

# XCubeFAS XF2026



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## The Best Entry-Level All-Flash Array Data Storage

QSAN XF2026 is the most cost-effective All-Flash Array for the SMB market. It provides advanced features that were previously used only by enterprise storage to help you analyze business while reducing capital expenditures and maximizing efficiency for your business. It is the perfect solution for virtualization, big data, ERP, AI, and the database.

### Product Highlights

- High Performance All-Flash Array with Dual-Active (Active/Active) controller
- High availability design with no single point of failure
- 5th generation Intel® Xeon® 4-core processor, up to 128GB RAM per controller
- Latest 12Gb SAS 3.0 technology
- Built-in 10GbE iSCSI
- Up to 12,000MB/s sequential read and 8,000MB/s sequential write throughput. up to 1.9 million sequential IOPS
- Scale up solution supports over 8.7PB of raw storage capacity
- QSAN XEVO (FAS Operating System)
- Advanced Storage Management
  - QSLife 1.0 (Intelligent SSD Analyzer)
  - QSRAID 1.0 (SSD Endurance Optimization)
  - QAuth 1.0 (Authorizations of User's Responsibility)
  - QoS (Quality of Service)
  - QThin (Thin Provisioning)
  - QSnap 2.0 (Snapshot and Snapshot recycle bin)
- Flexible I/O host cards for iSCSI SAN or Fibre Channel SAN
- Local clone and remote replication for disaster recovery
- Virtualization support for VMware VAAI, Microsoft Hyper-V ODX, and Citrix
- Cache-to-Flash memory protection technology

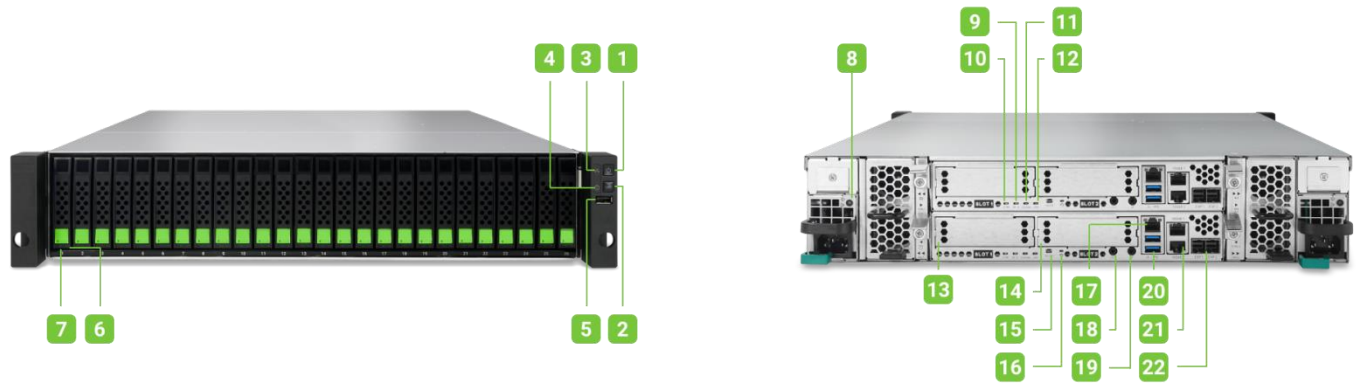
### Application Areas

With the next generation storage platform, the XF2026 series delivers exceptional value to customers and enables a wide range of enterprise applications, such as:

- Consolidation a virtualization : virtualized data center, VMware, Hyper-V, Citrix
- Artificial Intelligence : Caffe, Apache Mahout, TensorFlow
- Database : Microsoft SQL Server, Oracle, NoSQL, MongoDB
- ERP (Enterprise Resource Planning) : SAP, Oracle
- Big data : Apache Hadoop · Apache Spark · Splunk

# XF2026 Product Specifications

## Appearance



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

## Hardware Specifications

Architecture	Dual (Active-Active)
<b>CPU</b>	
Processor	Intel® Xeon® 64-bit Quad-Core (8-core processor models are also available)
<b>Memory</b>	
System Flash	-
Memory Module Pre-installed	32GB DDR4 ECC DIMM (per controller)
Total Memory Slots	4 (per controller)
Memory Expandable up to	128GB (per controller)
<b>Storage</b>	
Drive Bays	2.5" Slot x 26
Maximum Drive Bays with Expansion Unit	286
Compatible Drive Type	2.5" SAS SSD
Drive Interface	SAS 12Gb/s
Maximum Internal Raw Capacity	399TB
Maximum Raw Capacity with Expansion Units	4,392TB
Hot Swappable Drive	Yes
<b>External Port</b>	
USB 2.0 Port	1 (Front)
USB 3.0 Port	-
Others	UPS Port x 1, Console Port x 1
<b>Connectivity Port</b>	
1GbE RJ45 LAN Port	1 (Onboard Management Port)
10GbE RJ45 LAN Port	2 (Onboard) / 2 iSCSI (Option: HQ-10G2T)
10GbE SFP+ LAN Port	4 iSCSI (Option: HQ-10G4S2)
25GbE SFP28 LAN Port	2 iSCSI (Option: RHCE25P2)
16Gb SFP+ Fibre Channel	4 (Option: HQ-16F4S2) / 2 (Option: HQ-16F2S2)
32Gb SFP28 Fibre Channel	2 (Option: RHCF32P2)

