

# EonStor DS U.2 NVMe Storage

*Enterprise-Class High Reliability  
SAN Storage*



## Highlight

### Extreme Performance and Scalability

- Up to 1000K end-to-end IOPS to accelerate storage operations
- Massive sequential throughput of up to 11GB/s read and 7.5G/s write
- Holding up to 448 drives with U.2 NVMe SSD/HDD expansion enclosures

### Better Total Cost of Ownership

- Using U.2 NVMe SSDs for high-performance I/Os and NL-SAS/ SATA HDDs for massive data archive with automated storage tiering

### Optimized for U.2 NVMe SSD

- Built-in Intelligent algorithm to increase the SSD lifespan, and prevent multiple SSD failed at the same time that cause the data loss

### Intuitive System Management

- The exclusive SANWatch software simplifies management effort with web-based interface

## Introduction

*EonStor DS U.2 NVMe Storage is high performance storage for enterprises. Equipped with U.2 NVMe SSDs, it provides higher IOPS and throughput and is more cost-effective. EonStor DS U.2 NVMe Storage is especially suitable for SAN environments. With the help of advanced data services, it is a perfect fit for applications which require not only extreme performance but also large capacity, such as database, virtualization, and VDI.*

### High Performance

With U.2 NVMe SSDs, EonStor DS U.2 NVMe Storage can provide up to 1000K IOPS and 11/7.5 GB/s read/write throughput.

### High Scalability

EonStor DS U.2 NVMe Storage is highly scalable by adding expansion enclosures (JBODs) to expand capacity. It is scalable up to 448\*drives, including both SSDs and HDDs.

### High Efficiency

EonStor DS U.2 NVMe Storage supports hybrid storage, and with the automated storage tiering function, EonStor DS U.2 NVMe Storage can automatically leverage the high throughput and low latency feature of U.2 NVMe SSDs to deliver faster performance for frequently accessed data, while making better use of HDDs in the expansion enclosure as data backup media, thereby boosting system performance and reducing the cost of ownership.

### High Flexibility

EonStor DS U.2 NVMe Storage supports the modular I/O card – Host Board – to satisfy different environment needs, including 8/16/32 Gb/s Fibre Channel (FC), 1/10/25/40 Gb/s for iSCSI and 12Gb/s SAS host interface.

### Complete Data Protection and Backup

EonStor DS U.2 NVMe Storage offers multiple data protection designs to guarantee that data are tightly protected. For hard disks, EonStor DS U.2 NVMe Storage incorporates Infotrend's unique RAID technology which helps the system run normally while ensuring your data is fully protected even when the hard disk gets damaged. In terms of local data backup, EonStor DS U.2 NVMe Storage supports the flexible backup solution – snapshot. Users can back up the data within the storage system by schedule, and rollback it to a previous version at any time. As for remote backup, you can use the remote replication feature to back up the data to a remote DS appliance.

## High Reliability

From power supplies, fans, controllers, to host boards, the modular design of all these hardware components lowers maintenance complexity and provides fast, precise technical support and RMA services, keeping EonStor DS U.2 NVMe Storage safe from any downtime to maintain non-stop services and increase productivity and competitiveness.

## Intelligent Management of Drives

EonStor DS U.2 NVMe Storage has an intelligent algorithm that handles the data to be written in the storage appliance. The algorithm not only reduces the total amount of writes on an SSD to prolong its lifespan, but also prevents multiple SSDs from failing at the time and causing data loss. In addition, as EonStor DS U.2 NVMe Storage monitors SSD status in real time, it can estimate its remaining lifespan and send a notification to remind the administrator to replace the SSD which is about to fail.

## Easy Management

With the constant evolution of storage platforms, EonStor DS U.2 NVMe Storage adopts the SANWatch management software to assist customers to improve storage and service efficiency for increased productivity. The intuitive design of its interface allows for centralized management of multiple appliances, monitoring of performance and capacity usage, and completing of all related system configurations.

