPO and RTO.

### **Secure Data and Secure Management**

Supporting SED (Self-Encrypting Drives) will keep your sensitive data safe even if the drives are lost, stolen, or misplaced. Additionally, RBAC (Role-Based Access Control) helps to prevent unauthorized access to your data. All management communication is secured over https.



- 18. Console Port
- 19. USB Port
- 20. Host Card Slot 2 (host card is an optional part)
- 21. Reset to Factory Default Button
- 22. Buzzer Mute Button

### **System Specification**

Model Name	XS5326D	XS5326S	
Architecture	Dual-active controller	Single-upgradeable controller	
CPU			
Processor	Intel® Xeon® 64-bit 4-core (8-core processor models are also available)		
Memory			
Memory Module Pre-installed	16 GB DDR4 ECC DIMM (per contro	oller)	
Total Memory Slots	4 (per controller)		
Memory Expandable up to	256 GB (per controller)		
Storage			
Drive Bays	2.5" Slot x 26		
Maximum Drive Bays with Expansion Unit	546		
Compatible Drive Type	2.5" SAS, NL-SAS, SED HDD 2.5" SAS, SED SSD	2.5" SAS, NL-SAS, SED HDD 2.5" SATA(*) HDD 2.5" SAS, SATA(*), SED SSD	
Drive Interface	SAS 12 Gb/s	SAS 12 Gb/s, SATA 6 Gb/s(*) (*) SATA drives only work with single controller systems	
Maximum Internal Raw Capacity	798 TB (calculate 30.72 TB SSD)		
Maximum Raw Capacity with Expansion Units	16,773 TB (calculate 30.72 TB SSD)		
Hot Swappable Drive	Yes		
Connectivity Port			
PCIe Expansion	(Gen 3x8 Slot) x 2		
1 GbE RJ45 LAN Port	1 (onboard management port per controller)		
10 GbE SFP+ LAN Port	4 (onboard per controller) / 4 (option)		
10 GbE RJ45 LAN Port	2 (option) / 4 (option)		
25 GbE SFP28 LAN Port	2 (option) / 4 (option)		
16 Gb SFP+ Fibre Channel	2 (option) / 4 (option)		
32 Gb SFP28 Fibre Channel	2 (option)		
Expansion and External Port			
12 Gb/s SAS Wide Port	2 (onboard per controller)		
USB Port	1 (front) / 2 (rear)		
Others	Console Port x 1, Service Port (UP	S) x 1	
Software Specification			
Storage OS	XEVO		
RAID Type	0 / 1 / 3 / 5 / 6 / 10 / 30 / 50 / 60	/ 5EE / 6EE / 50EE / 60EE / N-way mirror	
Storage Efficiency	Thin provisioning		
Software Acceleration	SSD cache (option) / Auto tiering (option)		
Data Protection	Snapshot / Local volume clone		
Remote Replication	Asynchronous (built-in) / Synchronous (option)		
Security	HTTPS / SSH / ISCSI CHAP / ISE & SED		
Management	Web UI / Serial console / RESTful	API / S.E.S. / LCM	
Appearance			
Dimension (H x W x D) (mm)	88 x 438 x 491		
Net Weight (kg)	16.3		
Gross Weight (kg)	18.6		
Others			
Memory Protection	Cache-to-Flash (Supercapacitor Mod	dule + Flash Module) (option)	
System Fan	4 pcs		
Power Supply Unit	850 W x 2 (80 PLUS Platinum)		
	429 W		
Power Consumption	123 11	CE / FCC / BSMI	
Power Consumption Certification			

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February 2024





- Enclosure Status LED
  Enclosure Access LED
- 3. Enclosure Power Button / LED
- 4. Disk Drive Status LED
- 5. Disk Drive Power LED
- 6. USB Port
- 7. UID (Unique Identifier) Button / LED
- 8. Power Supply Unit
- 9. Master / Slave LED (only for dual controllers)
- 10. Controller Status LED
- 11. Dirty Cache LED
- 12. UID (Unique Identifier) LED
- 13. 12 Gb/s SAS Wide Port
- 14. 10 GbE iSCSI (SFP+) Port
- 15. Management Port
- 16. Host Card Slot 1 (host card is an optional part)
- 17. Service Port
- 18. Console Port
- 19. USB Port
- 20. Host Card Slot 2 (host card is an optional part)
- 21. Reset to Factory Default Button
- 22. Buzzer Mute Button