Expansion Port	
12Gb/s SAS Wide Port	2 (Onboard)
Host Card Expansion	
Gen3x8 Slot	1
Gen2x4 Slot	1
Appearance	
Dimension (H x W x D) (mm)	88 x 438 x 491
Chassis Form Factor	19" Rackmount 2U 26 Bay
Net Weight (kg)	16.3
Gross Weight (kg)	18.6
Memory Protection	
Cache-to-Flash Module	Yes
Battery Backup Module + Flash Module	Yes
Others	
System Fan	4 pcs
Replaceable System Fan	Yes
Power Recovery	Yes
Scheduled Power On/Off	-
Wake on LAN/WAN	Yes
Power Supply Unit / Adapter	770W/850W x 2 (80 PLUS Platinum)
Redundant Power Supply	Yes
AC Input Power Voltage	100V-240V
Power Frequency	50-60 Hz, Single Phase
Power Consumption	429W
British Thermal Unit	1,464BTU
LCM Support	Yes
Environment Temperature	
Operating Temperature	0°C to 40°C
Storage Temperature	-10°C to 50°C
Operating Relative Humidity	20% to 80% non-condensing
Non-operating Relative Humidity	10% to 90%
Certification	
Certifications	CE, FCC, BSMI, VCCI, KCC
Warranty	
Standard Warranty	3 years Battery backup module : 1 year

## Software Specifications

Operating System	<ul style="list-style-type: none"> <li>• 64bit embedded Linux</li> <li>• RAID level 0, 1, 0+1, 3, 5, 6, 10, 30, 50, 60, and N-way mirror</li> <li>• RAID EE level 5EE, 6EE, 50EE, and 60EE</li> <li>• Flexible storage pool ownership</li> <li>• Thin Provisioning (QThin) with space reclamation</li> <li>• Global hot spares</li> <li>• Write-through and write-back cache policy</li> <li>• Online disk roaming</li> <li>• Spreading RAID disk drives across enclosures</li> <li>• Background I/O priority setting</li> <li>• Instant RAID volume availability</li> <li>• Fast RAID rebuild</li> <li>• Online storage pool expansion</li> <li>• Online volume extension</li> <li>• Online volume migration<sup>1</sup></li> <li>• Auto volume rebuilding</li> <li>• Instant volume restoration</li> <li>• Online RAID level migration</li> <li>• SED &amp; ISE drive support</li> <li>• Video editing mode for enhanced performance</li> <li>• Disk drive health check and S.M.A.R.T. attributes</li> <li>• Storage pool parity check and media scan for disk scrubbing</li> <li>• SSD wear lifetime indicator</li> <li>• Disk drive firmware batch update</li> <li>• QSLife to monitor and analyze the activity of SSDs</li> <li>• QSRAID for SSD endurance optimization</li> <li>• Multiple volume creation</li> <li>• Volume QoS (Quality of Service)</li> </ul>
Storage Management	