## PHYSICAL SPECIFICATIONS

### Product Series

### DS 4000U

Form Factor	2U 24-bay	DS 4024US/UR	DS 4024UST/URT
		Note: U: U.2 NVMe Storage, S: Upgradable single controller, R: Redundant controller, T: High performance	
Controller		Redundant or Upgradable single controller	
Cache Backup Technology		Super capacitor + Flash module	
CPU		Intel® Xeon® D 2-Core	Intel® Xeon® D 4-Core
Cache Memory (per system)		Default DDR4 8GB Expandable up to 128GB	
Supported Drives		Bundle 2.5" U.2 NVMe SSD	
		Note: For the latest compatibility details, refer to our official website for the latest Compatibility Matrix.	
Max. Drives Number		448	
Onboard SAS Expansion Ports	Single controller	1	
	Redundant controller	2	
Onboard 10GbE Ports (SFP+)	Single controller	0	2
	Redundant controller	0	4
Max. Host Board Slots	Single controller:	2	
	Redundant controller	4	
Host Board Options		16Gb/s FC x 4 32Gb/s FC x 2 32Gb/s FC x 4 10GbE (RJ-45) x 2	10GbE (SFP+) x 2 25GbE (SFP28) x 2 40GbE (QSFP+) x 2 12Gb/s SAS x 2
		Note: 1. For redundant controller models, identical host boards must be installed in the same order on both controllers. 2. FC connectivity supports DAS (Direct-Attached-Storage) connection via FC HBA cards and switched fabric connection.	
Max. 16Gb/s FC Ports	Single controller	8	
	Redundant controller	16	
Max. 32Gb/s FC Ports	Single controller	8	
	Redundant controller	16	
Max. 10GbE Ports (RJ-45)	Single controller	4	
	Redundant controller	8	
Max. 10GbE Ports (SFP+)	Single controller	4	6
	Redundant controller	8	12
Max. 25GbE Ports (SFP28)	Single controller	4	
	Redundant controller	8	
Max. 40GbE Ports (QSFP+)	Single controller	4	
	Redundant controller	8	
Expansion Enclosure (JBOD)		JB 3012A, JB 3016A, JB 3024BA, JB 3025BA, JB 3060L	
Dimensions (without chassis ears / protrusions) (W x H x D)		449 x 88 x 500 mm	
Package Dimensions (W x H x D)		780 x 338 x 588 mm	
Power Supply Unit	Power Supplies	Redundant (1+1) hot-swappable 530W PSU (80 PLUS Bronze, 80 PLUS Gold for EU)	
	AC voltage	100VAC @ 10A to 240VAC @ 5A	
	Frequency	50-60 Hz	
Safety Standard		<ul style="list-style-type: none"> <li>Electromagnetic Compatibility : CE, BSMI, FCC</li> <li>Safety : UL/cUL, BSMI, CB</li> </ul>	

## SOFTWARE SPECIFICATIONS

Max. Logical Drive Number	32
Max. Logical Drives Capacity	512TB
Configurable Stripe Size	16KB, 32KB, 64KB, 128KB, 256KB, 512KB, or 1024KB per logical drive
Configurable Writes Policy	Write-Back or Write-Through per logical drive. This policy can be modified
Max. Logical Volume Size	512TB
Max. Logical Volume Number	32
Max. Partition Size	512TB
Max. Partition Number (per logical volume/per system)	2048/1024
Max. Host LUN Mapping Number	4096
Max. Reserved Tag Number Per Host-LUN Connection	Up to 256
Max. iSCSI Sessions (per controller)	416
RAID Options	RAID 0, RAID 1, RAID 3, RAID 5/5F, RAID 6/6F, RAID 10, RAID 30, RAID 50, RAID 60
Protocol Support	FC, iSCSI, SAS
Management	<ul style="list-style-type: none"> <li>Web-based SANWatch management software</li> <li>Embedded RAIDWatch</li> <li>Terminal via RS-232C</li> <li>Telnet/SSH</li> </ul>
Availability and Reliability	<ul style="list-style-type: none"> <li>Redundant, hot-swappable hardware modules</li> <li>Trunk group support</li> <li>Device mapper support</li> <li>Cache Safe technology</li> </ul>
Notification	<ul style="list-style-type: none"> <li>Email</li> <li>SNMP traps</li> </ul>
OS Support	<p>Microsoft Windows Server 2019/2016/2012R2/2012/2008R2/2008, Windows 7 SP1, Windows 8.1, Microsoft Windows Hyper-V, Red Hat Enterprise Linux, SUSE Linux Enterprise, Sun Solaris, Mac OS X, VMware, Citrix XenServer, OpenStack Cinder</p> <p>Note: For OS version support, please refer to the compatibility matrix</p>

## DATA SERVICE

Self-encrypting Drives	Default	Unique factory encryption secures data plus makes deletion simple and complete	
Thin Provisioning	Default	"Just-in-time" capacity allocation optimizes storage utilization and eliminates allocated but unused storage space	
Local Replication	Snapshot	Default	Snapshot images per source volume: 64      Snapshot images per logical volume: 128
		Optional	Snapshot images per source volume: 256      Snapshot images per logical volume: 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	Optional	Replication pairs per source volume: 8      Replication pairs per system: 64	
		Note: 1. The maximum number of replication pair per source volume is up to 8, regardless of remote asynchronous/remote synchronous/local volume pairs. 2. 4 x 16Gb FC and 2/4 x 32Gb FC host boards do not support Remote Replication.	
Automated Storage Tiering	Optional	2 or 4 storage tiers based on drive types	

## WARRANTY AND SERVICE

Service and Support	Standard Service	3-year limited hardware warranty and 8x5 phone, web, and email support (batteries are covered under warranty for 2 years)
	Upgrade or Extension Options	<p>Warranty extension: Can extended standard service up to 5 years The following Service can be upgraded to 5 years</p> <ul style="list-style-type: none"> <li>Upgrade: Replacement part dispatch on the next business day</li> <li>Advanced service: 24x7 phone, web, and email support + onsite diagnostics on the next business day</li> <li>Premium service: 24x7 phone, web, and email support + onsite diagnostics in 4 hours</li> </ul> <p>Note: Options may vary by region. For more details, please contact our sales representatives.</p>
	Technical Support	Get information on system installation and maintenance, download technical documents and software, or issue a support ticket
	Product Services	Register products, download firmware, apply for licensing services, create product repair tickets, or check product repair status

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