#### **System Specification**

Model Name	XS5324D	XS5324S	
Architecture	Dual-active controller	Single-upgradeable controller	
CPU			
Processor Memory	Intel® Xeon® 64-bit 4-core (8-core processor models are also available)		
Memory Module Pre-installed	16 GB DDR4 ECC DIMM (per controller)		
Total Memory Slots	4 (per controller)		
Memory Expandable up to	256 GB (per controller)		
Storage	0 J		
Drive Bays	3.5" Slot x 24		
Maximum Drive Bays with Expansion Unit	504		
Compatible Drive Type	3.5" & 2.5" SAS, NL-SAS, SED HDD 2.5" SAS, SED SSD	3.5" & 2.5" SAS, NL-SAS, SED HDD 3.5" & 2.5" SATA(*) HDD 2.5" SAS, SATA(*), SED SSD	
Drive Interface	SAS 12 Gb/s	SAS 12 Gb/s, SATA 6 Gb/s(*) (*) SATA drives only work with single controller systems	
Maximum Internal Raw Capacity	528 TB (calculate 22 TB HDD)		
Maximum Raw Capacity with Expansion Units	11,088 TB (calculate 22 TB HDD)		
Hot Swappable Drive	Yes		
Connectivity Port			
PCIe Expansion	(Gen 3x8 Slot) x 2		
1 GbE RJ45 LAN Port	1 (onboard management port per controller)		
10 GbE SFP+ LAN Port	4 (onboard per controller) / 4 (option)		
10 GbE RJ45 LAN Port	2 (option) / 4 (option)		
25 GbE SFP28 LAN Port	2 (option) / 4 (option)		
16 Gb SFP+ Fibre Channel	2 (option) / 4 (option)		
32 Gb SFP28 Fibre Channel	2 (option)		
Expansion and External Port			
12 Gb/s SAS Wide Port	2 (onboard per controller)		
USB Port	1 (front) / 2 (rear)		
Others	Console Port x 1, Service Port (UPS) :	x 1	
Software Specification		~ 1	
Storage OS	XEVO		
RAID Type	XEVO 0 / 1 / 3 / 5 / 6 / 10 / 30 / 50 / 60 / 5EE / 6EE / 50EE / 60EE / N-way mirror		
Storage Efficiency		LEP OLE 7 GOLE 7 GOLE 7 IN Way Hill OF	
Software Acceleration	Thin provisioning		
Data Protection	SSD cache (option) / Auto tiering (option)		
Remote Replication	Snapshot / Local volume clone		
	Asynchronous (built-in) / Synchronous (option)		
Security Management	HTTPS / SSH / ISCSI CHAP / ISE & SED Web UI / Serial console / RESTful API / S.E.S. / LCM		
Appearance			
	170.2 × 429 × 515		
Dimension (H x W x D) (mm)	170.3 x 438 x 515		
Net Weight (kg)	25.9		
Gross Weight (kg)	28.3		
Others Memory Protection	Cooke to Elech (Supersonality Market	L Eloob Modulo) (optica)	
Memory Protection	Cache-to-Flash (Supercapacitor Module + Flash Module) (option)		
System Fan	4 pcs		
Power Supply Unit	850 W x 2 (80 PLUS Platinum)		
Power Consumption	648 W		
Certification	CE / FCC / BSMI		
Standard Warranty	System: 3 years Supercapacitor Module: 1 year		

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- 6. USB Port
- 7. UID (Unique Identifier) Button / LED
- 8. Power Supply Unit
- 9. Master / Slave LED (only for dual controllers)
- 10. Controller Status LED
- 11. Dirty Cache LED
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- 13. 12 Gb/s SAS Wide Port
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- 18. Console Port
- 19. USB Port
- 20. Host Card Slot 2 (host card is an optional part)
- 21. Reset to Factory Default Button
- 22. Buzzer Mute Button