iSCSI Host Connectivity	<ul style="list-style-type: none"> <li>• Proven QSOE 2.0 optimization engine</li> <li>• CHAP &amp; mutual CHAP authentication</li> <li>• SCSI-3 PR (Persistent Reservation for I/O fencing) support</li> <li>• iSNS support</li> <li>• VLAN (Virtual LAN) support</li> <li>• Jumbo frame (9,000 bytes) support</li> <li>• Up to 256 iSCSI targets</li> <li>• Up to 512 hosts per controller</li> <li>• Up to 1,024 sessions per controller</li> </ul>
Fibre Channel Host Connectivity	<ul style="list-style-type: none"> <li>• Proven QSOE 2.0 optimization engine</li> <li>• FCP-2 &amp; FCP-3 support</li> <li>• Auto detect link speed and topology</li> <li>• Topology supports point-to-point<sup>2</sup> and loop</li> <li>• Up to 256 hosts per controller</li> </ul>
High Availability	<ul style="list-style-type: none"> <li>• Dual-Active (Active/Active) SAN controllers</li> <li>• Cache mirroring through NTB bus</li> <li>• ALUA support</li> <li>• Management port seamless failover</li> <li>• Fault-tolerant and redundant modular components for SAN controller, PSU, FAN module, and dual port disk drive interface</li> <li>• Multipath I/O and load balancing support (MPIO, MC/S, Trunking, and LACP)</li> <li>• Firmware update with zero system downtime</li> </ul>
Security	<ul style="list-style-type: none"> <li>• Secured Web (HTTPS), SSH (Secure Shell)</li> <li>• iSCSI Force Field to protect from mutant network attack</li> <li>• iSCSI CHAP &amp; mutual CHAP authentication</li> <li>• SED &amp; ISE drive support</li> </ul>
Storage Efficiency	<ul style="list-style-type: none"> <li>• Thin Provisioning (QThin) with space reclamation</li> </ul>
Networking	<ul style="list-style-type: none"> <li>• DHCP, Static IP, NTP, Trunking, LACP, VLAN, Jumbo frame (up to 9,000 bytes)</li> </ul>
Advanced Data Protection	<ul style="list-style-type: none"> <li>• Snapshot (QSnap), block-level, differential backup <ul style="list-style-type: none"> <li>• Writeable snapshot support</li> <li>• Manual or schedule tasks</li> <li>• Up to 64 snapshots per volume</li> <li>• Up to 64 volumes for snapshot</li> <li>• Up to 4,096 snapshots per system</li> <li>• Snapshot recycle bin</li> </ul> </li> <li>• Remote Replication (QReplica) <ul style="list-style-type: none"> <li>• Auto remote replication without doing configurations</li> <li>• 1 Step Local-to-Remote</li> </ul> </li> <li>• Asynchronous, block-level, differential backup based on snapshot technology <ul style="list-style-type: none"> <li>• Traffic shaping for dynamic bandwidth controller</li> <li>• Manual or schedule tasks</li> <li>• Auto rollback to previous version if current replication fails</li> <li>• Up to 32 schedule tasks per controller</li> </ul> </li> <li>• Volume clone for local replication <ul style="list-style-type: none"> <li>• Auto local clone without doing configurations</li> </ul> </li> <li>• Configurable N-way mirroring</li> <li>• Integration with Windows VSS (Volume Shadow Copy Service)</li> <li>• Instant volume restoration</li> <li>• Cache-to-Flash memory protection <ul style="list-style-type: none"> <li>• M.2 flash module</li> <li>• Power module: BBM (Battery Backup Module)</li> </ul> </li> <li>• Support USB UPS and network UPS with SNMP management</li> </ul>
Virtualization Certification	<ul style="list-style-type: none"> <li>• Server Virtualization &amp; Clustering</li> <li>• Latest VMware vSphere certification</li> <li>• VMware VAAI for iSCSI &amp; FC</li> <li>• Windows Server 2016, 2012 R2 Hyper-V certification</li> <li>• Microsoft ODX</li> <li>• Latest Citrix XenServer certification</li> </ul>
Easy Management	<ul style="list-style-type: none"> <li>• USB LCM<sup>3</sup>, serial console support, online firmware update</li> <li>• Intuitive Web management UI, secured web (HTTPS), SSH (Secured Shell), LED indicators</li> <li>• S.E.S. support, S.M.A.R.T. support, Wake-on-LAN, and Wake-on-SAS</li> <li>• Grouping batch operation for host and protection groups</li> <li>• QReport generates performance and capacity analytics</li> <li>• XFinder utility support to easy find storage system</li> <li>• RESTful API support</li> <li>• QAuth for authorizations of user's responsibility</li> </ul>
Green & Energy Efficiency	<ul style="list-style-type: none"> <li>• 80 PLUS Platinum power supply</li> <li>• Wake-on-LAN to turn on or wake up the system only when necessary</li> <li>• Auto disk spin-down</li> </ul>
Host Operating Systems Support	<ul style="list-style-type: none"> <li>• Windows Server 2008, 2008 R2, 2012, 2012 R2, 2016</li> <li>• SLES 10, 11, 12</li> <li>• RHEL 5, 6, 7</li> <li>• CentOS 6, 7</li> <li>• Solaris 10, 11</li> <li>• FreeBSD 9, 10</li> <li>• Mac OS X 10.11 or later</li> </ul>
Note	<p><sup>1</sup> The feature is based on RAID level migration of disk groups on the fly in thick provisioning pools.</p> <p><sup>2</sup> 16Gb/32Gb Fibre Channel only supports Point-to-Point topology.</p> <p><sup>3</sup> The function is optional and is not included in the default package.</p>

*"We went full production in Oct. of 2020. Redundant FC 16G connections to the JetStor XEVO XF2026D, and round-robin provisioning on the connected VMHosts. Everything is working very well. We are running over 300 VMs and pushing over 100K IOPS. Performance is amazing!"* Storage Systems Architect - Rice University

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