### **System Specification**

Architecture    I      CPU    Processor      Processor    I      Memory    Memory      Memory Module Pre-installed    1      Total Memory Slots    2      Memory Expandable up to    2      Storage    2      Drive Bays    3      Maximum Drive Bays    2      Compatible Drive Type    3	XS5316D Dual-active controller Intel® Xeon® 64-bit 4-core (8-core prov 16 GB DDR4 ECC DIMM (per controller) 4 (per controller) 256 GB (per controller) 3.5" Slot x 16 496 3.5" & 2.5" SAS, NL-SAS, SED HDD 2.5" SAS, SED SSD SAS 12 Gb/s	3.5" & 2.5" SAS, NL-SAS, SED HDD 3.5" & 2.5" SATA(*) HDD 2.5" SAS, SATA(*), SED SSD SAS 12 Gb/s, SATA 6 Gb/s(*)
CPU      Processor      Memory      Memory Module Pre-installed      Total Memory Slots      Memory Expandable up to      Storage      Drive Bays      Maximum Drive Bays      with Expansion Unit      Compatible Drive Type	Intel® Xeon® 64-bit 4-core (8-core prov 16 GB DDR4 ECC DIMM (per controller) 4 (per controller) 256 GB (per controller) 3.5" Slot x 16 496 3.5" & 2.5" SAS, NL-SAS, SED HDD 2.5" SAS, SED SSD	cessor models are also available) 3.5" & 2.5" SAS, NL-SAS, SED HDD 3.5" & 2.5" SATA(*) HDD 2.5" SAS, SATA(*), SED SSD SAS 12 Gb/s, SATA 6 Gb/s(*)
Processor  I    Memory  I    Memory Module Pre-installed  1    Total Memory Slots  2    Memory Expandable up to  2    Storage  2    Drive Bays  3    Maximum Drive Bays  3    with Expansion Unit  2    Compatible Drive Type  3	16 GB DDR4 ECC DIMM (per controller) 4 (per controller) 256 GB (per controller) 3.5" Slot x 16 496 3.5" & 2.5" SAS, NL-SAS, SED HDD 2.5" SAS, SED SSD	3.5" & 2.5" SAS, NL-SAS, SED HDD 3.5" & 2.5" SATA(*) HDD 2.5" SAS, SATA(*), SED SSD SAS 12 Gb/s, SATA 6 Gb/s(*)
Memory      Memory Module Pre-installed      Total Memory Slots      A      Memory Expandable up to      Storage      Drive Bays      Maximum Drive Bays      with Expansion Unit      Compatible Drive Type	16 GB DDR4 ECC DIMM (per controller) 4 (per controller) 256 GB (per controller) 3.5" Slot x 16 496 3.5" & 2.5" SAS, NL-SAS, SED HDD 2.5" SAS, SED SSD	3.5" & 2.5" SAS, NL-SAS, SED HDD 3.5" & 2.5" SATA(*) HDD 2.5" SAS, SATA(*), SED SSD SAS 12 Gb/s, SATA 6 Gb/s(*)
Total Memory Slots    4      Memory Expandable up to    2      Storage    2      Drive Bays    3      Maximum Drive Bays    4      with Expansion Unit    4      Compatible Drive Type    2	4 (per controller) 256 GB (per controller) 3.5" Slot x 16 496 3.5" & 2.5" SAS, NL-SAS, SED HDD 2.5" SAS, SED SSD	3.5" & 2.5" SAS, NL-SAS, SED HDD 3.5" & 2.5" SATA(*) HDD 2.5" SAS, SATA(*), SED SSD SAS 12 Gb/s, SATA 6 Gb/s(*)
Memory Expandable up to    2      Storage    2      Drive Bays    3      Maximum Drive Bays    4      with Expansion Unit    4      Compatible Drive Type    2	256 GB (per controller) 3.5" Slot x 16 496 3.5" & 2.5" SAS, NL-SAS, SED HDD 2.5" SAS, SED SSD	3.5" & 2.5" SATA(*) HDD 2.5" SAS, SATA(*), SED SSD SAS 12 Gb/s, SATA 6 Gb/s(*)
Storage      Drive Bays    3      Maximum Drive Bays    4      with Expansion Unit    4      Compatible Drive Type    2	3.5" Slot x 16 496 3.5" & 2.5" SAS, NL-SAS, SED HDD 2.5" SAS, SED SSD	3.5" & 2.5" SATA(*) HDD 2.5" SAS, SATA(*), SED SSD SAS 12 Gb/s, SATA 6 Gb/s(*)
Drive Bays 3 Maximum Drive Bays 4 with Expansion Unit 2 Compatible Drive Type 2	496 3.5" & 2.5" SAS, NL-SAS, SED HDD 2.5" SAS, SED SSD	3.5" & 2.5" SATA(*) HDD 2.5" SAS, SATA(*), SED SSD SAS 12 Gb/s, SATA 6 Gb/s(*)
Maximum Drive Bays with Expansion Unit Compatible Drive Type	496 3.5" & 2.5" SAS, NL-SAS, SED HDD 2.5" SAS, SED SSD	3.5" & 2.5" SATA(*) HDD 2.5" SAS, SATA(*), SED SSD SAS 12 Gb/s, SATA 6 Gb/s(*)
with Expansion Unit Compatible Drive Type	3.5" & 2.5" SAS, NL-SAS, SED HDD 2.5" SAS, SED SSD	3.5" & 2.5" SATA(*) HDD 2.5" SAS, SATA(*), SED SSD SAS 12 Gb/s, SATA 6 Gb/s(*)
	2.5" SAS, SED SSD	3.5" & 2.5" SATA(*) HDD 2.5" SAS, SATA(*), SED SSD SAS 12 Gb/s, SATA 6 Gb/s(*)
Drive Interface S	SAS 12 Gb/s	
		(*) SATA drives only work with single controller systems
Maximum Internal Raw Capacity	352 TB (calculate 22 TB HDD)	
Maximum Raw Capacity with Expansion Units	10,912 TB (calculate 22 TB HDD)	
Hot Swappable Drive	Yes	
Connectivity Port		
PCIe Expansion (	(Gen 3x8 Slot) x 2	
1 GbE RJ45 LAN Port 1	1 (onboard management port per controller)	
10 GbE SFP+ LAN Port	4 (onboard per controller) / 4 (option)	
10 GbE RJ45 LAN Port 2	2 (option) / 4 (option)	
25 GbE SFP28 LAN Port 2	2 (option) / 4 (option)	
16 Gb SFP+ Fibre Channel	2 (option) / 4 (option)	
32 Gb SFP28 Fibre Channel	2 (option)	
Expansion and External Port		
12 Gb/s SAS Wide Port 2	2 (onboard per controller)	
USB Port 1	1 (front) / 2 (rear)	
Others C	Console Port x 1, Service Port (UPS) x	1
Software Specification		
Storage OS	XEVO	
RAID Type C	0 / 1 / 3 / 5 / 6 / 10 / 30 / 50 / 60 / 5EE / 6EE / 50EE / 60EE / N-way mirror	
Storage Efficiency	Thin provisioning	
Software Acceleration S	SSD cache (option) / Auto tiering (option)	
Data Protection S	Snapshot / Local volume clone	
Remote Replication A	Asynchronous (built-in) / Synchronous (option)	
Security H	HTTPS / SSH / ISCSI CHAP / ISE & SED	
Management V	Web UI / Serial console / RESTful API / S.E.S. / LCM	
Appearance		
Dimension (H x W x D) (mm) 1	130.4 x 438 x 515	
Net Weight (kg) 2	21.7	
Gross Weight (kg) 2	24	
Others		
Memory Protection (	Cache-to-Flash (Supercapacitor Module + Flash Module) (option)	
System Fan 4	4 pcs	
	850 W x 2 (80 PLUS Platinum)	
	534 W	
	CE / FCC / BSMI	
Standard Warranty	System: 3 years Supercapacitor Module: 1 year	

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  Enclosure Access LED
- 3. Enclosure Power Button / LED
- 4. Disk Drive Status LED
- 5. Disk Drive Power LED
- 6. USB Port
- 7. UID (Unique Identifier) Button / LED
- 8. Power Supply Unit
- 9. Master / Slave LED (only for dual controllers)
- **10.** Controller Status LED
- 11. Dirty Cache LED
- 12. UID (Unique Identifier) LED
- 13. 12 Gb/s SAS Wide Port
- 14. 10 GbE iSCSI (SFP+) Port
- 15. Management Port
- 16. Host Card Slot 1 ( host card is an optional part )
- 17. Service Port
- 18. Console Port
- 19. USB Port
- 20. Host Card Slot 2 (host card is an optional part)
- 21. Reset to Factory Default Button
- 22. Buzzer Mute Button

### **System Specification**

Model Name	XS5312D	XS5312S	
Architecture	Dual-active controller	Single-upgradeable controller	
CPU			
Processor	Intel® Xeon® 64-bit 4-core (8-core processor models are also available)		
Memory			
Memory Module Pre-installed	16 GB DDR4 ECC DIMM (per controller)		
Total Memory Slots	4 (per controller)		
Memory Expandable up to	256 GB (per controller)		
Storage			
Drive Bays	3.5" Slot x 12		
Maximum Drive Bays with Expansion Unit	492		
Compatible Drive Type	3.5" & 2.5" SAS, NL-SAS, SED HDD 2.5" SAS, SED SSD	3.5" & 2.5" SAS, NL-SAS, SED HDD 3.5" & 2.5" SATA(*) HDD 2.5" SAS, SATA(*), SED SSD	
Drive Interface	SAS 12 Gb/s	SAS 12 Gb/s, SATA 6 Gb/s(*) (*) SATA drives only work with single controller systems	
Maximum Internal Raw Capacity	264 TB (calculate 22 TB HDD)		
Maximum Raw Capacity with Expansion Units	10,824 TB (calculate 22 TB HDD)		
Hot Swappable Drive	Yes		
Connectivity Port			
PCIe Expansion	(Gen 3x8 Slot) x 2		
1 GbE RJ45 LAN Port	1 (onboard management port per controller)		
10 GbE SFP+ LAN Port	4 (onboard per controller) / 4 (option)		
10 GbE RJ45 LAN Port	2 (option) / 4 (option)		
25 GbE SFP28 LAN Port	2 (option) / 4 (option)		
16 Gb SFP+ Fibre Channel	2 (option) / 4 (option)		
32 Gb SFP28 Fibre Channel	2 (option)		
Expansion and External Port			
12 Gb/s SAS Wide Port	2 (onboard per controller)		
USB Port	1 (front) / 2 (rear)		
Others	Console Port x 1, Service Port (UPS)	x 1	
Software Specification			
Storage OS	XEVO		
RAID Type	0/1/3/5/6/10/30/50/60/5	EE / 6EE / 50EE / 60EE / N-way mirror	
Storage Efficiency	Thin provisioning		
Software Acceleration	SSD cache (option) / Auto tiering (option)		
Data Protection	Snapshot / Local volume clone		
Remote Replication	Asynchronous (built-in) / Synchronous (option)		
Security	HTTPS / SSH / ISCSI CHAP / ISE & SED		
Management	Web UI / Serial console / RESTful AF	PI / S.E.S. / LCM	
Appearance			
Dimension (H x W x D) (mm)	88 x 438 x 515		
Net Weight (kg)	16.4		
Gross Weight (kg)	18.8		
Others			
Memory Protection	Cache-to-Flash (Supercapacitor Module + Flash Module) (option)		
System Fan	4 pcs		
Power Supply Unit	850 W x 2 (80 PLUS Platinum)		
Power Consumption	407 W		
Certification	CE / FCC / BSMI		
Standard Warranty	System: 3 years Supercapacitor Module: 1 year		

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